



**BT YOUNG SCIENTIST  
& TECHNOLOGY Exhibition**



THE **PRIMARY  
SCIENCE  
FAIR**  
BT YOUNG SCIENTIST  
& TECHNOLOGY Exhibition

# EXHIBITION GUIDE

**9 - 11 JANUARY 2020**

BT - Celebrating **20 years** as sponsor and organiser



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**BT YOUNG SCIENTIST  
& TECHNOLOGY** Exhibition



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## Social Networking at BTYSTE 2020

Keep in contact with what is going on at BTYSTE through Twitter and Facebook, why not put some comments up there yourself! Go to [www.btyoungscientist.com](http://www.btyoungscientist.com) for direct links to all of our social media platforms. **Please use the hashtags #BTYSTE**

**#CreateTodayShapeTomorrow**



## Get the app

Get all the latest information about the exhibition, events and updates direct to your mobile, absolutely free!

**Features include** Interactive Exhibition Map, Getting Here, Search Student Projects, Schedule of Events, Social Network, Awards, History, Past Winners, Photo Gallery and more...





## A message from Shay Walsh

# A very warm welcome to the 2020 BT Young Scientist & Technology Exhibition

I would like to thank you for visiting today and for supporting all of the students participating in this year's Exhibition. We are truly proud to organise this exceptional festival of science and technology, which celebrates talented young people from almost every community on the island of Ireland.

I am sure that most of you have come along today for a particular reason – be it to support a friend or family member exhibiting this week; to enjoy one of our spectacular science shows; or to simply learn a little more about the world of science and technology today. For others, like me, it's also an opportunity to look around and reinforce our positive belief in the next generation.

The students participating in this year's Exhibition are the change-makers of tomorrow and what they are discovering today will have a lasting impact on them, their communities and in many cases, the world, in years to come.

If the last 56 years of this Exhibition have taught us anything, it is that ideas are infinite and when creative ideas are applied through the fields of science, technology, engineering and maths, remarkable discoveries happen. That is what you will find within the walls of the RDS today. That is the power of the BT Young Scientist & Technology Exhibition.

Prepare to be inspired.

A handwritten signature in black ink, appearing to read 'Shay Walsh'.

Shay Walsh  
Managing Director, BT Ireland



**BT Ireland – Proud organiser of the BT Young Scientist & Technology Exhibition**

The **BT Young Scientist & Technology Exhibition 2020** is proudly sponsored and supported by;



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Food and the Marine

**Lilly**



**An Ghníomhaireacht  
Tithíochta**  
The Housing Agency





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Ireland

**IRISH RESEARCH COUNCIL**  
An Chomhairle um Thaighde in Éirinn



**ncse**  
An Chomhairle Náisiúnta um Oideachas Speisialta  
National Council for Special Education

**NOKIA** Bell Labs



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Road Safety Authority

**Self Help  
Africa**  
**Irish Aid**  
An Roinn Gnóthaí Eachtracha agus Trádála  
Department of Foreign Affairs and Trade

**SAMSUNG**

Science  
Foundation  
Ireland **sfi**  
For what's next

**stripe**



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Coláiste na Tríonóide, Baile Átha Cliath  
The University of Dublin

**williams lea**



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examinations.ie

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Division

**An Phríomh-Oifig  
Staidrimh** Central  
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Intellectual Property  
Office of Ireland



Rialtas na hÉireann  
Government of Ireland



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technology  
in action  
www.sta.ie



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# The awards

## Main awards

### BT Young Scientist & Technologist(s) of the Year 2020

#### Individual or Group

- BT Young Scientist(s) of the Year Trophy (perpetual)
- Cheque for €7,500 / £6,750
- The chance to represent Ireland at the European Union Contest for Young Scientists

### Best Individual or Best Group

- BT Trophy (perpetual)
- Cheque for €2,400 / £2,160

### Runner-up Individual and Runners-up Group

- BT Trophy (perpetual)
- Cheque for €1,200 / £1,080

**Please note** if the BT Young Scientist & Technologist of the Year is awarded to an Individual, a Best Group Award will also be made. If the BT Young Scientist & Technologist(s) of the Year is awarded to a Group, a Best Individual Award will also be made.

## Special awards

We are proud to have a fabulous range of special awards at this year's Exhibition presented by our partner organisations. Special awards recognise excellence in specific areas. Examples include projects with a focus on innovation in technology, physics, chemistry, sustainability, recycling, the environment, research or improving cancer awareness. Each award is industry-sponsored and details of each organisation and the awards can be found on the Awards section of our website [www.btyoungscientist.com](http://www.btyoungscientist.com)

## Category awards

There are 36 prizes for individuals and 36 prizes for group projects. The prizes take the form of 1st, 2nd and 3rd in Junior, Intermediate and Senior sections of each of the four categories:



### Social & Behavioural Sciences

e.g. economic, geographical, psychological or sociological studies of human behaviour, nutrition, social anthropology, political science.



### Chemical, Physical & Mathematical Sciences

e.g. chemistry, physics, mathematics, applied mathematics, geology, engineering, computer programming, meteorology, astronomy.



### Technology

e.g. communications, electronic systems, robotics, computing, control technology, applications of technology, biotechnology, automation.



### Biological & Ecological Sciences

e.g. agriculture, anatomy, biochemistry, biotechnology, ecology, horticulture, physiology, medical science, veterinary science.

The prizes, for both Individual and Group projects, are:

**1st prize**  
€300 / £270

**2nd prize**  
€225 / £202

**3rd prize**  
€150 / £135

In the event of a tie in any category, the prize money will be split equally. A number of highly commended and display awards will also be awarded in each category by the panel of judges.

# Gold Partners awards

## Student awards

### Analog Devices Student Award

Analog will present an award in the Technology category to the best placed project, either group or individual, except where the project has been selected as BT Young Scientist & Technologist(s) of the Year. The winning project will be awarded €2,000. In addition, Analog Devices will donate €2,500 to the school of the winning student(s) as a contribution towards its science laboratory equipment fund\*.

### Perrigo Student Award

Perrigo will present an award in the Biological and Ecological category to the best placed project, either group or individual, except where the project has been selected as BT Young Scientist & Technologist(s) of the Year. The winning project will be awarded €2,000.

### RTÉ Student Award

RTÉ will present an award in the Social and Behavioural Sciences category to the best placed project, either group or individual, except where the project has been selected as BT Young Scientist & Technologist(s) of the Year.

### Cisco Student Award

An award will be presented in the Chemical, Physical and Mathematical category to the best placed project, either group or individual.

\*Analog Devices will contact winner with details, terms and conditions.

## Rev Dr Tom Burke bursary

Fr Tom was one of the co-founders of the project and sadly passed away in 2008. In memory of his contribution to the project, a €1,000 bursary is awarded in his name to an individual participant who is deemed by the judges to be the best communicator. This will be paid on application to a student to help them in their second/third level education.

This bursary will be open to participants of all categories across all age groups, but the winner cannot be either the overall Individual Winner or Runner Up.

## Founders medal

A medal will be awarded in the name of the co-founders of the exhibition, Dr Tony Scott and Fr Tom Burke, a €1,000 award will be made to an individual who has made a remarkable and long standing contribution to the BT Young Scientist and Technology Exhibition. This is chosen by the Co-Founder Dr Tony Scott.

## Educator of excellence awards

These awards will be presented to the teachers whose commitment and encouragement have consistently enabled their students to participate successfully in all categories of the exhibition.

### Analog Devices Educator of Excellence Award - Technology

The winner receives a bursary of €2,000 and an Analog Trophy.

### Perrigo Educator of Excellence - Biological and Ecological Sciences

The winner receives a bursary of €2,000 and a Perrigo Trophy.

### BT Educator of Excellence - Chemical, Physical & Mathematical Sciences

The winner receives a bursary of €2,000 and a BT trophy.

### BT Educator of Excellence - Social and Behavioural Sciences

The winner receives a bursary of €2,000 and a BT Trophy.





## Special awards

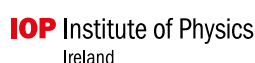
We are pleased and proud to have a fabulous range of Special Awards at this year's Exhibition. Each award is industry-sponsored and details of each organisation and awards can be found on the Awards section of our website [www.btyoungscientist.com](http://www.btyoungscientist.com)

This year, Special Awards will be presented by our partner organisations. Special Awards recognise excellence in specific areas, examples include projects which have a focus on innovation in technology, physics, chemistry, sustainability, recycling, the environment, research or improving cancer awareness.

Full details of all the Special Awards and the criteria for each can be found on our website [www.btyoungscientist.com](http://www.btyoungscientist.com)

### Schools awards

Each year two school awards are made, one for Best School in Northern Ireland presented by BT and one for Best School in the Republic of Ireland presented by NAPD. These are presented on a points based system and cannot be won by the same school in a three year period.



# BT Young Scientist & Technology Exhibition Judges

## Social & Behavioural Sciences

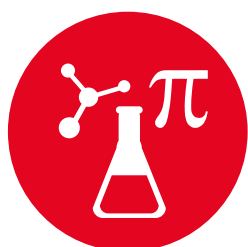


Siobhan Aherne  
Prof. Joe Barry  
Dr Barry Brunt  
Annette Cahalane  
Dr Helen Connaughton  
Dr Tara Cusack  
Dr Jean Cushen  
Prof. Catherine Darker  
Esther Doyle

Conor Faughnan  
Dr Yseult Freney  
Dr Ciara Greene  
Dr Jones Irwin  
Dr Angela Leahy  
Eoin MacCuirc  
Dr Maeve Martin  
Prof. Des McCafferty  
Michelle McCarthy-Severs

Lynda McSweeney  
Dr Elizabeth Nixon  
Prof. Ian Robertson  
Aidan Ryan  
David Silke  
Dr Sinead Smyth  
Prof. Anthony Staines

## Chemical, Physical & Mathematical Sciences



Prof. Stephen Connon  
Prof. Sean Corish  
Prof. Padraig Dunne  
Prof. Orla Feely  
Prof. Claire Gormley  
Prof. Pat Guiry

Dr Graeme Horley  
Prof. Peter Lynch  
Dr Michael McGrath  
Prof. Ronan McNulty ★ 1985  
Prof. Maria Meehan  
Dr Aoibhinn Ni Shuilleabhain

Dr Martina Nolan-Jones  
Dr Fergal O'Reilly  
Dr Rachel Quinlan  
Dr Tony Scott  
Prof. Emma Sokell

## Technology



Julie Byrne  
Prof. Bernie Capraro  
Prof. Sarah Jane Delany  
Prof. Linda Doyle  
Prof. John Dunnion  
Ray Goggin

Leonard Hobbs  
Barry Kennedy  
Noel King  
Dr Helen McBreen  
Aaron McCormack  
Ann O'Sullivan

Prof Mary Shire  
Julie Spillane  
Bernard Stenson  
Dr Peter Taylor ★ 2001  
Anna-Marie Turley

## Biological & Ecological Sciences



Dr Fidelma Butler  
Prof. Geraldine Butler  
Dr Stephen Butler  
Prof. Mark Crowe  
Prof. Ann Cullinane  
Dr John Devaney  
Prof. Evelyn Doyle  
Prof. Marie Guidon

Dr Colin Kelleher  
Prof. Mary Kelly-Quinn ★ 1976  
Prof. Paul McCabe  
Prof. Grace McCormack  
Prof. Deirdre McGrath  
Dr John Monahan ★ 1965  
Prof. Niall Moyna  
Prof. John O'Halloran

Dr Tadhg O Croinin  
Dr Richard O'Hanlon  
Prof. Donal O'Shea  
Dr Kathy Oboyle  
Prof. John Quinn  
Dr Fiona Wilson

## BT Chairperson

Ruth Murphy

## Special Awards Chairperson

Professor Eoin O'Neill

★ Young Scientist of the Year past winner

# 2020 Project Quick Search

## Project category

Social and Behavioural Sciences

1100 - 1712

Chemical, Physical and Mathematical Sciences

2100 - 2607

Technology

3100 - 3607

Biological and Ecological Sciences

4100 - 4605

## School name/County

### Antrim

South Eastern Regional College - Lisburn	4311, 4603
St Killian's College	3108, 3407
St Louis Grammar School	3529

### Armagh

St Patrick's High School	4433
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### Carlow

Gaelcholáiste Cheatharlach	3309
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### Cavan

Colaiste Dun an Ri	1205, 1221, 1413, 1504, 1538 2205, 4202, 4209, 4421, 4435
Loreto College	1586
St Patrick's College	1534
St. Mogue's College	4411

### Clare

Coláiste Mhuire Ennis	1224, 2214, 2402, 3219
Ennistymon Vocational School	1707
Mary Immaculate Secondary School	1310, 4206, 4213
Lisdoonvarna	4312, 4400, 4406
Meánscoil Na Mbráithre	3308
Scoil Mhuire	3602
St Anne's Community College	2607
St John Bosco Community College	3406
St. Joseph's Secondary School	4504, 4540

### Cork

Ardscóil Uí Urmoltaigh	4547
Bandon Grammar School	1107, 2600, 3311, 4415
Beara Community School	1708
Bishopstown Community School	1533
Boherbue Comprehensive School	1406, 1412, 1417 1552, 4215

Carrigaline Community School	3206
Christ King Girls Secondary School	1232, 1502
Clonakilty Community College	2521, 3508, 3526, 4507 4539, 4568
Colaiste An Phiarsaigh	3607, 4413, 4429
Coláiste An Spioraid Naoimh	1311, 1511, 1558, 2608, 4600
Coláiste Choilm	1512, 1515, 1529, 1579, 2207 4530, 4556
Coláiste Chríost Rí	2514
Coláiste Muire	1557
Coláiste Muire Crosshaven	2519, 4214
Coláiste Na Toirbhirte	1547, 1572, 3524, 4210, 4570
Colaiste Treasa	1101, 4201, 4409, 4501, 4512, 4551
Douglas Community School	3402, 4425, 4555, 4565
Gaelcholáiste Charraig Uí Leighin	3216
Kinsale Community School	1100, 1209, 1211, 1218 1402, 1408, 1420, 1517, 1551 1567, 2525, 3412, 3530, 4101
Loreto Secondary School Fermoy	1105
Mayfield Community School	3209
Midleton College	1544
Millstreet Community School	1561, 1710, 4532, 4541 4604
Mount Mercy College	4502
Mount St Michael	1228, 3215, 3519, 4564
Pobalscoil na Tríonóide	4212
Presentation College	2604
Presentation Secondary School	4528
Presentation Secondary School	1500, 1510, 1520, 1530
Mitchelstown	1540, 1550, 1560, 1570, 4557
Regina Mundi College	1542
Sacred Heart Secondary School	4560
Schull Community College	1555, 4602
Scoil Mhuire	1305, 1539, 1702, 4509



## School name/County

Scoil Mhuire gan Smál Blarney	1206, 3400
Scoil Mhuire Kanturk	1419
Skibbereen Community School	1207, 4549
St Aloysius College Carrigtwohill	1543, 1590, 2302, 2509 2529, 2542, 3535
St Aloysius School	2210
St Francis Capuchin College	1704, 3214
St Mary's High School	2512, 4524
St Mary's Secondary School	1501, 1522, 2539 4520, 4559
St Mary's Secondary School Mallow	2400, 2407
St. Angela's College	3307
St. Brogan's College	1400, 1409, 1415, 1421 1508, 2403, 4538

### Derry / Londonderry

Lumen Christi College	1308
St Mary's College	2102, 2303

### Donegal

Abbey Vocational School	1414, 3521, 4404
Choláiste Cholmcille	2101
Coláiste Ailigh	1300, 1307, 1316, 4100 4107, 4310
Loreto Community School	3502
Magh Ene College	1524, 1566, 4516
Mulroy College	2215
Pobalscoil Ghaoth Dobhair	1574, 1580, 2530, 2534
Scoil Mhuire	1214, 4204, 4521
St Eunan's College	3604

### Down

South Eastern Regional College - Bangor Campus	3603, 4601
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### Dublin

Alexandra College	3540
Ardgillan Community College	2206, 2523, 3509
Ardscail Rís	2510
Balbriggan Community College	2603
Belvedere College	3208
Castleknock Community College	2500
Coláiste Chillian	1302
Coláiste Iosagáin	1537, 2406, 4434
Coláiste Mhuire	3532

Coláiste Phádraig	3403
Gaelcholáiste an Phiarsaigh	1405, 4103
Gonzaga College	1541, 3305, 3416
Holy Child Secondary School	4515
Kishoge Community College	2506, 3410
Le Chéile Secondary School	3536
Loreto Abbey Secondary School	1219
Loreto College	2517, 4423
Loreto High School	1583, 2505, 3527, 4203
Loreto Secondary School, Balbriggan	1588, 1599, 2515 2602, 4436, 4523, 4569
Lucan Community College	2213
Meanscoil Iognáid Rís	3501
Mount Anville Secondary School	2520
Mount Sackville Secondary School	1217
Moyle Park College	1204, 4416, 4506
Muckross Park College	3201
Pobalscoil Iosolde	2202, 4304
Pobalscoil Neasain	3500, 3514, 3523, 4503
Sandford Park School Ltd	2107, 3105, 4302, 4414
Sandymount Park Educate Together Secondary School	4401, 4410
Scoil Chaitriona	1229
Skerries Community College	4303
St Andrew's College	2106, 4305, 4307
St Conleth's College	2104
St Joseph's Secondary School	1106, 1231, 1545, 1581 1595, 3541, 4106, 4420, 4571
St Louis High School	1314
St Marys College - C.S.Sp.	3605, 4419
St Mary's Secondary School	1102, 1401, 1565, 3102
St Michaels College	2211
St. Fintan's High School	3507
Stratford College	3106
Sutton Park School	4211
Synge Street CBS	2100, 2209, 2304
Templeogue College	3310
Terenure College	2540
The Institute of Education - Dublin	3601

### Galway

Coláiste Iognáid S.J.	1418, 2217
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# 2020 Project Quick Search

## School name/County

Coláiste na Coiribe	2216
Dominican College	2204, 4424
Glenamaddy Community School	3413
Our Lady's Bower	4104
Portumna Community School	1507, 4430
Presentation College Athenry	2103, 3201
Presentation College Headford	1705, 3301, 3518
St Brigids Vocational School	2518
St Raphaels College	1700
St. Mary's College	1578, 1712, 4205

### Kerry

C.B.S. Secondary School	1531
Castleisland Community College	1226
Coláiste Bhréanainn	3213
Killorglin Community College	1225
Pobalscoil Inbhear Scéine	1312, 2300, 3515
Scoil Phobail Sliabh Luachra	3306
Tarbert Comprehensive School	1528, 2524

### Kildare

Celbridge Community School	1407
Clongowes Wood College	1104
Coláiste Lorcáin	2516
Coláiste Naomh Mhuire	1513, 4105, 4510, 4536, 4567
Geal Cholaiste Chill Dara	1594
Maynooth Education Campus	1535
Naas Community College	1505, 2606
Newbridge College	2108
Patrician Secondary School	3504, 3513
Scoil Mhuire Community School	2200, 2212, 2301, 2501
St Wolstan's Community School	1593

### Kilkenny

Castlecomer Community School	1559
Coláiste Pobal Osraí	1596, 3107, 4432, 4537
Loreto Secondary School	1549, 1562, 1585, 2504 2541, 4517, 4533
Meánscoil na mBráithre Criostaí	1532, 1589, 2535 3408, 4566
St Kieran's College	2527, 2533, 2538

### Laois

Heywood Community School	1301, 4216, 4403
St. Mary's C.B.S.	4519

### Leitrim

Ballinamore Community School	1201
Carrick-On-Shannon Community School	1222, 2507, 3218 4518, 4546, 4558
St. Clare's Comprehensive School	1230, 4301

### Limerick

Ardscoil Ris	3202, 3503, 3525
Castletroy College	2109, 3200, 3210, 3404
Coláiste Chiaráin	3511, 4535
Colaiste Nano Nagle	1306, 1514
Crescent College Comprehensive	4417
Desmond College	2401, 3300, 3512
Gaelcholáiste Luimnigh	4431
Hazelwood College	1416
John The Baptist Community School	1215, 1573, 4554
Laurel Hill Secondary School FCJ	1518, 3606, 4550
Mungret Community College	1103, 1403
Salesian Secondary College, Pallaskenry	1404, 2605, 3516 4529
Scoil Mhuire agus Íde	4426

### Longford

Ardscoil Phadraig	1597
Ballymahon Vocational School	1410
Lanesboro Community College	1212, 1519
Mercy Secondary School	1563, 1598

### Louth

Ballymakenny College	3203
Bush Post Primary School	1516, 1569, 1577, 4544, 4545
Dundalk Grammar School	3100
Sacred Heart Secondary School	4200, 4207
St Mary's Diocesan School	2404
St Vincent's Secondary School	4405

### Mayo

Coláiste Mhuire	1587
Jesus & Mary Secondary School	1208, 2306
St Joseph's Secondary School	4408
St Muredachs College	4402

### Meath

Community College	4542
Eureka Secondary School	4563



## School name/County

Franciscan College	4308
St Ciaran's Community School	4526
St. Joseph's Secondary School	1210, 2208, 3505, 3520 4531, 4562

### Monaghan

Castleblayney College	4407
Coláiste Oiriall	3303
Largy College	1233
Our Lady's Secondary School	2536
Patrician High School	4300
St. Macartan's College	1703

### Offaly

Colaiste Choilm	2305, 3217
Gallen Community School	3211
Sacred Heart School Tullamore	1592
St. Brendan's Community School	1564, 3207, 4511
Tullamore College	1315, 1536, 2201, 4418

### Roscommon

C.B.S. Roscommon	2528, 2537
Castlerea Community School	1503
Elphin Community College	3220
Roscommon Community College	1411
Scoil Mhuire gan Smál	1506, 1509, 1521, 1556 4508, 4548
St Nathy's College	4427

### Sligo

Mercy College	4514
Summerhill College	2522
Ursuline College	1303, 1525, 1568, 3304, 3533 3600, 4306, 4505

### Tipperary

Borrisokane Community College	1548, 2502
C.B.S. Thurles	3510
Cashel Community School	1709
Cistercian College	1553
Coláiste Mhuire Co-Ed	1200, 1227
Comeragh College	1576
Presentation Secondary School	4553
St Joseph's College	1584, 3212, 3409
St. Anne's Secondary School	1546, 1591, 3538
St. Mary's Secondary School	1711

Ursuline Secondary School	4527
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### Tyrone

St Ciaran's High School	3405, 3414, 3417, 3517, 4522
St Patrick's College	2405

### Waterford

Abbey Community College	1313, 2531
Ard Scoil Na Mara	3204
Ard Scoil na nDeise	2601
Blackwater Community School	1527, 3103, 3109
Gaelcholáiste Phort Láirge	2508
St Angela's	1523, 2503
St Paul's Community College	4605

### Westmeath

Athlone Community College	1304, 2526, 2543 3531, 3537, 3539, 4422, 4561
Colaiste Mhuire	1575, 1701, 3101, 3104, 3401, 3411
Marist College	3528
Meán Scoil an Chlochair	1220, 1706, 2532
Moate Community School	4500, 4513, 4525, 4543, 4552
Our Lady's Bower	1203, 3205, 3302, 3415, 4309, 4428
St Finian's College	2511
St Joseph's Secondary School	1202, 4534

### Wexford

Meanscoil Gharman	1309, 1571
Vocational College Bunclody	1582

### Wicklow

Avondale Community College	1213
Colaiste Chraobh Abhann	3506
Presentation College	1554
St David's Secondary	1223, 4102
St Gerard's	2203
St Marys College	1216, 1526, 3534, 4412

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# Social & Behavioural Sciences

## JUNIOR INDIVIDUAL

1100

**Title:** "The Latte Levy" – What is the cost tipping point and why do we not always choose reusable cups?  
**Overview:** My project aims to identify the point at which cost outweighs convenience in choosing reusable vs. disposable cups. Why have we not adopted 100% reusable?  
**School:** Kinsale Community School  
**County:** Cork  
**Teacher:** Ms Cliona O'Shaughnessy  
**Student(s):** Ellen Crowley

1101

**Title:** A statistical analysis of the impact of adolescent smartphone use on adolescent social anxiety and social isolation.  
**Overview:** To investigate the impact that adolescent smartphone usage patterns have on adolescent social anxiety, interpersonal skills and social isolation.  
**School:** Colaiste Treasa  
**County:** Cork  
**Teacher:** Ms Joanne Corkery  
**Student(s):** Ava Hynes

1102

**Title:** The importance of gender identification during adolescents to support positive mental health and wellbeing in secondary schools  
**Overview:** My project investigates the affects and importance of gender identification in adolescents because it is common for us to question who we identify as.  
**School:** St Mary's Secondary School  
**County:** Dublin  
**Teacher:** Ms Bronwyn Mulvey  
**Student(s):** Jessica Bateson

1103

**Title:** To investigate the attitudes of Irish Secondary School students towards global catastrophes  
**Overview:** This project aims to assess how Irish Secondary School students react to the increasing number of global catastrophes associated with climate change.  
**School:** Mungret Community College  
**County:** Limerick  
**Teacher:** Mr John McCarthy  
**Student(s):** Caitlin Talbot

1104

**Title:** Linguistic Relativity: Does Language Influence Thought and Cognition?  
**Overview:** Does the language you speak influence or determine how you interpret or express thought on life's issues?  
**School:** Clongowes Wood College  
**County:** Kildare  
**Teacher:** Ms Yvonne Nolan  
**Student(s):** Rian O'Kelly

1105

**Title:** HPV vaccination. Why do people

not let their children receive this vaccine and how can we change this view point to grow the uptake of the vaccine?

**Overview:** The uptake of the HPV vaccine in girls in Ireland is only 65%. By understanding why, I aim to help to improve the vaccination rate.  
**School:** Loreto Secondary School Fermoy  
**County:** Cork  
**Teacher:** Mrs Aine Bushell  
**Student(s):** Leah Nolan

1106

**Title:** Sans Eyes, Sans Ears: An Analysis of Dual-Coded Information in Aural Exams.  
**Overview:** This project applies a dual-coding concept to aural exams which could improve the results for students with learning difficulties who struggle processing sound.  
**School:** St Joseph's Secondary School  
**County:** Dublin  
**Teacher:** Mr Daryl Dunne  
**Student(s):** Emma McCann

1107

**Title:** TO BEEF OR NOT TO BEEF? THAT IS THE QUESTION.  
**Overview:** I will gather information on the public's perceptions regarding Mercosur beef and Irish beef consumption and availability.  
**School:** Bandon Grammar School  
**County:** Cork  
**Teacher:** Dr Maire Flynn  
**Student(s):** Ella Murphy

## INTERMEDIATE INDIVIDUAL

1200

**Title:** Vegan Vs Omnivore: Can a vegan diet benefit the environment from an Irish perspective?  
**Overview:** I would like to investigate if a vegetarian diet is a better option when caring for the environment especially when food miles are involved.  
**School:** Coláiste Mhuire Co-Ed  
**County:** Tipperary  
**Teacher:** Miss Katie Carr  
**Student(s):** Kaitlyn Ryan

1201

**Title:** Decline in rural Ireland and its effect on people's well being  
**Overview:** My project aims to find what has changed in my rural area and how it affects people in their social, physical, health and wellbeing.  
**School:** Ballinamore Community School  
**County:** Leitrim  
**Teacher:** Mr Eamon Geoghegan  
**Student(s):** Molly Prior

1202

**Title:** The Diary Experiment  
**Overview:** A study looking at the effects of keeping a diary or journal on 1st year students.  
**School:** St Joseph's Secondary School

**County:** Westmeath  
**Teacher:** Ms Louise Bell  
**Student(s):** Simon Kiernan

1203

**Title:** Can Singapore Bar Models help to simplify Chemistry?  
**Overview:** To investigate if the Singapore Bar Model method can help to reduce the cognitive load of Chemistry problems and aid students' understanding of abstract concepts.  
**School:** Our Lady's Bower  
**County:** Westmeath  
**Teacher:** Mrs Julie-Anne Greaney  
**Student(s):** Clare Reidy

1204

**Title:** 'Can Pet Ownership get Ireland Moving Again'  
**Overview:** This project is about does dog ownership increase the amount of exercise a person gets over the long term.  
**School:** Moyle Park College  
**County:** Dublin  
**Teacher:** Mr Colin McCarthy  
**Student(s):** Cian Roche

1205

**Title:** CBA's Less Stress Or More Mess: A Statistical Investigation To Analyse How Effective The Junior Cycle CBA's Were At Reducing Stress In Students  
**Overview:** I wish to investigate whether Classroom-Based Assessments reduce the stress levels of Junior Cycle students or do they increase stress levels throughout the school year.  
**School:** Colaiste Dun an Ri  
**County:** Cavan  
**Teacher:** Ms Lorraine Hickey  
**Student(s):** Aimee Reilly

1206

**Title:** There is no Planet B – A statistical analysis into the misconceptions made by Irish people towards climate change.  
**Overview:** My project aims to investigate Irish people's misconceptions towards climate change in comparison to other countries and improve the populations overall understanding.  
**School:** Scoil Mhuire gan Smál Blarney  
**County:** Cork  
**Teacher:** Ms Marguerite O'Donoghue  
**Student(s):** Miriam Murphy

1207

**Title:** What is the Social and Economic Impact of 1 Gigabyte Broadband connectivity on a rural Irish Town?  
**Overview:** My project aims to find how 1 gigabyte broadband connectivity affects the Economy, Society and Demographics of a rural Irish town.  
**School:** Skibbereen Community School  
**County:** Cork  
**Teacher:** Ms Mags Breen  
**Student(s):** Hugh O'Driscoll

1208

**Title:** Neurotypicals Vs Neurodivergents Reactions To Different Coloured L.E.Ds  
**Overview:** A study of the Reactions to coloured L.E.DS in neurotypicals vs neurodivergents.  
**School:** Jesus & Mary Secondary School  
**County:** Mayo  
**Teacher:** Ms Niamh Breheny  
**Student(s):** Lucia Waters Rowland

1209

**Title:** Do-re-mi or ABC: A statistical investigation on whether using song as a mnemonic device is effective for learning.  
**Overview:** My project aims to discover whether students can learn academic material more effectively by traditional pedagogy or when material is set to song.  
**School:** Kinsale Community School  
**County:** Cork  
**Teacher:** Mr Shaun Holly  
**Student(s):** Eva Crowley

1210

**Title:** Can you hear me now?  
**Overview:** This project is on the social side of people with and without hearing disabilities and the difference between the two.  
**School:** St. Joseph's Secondary School  
**County:** Meath  
**Teacher:** Miss Bronagh Farrell  
**Student(s):** Lauren Clarke

1211

**Title:** A statistical investigation into the power of O  
**Overview:** An investigation into peoples unnecessary use of medication based on their calcification test score and the awareness of this among the public and medical professionals.  
**School:** Kinsale Community School  
**County:** Cork  
**Teacher:** Mr Shaun Holly  
**Student(s):** Ben Loughnane

1212

**Title:** Still Driven By Gender? A statistical analysis of the impact TY has on students' subject choice for Senior Cycle and beyond  
**Overview:** What impact does Transition Year have on students' subject choice for Senior Cycle and does it encourage more girls to do STEM subjects.  
**School:** Lanesboro Community College  
**County:** Longford  
**Teacher:** Ms Mary O' Brien  
**Student(s):** Orla Lyons

1213

**Title:** Music to My Ears: A Statistical Analysis of the Effects of Earphones on a Road Users Perception  
**Overview:** An investigation into the perception of earphone wearers



versus people without earphones.  
Does the use of earphones reduce perception and personal safety?  
**School:** Avondale Community College  
**County:** Wicklow  
**Teacher:** Ms Aoife Sullivan  
**Student(s):** Brendan Conroy

**1214**  
**Title:** A qualitative analysis of the quality of life experiences of post-primary students with Adolescent Idiopathic Scoliosis (AIS)?  
**Overview:** A thematic analysis to determine the quality of life of teenagers who are living with scoliosis during their secondary school life.  
**School:** Scoil Mhuire  
**County:** Donegal  
**Teacher:** Ms Laura Corbett  
**Student(s):** Eliana Campbell

**1215**  
**Title:** Psychiatric neuroleptics: "The quick method" to psychosis  
**Overview:** My project aims to discover is the Irish healthcare system quickly prescribing psychotropic substances when suitable psychotherapy methods may be safer for the given individual  
**School:** John The Baptist Community School  
**County:** Limerick  
**Teacher:** Ms Emma Donnelly  
**Student(s):** Grace Slattery

**1216**  
**Title:** 'Indoor Generation' Can we reverse it? A statistical survey on the benefits of outdoor activities on young people  
**Overview:** The aim of this project is to investigate how outdoor activities contribute to the health and wellbeing of young people today.  
**School:** St Marys College  
**County:** Wicklow  
**Teacher:** Ms Joanne English  
**Student(s):** Ciara Condren

**1217**  
**Title:** Does the Stroop effect (cognitive Interference) occur to varying degrees in different age populations?  
**Overview:** Investigating whether the Stroop effect occurs with shapes and their names rather than colours and their names and if it affects various age groups differently  
**School:** Mount Sackville Secondary School  
**County:** Dublin  
**Teacher:** Mrs Evelyn McMoreland  
**Student(s):** Mehek-Haleema Memon

**1218**  
**Title:** A Statistical study of the publics' attitude towards testing drugs for contaminants at Music Festivals before and after being informed about this harm reduction methods  
**Overview:** My project looks into the

publics' attitudes towards a campaign by the HSE whereby instead of prosecuting people for possession of drugs, they are making drug use at festivals as safe as possible  
**School:** Kinsale Community School  
**County:** Cork  
**Teacher:** Mr. Damien Sweeney  
**Student(s):** Caoimhe Lynch

**1219**  
**Title:** To Investigate the Effects of Veganism and Vegetarianism on the Environment and Diet  
**Overview:** My project is to investigate the good and bad effects of veganism and vegetarianism on the diet and also the environment, specifically climate change.  
**School:** Loreto Abbey Secondary School  
**County:** Dublin  
**Teacher:** Ms Linda Nolan  
**Student(s):** Kate Byrne

**1220**  
**Title:** Goodbye Documentation, Hello Dramatisation  
**Overview:** To see if the decline of the newspaper and the rise of data collection is reducing the amount of news that young people see.  
**School:** Meán Scoil an Chlochair  
**County:** Westmeath  
**Teacher:** Ms Sarah Clarke  
**Student(s):** Orna Kelly

**1221**  
**Title:** Are Older Generations aware of the Rising Anxiety Levels in Younger Generations?  
**Overview:** I wish to investigate whether people aged 50+ are aware of the anxiety young people aged 14 to 18 years old face daily.  
**School:** Colaiste Dun an Ri  
**County:** Cavan  
**Teacher:** Ms Lorraine Hickey  
**Student(s):** Lucy Fitzsimons

**1222**  
**Title:** How colours effect brain performance in state exams  
**Overview:** An investigation into how colours can affect the brain and if that correlates into the performance of students in state examinations.  
**School:** Carrick-On-Shannon Community School  
**County:** Leitrim  
**Teacher:** Ms Sinéad Creegan  
**Student(s):** Sophie McCabe

**1223**  
**Title:** To investigate if vegetarianism is a healthier diet choice than an omnivorous diet  
**Overview:** To investigate if vegetarianism is a healthier diet choice than an omnivorous diet by analysing 'nutrition diaries' and sleep quality of candidates.  
**School:** St David's Secondary  
**County:** Wicklow  
**Teacher:** Ms Aisling Keaveney

**Student(s):** Megan Byrne Holt  
**1224**  
**Title:** How modern technology is used by some cardiac patients to monitor their conditions, and also using such technologies as diagnostic tools  
**Overview:** My project aims to investigate how some cardiac patients use modern technology to monitor their conditions and also to possibly diagnose some heart conditions.  
**School:** Coláiste Mhuire Ennis  
**County:** Clare  
**Teacher:** Ms Nicola Meere  
**Student(s):** Lucy Murphy

**1225**  
**Title:** An investigation into the knowledge, attitudes and behaviours towards invisible disabilities to create a Wellbeing course for Secondary School students  
**Overview:** This project will use in depth interviews and questionnaires to create a Well-being course for secondary school students on invisible disabilities and their impact on education  
**School:** Killorglin Community College  
**County:** Kerry  
**Teacher:** Mr Kevin Foley  
**Student(s):** Lily Evers

**1226**  
**Title:** Is happiness a state of mind or a state of well-being? An exploratory study  
**Overview:** My project aims to explore happiness, its meaning, impact and value to health and well-being. Investigating adolescents' perceptions and awareness of happiness and its influence.  
**School:** Castleisland Community College  
**County:** Kerry  
**Teacher:** Mr Donncha Hickie  
**Student(s):** Micheal O'Shea

**1227**  
**Title:** Fiosrú a dhéanamh I dtréithe comparáideach ar dhá chorp aitheanta uisce I dTiobraid Árann.  
**Overview:** Chun fiosrú an bhfuil airíonna sna uiscí sa Sandtrap Buiríos Uí Luíoch & abhainn Chlóideach Moyaliffe a leigheasann/thapaíonn pianta & gortú matán in imreoirí C.L.G.  
**School:** Coláiste Mhuire Co-Ed  
**County:** Tipperary  
**Teacher:** Ms Deirdre Ryan  
**Student(s):** Eoin Craddock

**1228**  
**Title:** "The Relationship between Perceived Stress and Diet in Second Level School Pupils: Is a good diet associated with low perceived stress?"  
**Overview:** My project aims to find out what second level school pupils eat and examine the relationship between their diet and perceived stress.  
**School:** Mount St Michael

**County:** Cork  
**Teacher:** Ms Alison O'Neill  
**Student(s):** Ellen O'Donovan

**1229**  
**Title:** Na contúirtí a bhaineann le mí-úsáid antaibheathach i ndaoine.  
**Overview:** Na contúirtí i bhfolach a bhaineann le mí-úsáid antaibheathach agus an ró-ghearr a chur ar an eolas don tsochaí.  
**School:** Scoil Chaitríona  
**County:** Dublin  
**Teacher:** Ms Muireann Ní Chonchúir  
**Student(s):** Michael Kennedy

**1230**  
**Title:** Assessing the impact of digital learning in schools on the learner experience and the educators use of these technologies in the classroom.  
**Overview:** Exploring the use of digital devices in schools as way of enhancing learning and what are my peers/teachers' opinions of this new method of learning.  
**School:** St. Clare's Comprehensive School  
**County:** Leitrim  
**Teacher:** Miss Edel McPhelim  
**Student(s):** Amy Kernohan

**1231**  
**Title:** Self-Efficacy: The Secret To Success?  
**Overview:** Investigation into the effects of mentality and effort on academic and sporting achievement.  
**School:** St Joseph's Secondary School  
**County:** Dublin  
**Teacher:** Mr Daryl Dunne  
**Student(s):** James Joyce

**1232**  
**Title:** Investigating the factors influencing career choices of men and women.  
**Overview:** To investigate if the gender gap in careers such as engineering and nursing is due to neurobiological differences or gender-stereotypical culture, education and subject options.  
**School:** Christ King Girls Secondary School  
**County:** Cork  
**Teacher:** Ms Denise Quilter  
**Student(s):** Jana Alkarajeh

**1233**  
**Title:** Examining the economic effect of uncertainty surrounding Brexit.  
**Overview:** A behavioural economics project that analyses the psyche of consumers, entrepreneurs and producers about Brexit, Comparing and contrasting views in Northern Ireland and the Republic.  
**School:** Largy College  
**County:** Monaghan  
**Teacher:** Ms Holly May McGovern  
**Student(s):** James O'Harte



# Social & Behavioural Sciences

## SENIOR INDIVIDUAL

1300

**Title:** Fiosrúchán ar éifeacht thuismitheoirí ar oideachas agus slí bheatha á bpáistí

**Overview:** Tá mé ag iarraidh fiosrúchán a dhéanamh ar éifeacht thuismitheoirí ar leibhéal oideachas agus slí bheatha á bpáistí.

**School:** Coláiste Ailigh

**County:** Donegal

**Teacher:** Mr Shane Ó Breacáin

**Student(s):** Liam Hannigan

1301

**Title:** An investigation into how physical literacy and parental physical activity levels affects young people's PAL

**Overview:** An investigation into how parental PAL affects PAL among youth and which aspect of physical literacy is most influential regarding high levels of Pal.

**School:** Heywood Community School

**County:** Laois

**Teacher:** Mr Aodhagan O Suilleabhain

**Student(s):** Evan Hogg

1302

**Title:** Ar cheart go mbeadh suíocháin aghaidh ar chúl éigeantach?

**Overview:** Tá bóithre in hÉirenn ag feabhsú go bliantúil ach tá daoine fós ag bású. Táim ag iarraidh eolais a scaipeadh a d'éifeach saol a sábhail.

**School:** Coláiste Chilllain

**County:** Dublin

**Teacher:** Ms Doireann De Nógla

**Student(s):** Kirsten Ní Ghamhna

1303

**Title:** DYSLEFTIA: An investigation of the link between dyslexia and the contralateral

**Overview:** An investigation of the link between dyslexia and the contralateral

**School:** Ursuline College

**County:** Sligo

**Teacher:** Mr Anthony Carolan

**Student(s):** Fatma Dogan

1304

**Title:** Adolescent perceptions of barriers to accessing mental health services: A cross-sectional study

**Overview:** This project set out to identify why there is such a low uptake by adolescence of mental health services in the Midlands.

**School:** Athlone Community College

**County:** Westmeath

**Teacher:** Mrs Clare Brett

**Student(s):** Ruairi Lyons

1305

**Title:** World of Robots; Child-Robot Interactions

**Overview:** An investigation into whether children attribute living qualities, such as feelings and autonomy, to robots and what factors affect this perception.

**School:** Scoil Mhuire

**County:** Cork

**Teacher:** Ms Shirley Breen

**Student(s):** Sarah Ryan-Purcell

1306

**Title:** Prevention of Chronic bronchitis through organic prevention of acute bronchitis especially in developing world

**Overview:** My project aims to find out what people know about bronchitis and its prevention and spread awareness.

**School:** Colaiste Nano Nagle

**County:** Limerick

**Teacher:** Ms Kelly Walsh

**Student(s):** Haleema Nasir

1307

**Title:** The benefits of walking soccer

**Overview:** A study of the effects of walking soccer on energy expenditure of older males

**School:** Coláiste Ailigh

**County:** Donegal

**Teacher:** Mr Micheál Ó Giobúin

**Student(s):** Zak Murphy

1308

**Title:** The Effect Of Music On Focused Attention

**Overview:** This project investigates the effect music has on a participants focused attention (specifically classical and heavy metal music), investigated scientifically by methods such as eye-tracking.

**School:** Lumen Christi College

**County:** Derry / Londonderry

**Teacher:** Mr Mark Smyth

**Student(s):** Shannon McClenaghan

1309

**Title:** An comparáid agus imscrúdú chun fiosrú an bhfuil Damhsóirí Gaelacha níos aclaí nó fiú comhionann le Imreoirí CLG

**Overview:** My project aims to Compare and investigate if an Irish dancer is fitter or even as equally as fit as a GAA player

**School:** Meanscoil Gharman

**County:** Wexford

**Teacher:** Ms Elaine Nic Réamoinn

**Student(s):** Jennifer McGrath Kerins

1310

**Title:** Teachers and Technology: Breaking Down the Barriers

**Overview:** An Investigation into the main factors preventing post-primary teachers from integrating Information and Communications Technology (ICT) into their routine in the classroom.

**School:** Mary Immaculate Secondary School Lisdoonvarna

**County:** Clare

**Teacher:** Mr John Sims

**Student(s):** Dylan Egan

1311

**Title:** An Investigation into the Susceptibility of Areas in Urban Regions to Processes of Gentrification

**Overview:** Using geographic interface software and data from the CSO to analyse areas of the Dublin Region likely to be subject to processes of gentrification

**School:** Coláiste An Spioraid Naoimh

**County:** Cork

**Teacher:** Mr Tom Healy

**Student(s):** Ciarán Meers

1312

**Title:** An investigation into the correlation between economic prosperity and the mental wellbeing of residents in the Republic of Ireland.

**Overview:** My project aims to find out if there is a statistically significant correlation between money and happiness.

**School:** Pobalscoil Inbhear Scéine

**County:** Kerry

**Teacher:** Ms Sarah Abbott

**Student(s):** Julia Klorek

1313

**Title:** Work Smart Not Hard

**Overview:** Investigation into increasing efficiency/ skill by replicating the system of thought and methods of completion used by an ASD individual who excel in the area.

**School:** Abbey Community College

**County:** Waterford

**Teacher:** Ms Mary Creane

**Student(s):** Desmond Kavanagh

1314

**Title:** Once A Thrill Seeker, Always A Thrill Seeker?

**Overview:** This project aims to determine if there is a correlation between the enjoyment of adrenaline seeking activities and could this be used for marketing.

**School:** St Louis High School

**County:** Dublin

**Teacher:** Ms. Catherine Clayton

**Student(s):** Niamh Shields

1315

**Title:** IVF- An analysis of the who, the how and the when.

**Overview:** My project investigates how people think the government should spend the infertility treatment fund and the factors for consideration when choosing who qualifies for funding.

**School:** Tullamore College

**County:** Offaly

**Teacher:** Mrs Elaine Howlin

**Student(s):** Aoife Redmond

1316

**Title:** An féidir leis an gnáth Duine siúl i gceart

**Overview:** Find out can the average person walk properly through observation of 500+ individuals of different ages and genders as well as a survey

**School:** Coláiste Ailigh

**County:** Donegal

**Teacher:** Mr Micheál Ó Giobúin

**Student(s):** Lachlann Ó Fionnáin

## JUNIOR GROUP

1400

**Title:** Emotional Intelligence why it can matter more than IQ

**Overview:** To identify the level of emotional intelligence among Secondary School Students (Age 12-18).

**School:** St. Brogan's College

**County:** Cork

**Teacher:** Ms Laura O'Regan

**Student(s):** Lucy Teape, Lisa Nield

1401

**Title:** Is Climate Change Changing Me? An Investigation Into Teenagers Attitudes & Actions Towards Climate Change.

**Overview:** This is a research project about teenager's awareness understanding and action to one of the biggest environmentalist treats of our time - Climate Change.

**School:** St Mary's Secondary School

**County:** Dublin

**Teacher:** Ms Bronwyn Mulvey

**Student(s):** Robyn O'Donnell, Erin Tuke

1402

**Title:** Can yawning help improve our learning?

**Overview:** This project focuses on the question of whether yawning can help us take in more information in school or college.

**School:** Kinsale Community School

**County:** Cork

**Teacher:** Mr Shaun Holly

**Student(s):** Saoirse Hayes, Kiely Lehane

1403

**Title:** Are you cancer aware?

**Overview:** This investigation will determine if there is a difference in the level of awareness between boys and girls with regard to breast and testicular cancer.

**School:** Mungret Community College

**County:** Limerick

**Teacher:** Mr Simon Hill

**Student(s):** Cormac McMahon Heffernan, Aaroh Jain

1404

**Title:** How can dogs sense if their owner has an illness and How to know if your dog is trying to tell you something important

**Overview:** In this project we hope to specify how dogs can detect illnesses and the signs of a worried dog.

**School:** Salesian Secondary College, Pallaskenry

**County:** Limerick

**Teacher:** Ms Claire Sheehy

**Student(s):** Emily Bennis Cooney, Hazel Walsh

1405

**Title:** Tuairimí déagóirí fireann agus bainneann ar an inscne eile

**Overview:** An athraíonn tuairim



déagóirí faoin insce eile agus iad ag fás aníos, agus an bhfuil an tuairim seo difriúil ag brath ar an cineál scoil ina bhfuil siad?

**School:** Gaelcholáiste an Phiarsaigh  
**County:** Dublin  
**Teacher:** Ms Emma De Búrca  
**Student(s):** Paige Nic Sheanlaoich, Ella Ní Chorcóráin

## 1406

**Title:** "Ah Ref!!" – A statistical analysis of attitudes of underage players towards the referee in G.A.A versus Rugby

**Overview:** A statistical analysis of attitudes of underage players towards the referee in G.A.A versus Rugby  
**School:** Boherbue Comprehensive School

**County:** Cork  
**Teacher:** Mrs Orla Dineen  
**Student(s):** Gearoid O Sullivan, Denis O Callaghan

## 1407

**Title:** Does Food Affect Your Sleep?

**Overview:** We investigate whether certain foods can improve your sleep, and why they do this.

**School:** Celbridge Community School  
**County:** Kildare

**Teacher:** Ms Mary Gormley  
**Student(s):** Cormac Gardiner, Róisín Thompson

## 1408

**Title:** An Investigation of the Personality Traits of Irish Participants in Extreme Sports

**Overview:** Our project aims to analyse the personality traits of Irish people who participate in extreme sports and compare with the traits of non-participants.

**School:** Kinsale Community School  
**County:** Cork

**Teacher:** Mr Shaun Holly  
**Student(s):** Fin Browne, Ruairidh Cunningham

## 1409

**Title:** An investigation into the nutritional knowledge and consumption of calcium in female adolescents from the age range of 14 to 16.

**Overview:** To investigate the nutritional knowledge and consumption of dairy and to raise an awareness of the importance of dairy in teenage girls.

**School:** St. Brogan's College  
**County:** Cork

**Teacher:** Miss Karen Corbett  
**Student(s):** Caoimhe Walsh, Kate O' Leary

## 1410

**Title:** A Statistical Analysis of the Transition Year Programme on Student Academic Attainment in Ballymahon Vocational School

**Overview:** Our project aims to provide a statistical analysis of

the Transition Year Programme on Student Academic Attainment in Ballymahon Vocational School, since its introduction 5 years ago.

**School:** Ballymahon Vocational School  
**County:** Longford  
**Teacher:** Ms Sinead Mulcahy  
**Student(s):** Ashleigh Cullen, Keelin Byrne, Emily Coakley

## 1411

**Title:** The "Student Voice" on Exploring First Year Students' Experience of Mathematics Teaching and Learning during a Time of Transition.

**Overview:** An investigation of the First Year students experience of mathematical teaching and learning as they transition from the Primary to Secondary School Curriculum.

**School:** Roscommon Community College

**County:** Roscommon  
**Teacher:** Dr. Jude Lohan  
**Student(s):** Mairead Lohan, Grace Dwyer, Chloe McNamara

## 1412

**Title:** Teen Food Choices- Who's influencing your plate??

**Overview:** Our project is a study of what influences adolescents' diet and body image.

**School:** Boherbue Comprehensive School

**County:** Cork  
**Teacher:** Mrs Orla Dineen  
**Student(s):** Breda Vaughan, Emma O'Keeffe

## 1413

**Title:** Should Home Economics be compulsory for Junior Cycle students?

**Overview:** Our project aims to examine if nutritional knowledge is greater among those who studied Home-Economics to determine if it should be compulsory for Junior Cycle.

**School:** Colaiste Dun an Ri  
**County:** Cavan

**Teacher:** Ms Siobhan Hamill  
**Student(s):** Rachel Mc Eneaney, Lorcan Gogarty, Ava O'Reilly

## 1414

**Title:** Can education reduce the use of single use plastics?

**Overview:** A survey analysis into the reduction of the use of single use plastics through the use of a tailored education programme.

**School:** Abbey Vocational School  
**County:** Donegal

**Teacher:** Ms Donna Furey  
**Student(s):** Jane Faulkner, Erin Britton, Ciara Friel

## 1415

**Title:** Can Home Economics Tackle Childhood Obesity?

**Overview:** To investigate if making Home Economics compulsory for

Secondary School students will combat the current obesity crisis.

**School:** St. Brogan's College  
**County:** Cork

**Teacher:** Ms Laura O'Regan  
**Student(s):** Harry Ross, Joshua Ross, Tomas Markey

## 1416

**Title:** Take Your Tent Home – An innovative approach at reducing waste generated by festival-goers

**Overview:** We are going to design an app to prevent tents being left behind at festivals, these tents are being to incinerators and being burnt

**School:** Hazelwood College  
**County:** Limerick

**Teacher:** Mrs Martina Malone  
**Student(s):** Daniel O'Connell, Eoin Tynan, Stephen Minihane

## 1417

**Title:** Where are all the fans?

A statistical analysis of the factors affecting attendance statistics at ladies football matches

**Overview:** A statistical analysis of public attitudes and the factors that affect attendance statistics in ladies vs Men's Gaelic Football matches at club and intercounty levels.

**School:** Boherbue Comprehensive School

**County:** Cork  
**Teacher:** Ms Lorraine Heelan  
**Student(s):** Cara Courtney, Emma Fleming, Aoife Culloty

## 1418

**Title:** BOTTLE SHOT – A Nudge in the Right Direction

**Overview:** Practical application of Nudge Theory in a school environment to stimulate increased levels of plastic recycling and reduce recycling contamination. Innovative thinking for an everyday problem.

**School:** Coláiste Iognáid S.J.  
**County:** Galway

**Teacher:** Dr. Daniela Donghi  
**Student(s):** Riain Kennedy, Andrew Gordon, Reuben Florisson

## 1419

**Title:** Senior Citizens and Social Media: What effect does it have on loneliness

**Overview:** Our project aims to discover information about how and why senior citizens use social media and what effect it has on loneliness

**School:** Scoil Mhuire Kanturk  
**County:** Cork

**Teacher:** Mr Aidan Noone  
**Student(s):** Anthony Fogarty, Olivia Lehane, Roisin Murphy

## 1420

**Title:** Do Irish people know how to prevent dementia? A questionnaire-based study

**Overview:** Our project aims to explore whether people know how to reduce their risk of developing dementia. We

will undertake a questionnaire-based study to explore this.

**School:** Kinsale Community School  
**County:** Cork

**Teacher:** Mr. Damien Sweeney  
**Student(s):** Jenny Foley, Grace Monaghan,

## 1421

**Title:** Can regular routine exercises contribute to positive well-being and concentration levels?

**Overview:** To investigate whether regular repetitive exercise routines can reduce mental health-related issues and contribute to student motivation and concentration levels in class.

**School:** St. Brogan's College  
**County:** Cork

**Teacher:** Ms Laura O'Regan  
**Student(s):** Leah Lordan, Clodagh O'Sullivan, Kate Lehane

## INTERMEDIATE GROUP

## 1500

**Title:** A statistical analysis into the knowledge and attitudes of teenagers towards the cause of the fires in the Amazon Rainforest and the consequences of same on their lives.

**Overview:** We plan to investigate the attitude of teens towards the fires in the Amazon through two surveys. Is it our problem or someone else's?

**School:** Presentation Secondary School Mitchelstown

**County:** Cork

**Teacher:** Ms Julie Hanlon  
**Student(s):** Katie Walsh, Michelle McGrath

## 1501

**Title:** The Google Generation : Are Young People Today Too Reliant on Internet Search Engines?

**Overview:** We will investigate whether people are too reliant on the internet for information, forgetting what they find online because they can access it again if needed.

**School:** St Mary's Secondary School  
**County:** Cork

**Teacher:** Ms Jennifer Butler  
**Student(s):** Lorraine Casey, Jane Kyprianou

## 1502

**Title:** A statistical investigation into young people's attitude towards climate change and how this compares to older generations.

**Overview:** We intend to carry out a survey of young people, first locally, then nationwide, asking them about their opinions, knowledge and awareness of climate change.

**School:** Christ King Girls Secondary School

**County:** Cork

**Teacher:** Ms Denise Quilter  
**Student(s):** Niamh Hayes, Caoimhe Byrne



# Social & Behavioural Sciences

1503

**Title:** Our Farmers – ‘Deaf as Doornails?’

**Overview:** To make farmers in our community aware of the damage that the noise of farm machinery has on their hearing over a period of time.

**School:** Castlerea Community School

**County:** Roscommon

**Teacher:** Ms Pauline Dervin

**Student(s):** Katie Hannelly, Molly Cunnane

1504

**Title:** A glass of wine is not OK: An investigation into the drinking habits of pregnant women in Ireland

**Overview:** Our aim is to raise awareness and educate women about the effects of drinking during pregnancy and how it is not okay.

**School:** Colaiste Dun an Ri

**County:** Cavan

**Teacher:** Ms Lorraine Hickey

**Student(s):** Grainne Kieran, Amber Smith

1505

**Title:** Why do females drop out of sport earlier than males?

**Overview:** What are the factors affecting levels of female drop outs in sports? Our project is to investigate why this occurs more often in females.

**School:** Naas Community College

**County:** Kildare

**Teacher:** Ms Michaela Piaré

**Student(s):** Amy Kavanagh, Hana Hasani

1506

**Title:** Inis dom, nach maith leat Gaeilge?

**Overview:** Beidh muid ag fáil amach an dtathnóinn Gaeilge le na daoine óga in Éireann níos mó agus cén fáth?

**School:** Scoil Mhuire gan Smál

**County:** Roscommon

**Teacher:** Ms C Fergus

**Student(s):** Isabelle Ni Stiofain Leochain, Síoda Nic Aonghusa

1507

**Title:** To investigate if teenagers are falsely identified by adults as having a lack of general knowledge

**Overview:** My investigation has looked at if adults believe teenagers between the age of 13–17 have less general knowledge than they actually do

**School:** Portumna Community School

**County:** Galway

**Teacher:** Mr John Enright

**Student(s):** Stephen Donelan, Sienna Therese Fahy

1508

**Title:** Research the challenges of transitioning from Primary to Secondary school for students with Autism and develop an information book to help ease their transition

**Overview:** To gain an insight into student's with ASD experience

of transitioning from primary to secondary and develop an information booklet to help reduce anxiety.

**School:** St. Brogan's College

**County:** Cork

**Teacher:** Ms Norma Sheahan

**Student(s):** Seán Moloney, Michael Ware

1509

**Title:** Sport Sponsorship, does it make a difference ???

**Overview:** Investigating how a major retailers sponsorship of Ladies Gaelic Football has aided the growth of ladies football and changed people's attitudes towards the sport.

**School:** Scoil Mhuire gan Smál

**County:** Roscommon

**Teacher:** Ms C Fergus

**Student(s):** Rachel Murray, Roisin Hamrock

1510

**Title:** The Instagram “like”: was there an instant change?

**Overview:** Instagram released a notification encouraging people to focus on the content rather than the likes when they were removed, we will test this theory.

**School:** Presentation Secondary School Mitchelstown

**County:** Cork

**Teacher:** Ms Julie Hanlon

**Student(s):** Ciara McLoughlin, Amy Delaney, Roisin Maher

1511

**Title:** An Investigation into the Attitudes of Secondary School Students towards Irish as a Subject Compared to other Modern Languages

**Overview:** This project aims to see how junior and senior students feel about Irish as a subject, and if they prefer other language subjects over Irish.

**School:** Colaiste An Spioraid Naomh

**County:** Cork

**Teacher:** Ms Aileen O Mahony

**Student(s):** Robert Palmer, Michael Keohane,

1512

**Title:** A statistical investigation into the prevalence of gender stereotyping in 5–7 year olds and the development of an initiative to combat gender bias.

**Overview:** Testing the prevalence of gender stereotyping in 5–7 year olds using psycho-social based tests and devising an educational program to combat this issue.

**School:** Colaiste Choilm

**County:** Cork

**Teacher:** Mrs Karina Lyne

**Student(s):** Cormac Harris, Alan O' Sullivan

1513

**Title:** What actions can Ireland take to combat climate change?

**Overview:** Our project aims to find

out what are the actions that Irish people are willing and able to take to combat climate change now.

**School:** Colaiste Naomh Mhuire

**County:** Kildare

**Teacher:** Miss Ursula Murphy

**Student(s):** Anna Shaw, Sinead Jacob

1514

**Title:** Searching for The Happy Place

**Overview:** Our project focuses on how an employee's workplace affects them both physically and mentally. In order to investigate this, we set up a survey.

**School:** Colaiste Nano Nagle

**County:** Limerick

**Teacher:** Ms Kelly Walsh

**Student(s):** Rachel O'Shea, Paula Pioro

1515

**Title:** Is Climate Change Affecting Mental Health?

**Overview:** A statistical analysis of the effects of climate change on mental health in young people versus older people.

**School:** Colaiste Choilm

**County:** Cork

**Teacher:** Mr Paudie Scanlon

**Student(s):** Una Rainsford, Rachel Murtagh

1516

**Title:** Are Screen time limits Friend or Foe in the Snapchat Generation.

**Overview:** What has led to excessive screen-time. What's currently being done to reduce screen-time. Are current systems working. Are there more suitable models to reduce screen-time.

**School:** Bush Post Primary School

**County:** Louth

**Teacher:** Ms Emily Kerr

**Student(s):** Nadine Carolan, Eve Meehan

1517

**Title:** A Statistical And Experimental Analysis Of The Link Between Reading For Pleasure And Problem-Solving Skills

**Overview:** Our project aims to investigate whether people who read for pleasure have stronger mathematical/analytical problem-solving skills than those who do not read for pleasure.

**School:** Kinsale Community School

**County:** Cork

**Teacher:** Dr Catherine Coughlan

**Student(s):** Anna Peare, Sarah Fitzgerald

1518

**Title:** Are you too cool for your local school?

**Overview:** We plan to investigate if Ireland's carbon footprint could be significantly reduced if every secondary school student was to attend their local school.

**School:** Laurel Hill Secondary School

FCJ

**County:** Limerick

**Teacher:** Ms Karen Kinnerk

**Student(s):** Jane Burke, Roisín Ryan

1519

**Title:** Shape Language and Character Design

**Overview:** We are investigating whether or not the human mind associates shapes with human qualities.

**School:** Lanesboro Community College

**County:** Longford

**Teacher:** Mr Michael Lyons

**Student(s):** Amy O Donohue, Charlotte Carroll

1520

**Title:** Modern college courses compared to the modern idea of employment

**Overview:** In this study, we are comparing the modern generation's ideas of future occupations to the CAO courses offered by the third-level institutes in Ireland.

**School:** Presentation Secondary School Mitchelstown

**County:** Cork

**Teacher:** Ms Julie Hanlon

**Student(s):** Shauna Cremins, Cate O'Brien

1521

**Title:** An investigation of the over prescription of antibiotics in GP's in county Roscommon and how it contributes to antibiotic resistance

**Overview:** We look at how often local doctors prescribe antibiotics and whether they felt pressured to prescribe antibiotics by patients.

**School:** Scoil Mhuire gan Smál

**County:** Roscommon

**Teacher:** Ms C Fergus

**Student(s):** Laoise Mahon, Ellie Carthy

1522

**Title:** Ridiculous Rent?

**Overview:** Our project aims to investigate why rent in Ireland is increasing and how it effects college students.

**School:** St Mary's Secondary School

**County:** Cork

**Teacher:** Ms Jennifer Butler

**Student(s):** Ava O' Callaghan, Tia Campion

1523

**Title:** From Textbook to Theatre: An investigation into dramatic performance as a modern teaching method

**Overview:** We aim to find out if drama is a more effective medium of teaching science to first year students than traditional teaching methods.

**School:** St Angela's

**County:** Waterford

**Teacher:** Mr Séamus Hearne



**Student(s):** Ava Gough,  
Aoibhinn Kelly

**1524**

**Title:** An investigation into the preparations for Brexit by farmers North and South of the border.

**Overview:** We wish to investigate what preparations, if any, farmers north and south of the border have put in place for Brexit.

**School:** Magh Ene College

**County:** Donegal

**Teacher:** Mrs Yvonne Higgins

**Student(s):** Stacey Gilligan,  
Moya McGowan

**1525**

**Title:** Eaterratio(n)

**Overview:** We would like to see if a person has less concentration levels would it affect how loud they chew.

**School:** Ursuline College

**County:** Sligo

**Teacher:** Mr Anthony Carolan

**Student(s):** Kate Ward,  
Yaida Joof

**1526**

**Title:** Reduced Time Table for Children With Special needs are we proud of this as a country?

**Overview:** We aim to find out why children with special needs aren't getting the education they're entitled to.

**School:** St Marys College

**County:** Wicklow

**Teacher:** Ms Joanne English

**Student(s):** Megan Parkinson,  
Luise Fiedeldej

**1527**

**Title:** "Born this way" - A statistical analysis into the correlation between method of accouchement and autoimmune diseases.

**Overview:** A statistical analysis into the correlation between individuals birthed by caesarean section and their increased tendency to develop autoimmune diseases including asthma and diabetes.

**School:** Blackwater Community School

**County:** Waterford

**Teacher:** Mr Paul Joyce

**Student(s):** Molly Kenny,  
Rachel Roche

**1528**

**Title:** The Hardest Choice

**Overview:** We want to compare the cost, facilities and mental well-being of elderly people living in a nursing home verses elderly people living at home.

**School:** Tarbert Comprehensive School

**County:** Kerry

**Teacher:** Mr Gerard Nash

**Student(s):** Sarah Scanlon,  
Niamh Culhane

**1529**

**Title:** Is our education system

marginalising secondary school students with Autism Spectrum Disorder (ASD)?

**Overview:** To discover if there's a correlation between teacher skills, department of education policy and ASD students experiences in relation to the marginalisation of autistic students

**School:** Coláiste Choilm

**County:** Cork

**Teacher:** Mrs Karina Lyne

**Student(s):** Órla Gleeson,  
Órlaith Kenny

**1530**

**Title:** Electric Cars: A statistical investigation into what is holding us back.

**Overview:** A huge factor contributing to the climate crisis are emissions from transport. Why people are not fully confident in being the owners of an electric vehicle?

**School:** Presentation Secondary School Mitchelstown

**County:** Cork

**Teacher:** Ms Julie Hanlon

**Student(s):** Niamh Joy,  
Thea Coleman, Jenny Mullins

**1531**

**Title:** A statistical analysis into vaccine hesitancy in first year males

**Overview:** A statistical analysis into whether vaccine hesitancy is prominent in first year males and their parents.

**School:** C.B.S. Secondary School

**County:** Kerry

**Teacher:** Ms Maire Fitzgerald

**Student(s):** Swithin Pais,  
Joshua O'Sullivan

**1532**

**Title:** iPads vs. Textbooks? An Investigation into the Effect of iPads on Academic Success.

**Overview:** Our project investigates the effect of iPads on students' cognitive ability, in comparison to textbooks, and will conclude if they should replace textbooks in schools.

**School:** Meánscoil na mBráithre Criostai

**County:** Kilkenny

**Teacher:** Ms Emma Manning

**Student(s):** Cathal Norton,  
Matthew O'Sullivan

**1533**

**Title:** Aromatherapy: Is it in your head?

**Overview:** our project is based around an investigation into whether essential oils and aromatherapy have any actual effects on people at all.

**School:** Bishopstown Community School

**County:** Cork

**Teacher:** Ms Siobhan Griffin

**Student(s):** Ellie Mc Carthy,  
Sarah O'Neill

**1534**

**Title:** An investigation of e cigarettes use and vaping in secondary school students

**Overview:** To investigate if students use e-cigarettes are used as a means of weaning off traditional cigarettes or if they are used as a first source of nicotine?

**School:** St Patrick's College

**County:** Cavan

**Teacher:** Ms Orla Murphy

**Student(s):** Philip Smyth,  
James McBreen

**1535**

**Title:** "Health or Head ": Is healthy eating the key to improving academic performance or is it all in our heads?

**Overview:** This project investigates how healthy changes in diet and the placebo effect can impact the performance of adolescents in secondary school.

**School:** Maynooth Education Campus

**County:** Kildare

**Teacher:** Mr Tom Dixon

**Student(s):** Siobhán Dalayap,  
Ema Poldrugac

**1536**

**Title:** Is There a Correlation Between Hand-Eye Coordination and Peripheral Vision

**Overview:** We are investigating whether there is a link between peripheral vision and hand-eye coordination, focusing on their relevance to sports.

**School:** Tullamore College

**County:** Offaly

**Teacher:** Ms Noreen Flynn

**Student(s):** Jack Saunders,  
Kian Baniassadi

**1537**

**Title:** An Éifeacht atá ag Ceol ar an Staidéar

**Overview:** Is é sprioc ár dtionscnamh ná chun fail amach an gcabhraíonn ceol le staidéar agus más é sin an chás, cén seánra ab fhearr.

**School:** Coláiste Iosagáin

**County:** Dublin

**Teacher:** Ms Clíodhna Ní Chroidheáin

**Student(s):** Aisling Ní

Mhaoldomhnaigh,  
Róisín Ní Thuama

**1538**

**Title:** Psychological Experiment To Determine Whether White Noise Can Impact Learning

**Overview:** Our project aims to potentially improve our learning environment using white noise or music to upgrade the current learning system

**School:** Colaiste Dun an Ri

**County:** Cavan

**Teacher:** Ms Lorraine Hickey

**Student(s):** Corey O'Reilly,  
Holly Browne,

**1539**

**Title:** Anailís Staitistiúil ar an suíomh i gclann agus an éifeacht atá aige ar iompar, roghanna saoil agus tréithe pearsanta an duine sin

**Overview:** Táimid ag fiosrú an éifeacht atá ag an áit sa chlann ar do iompar, roghanna saoil, tréithe pearsanta, rogha gairme agus rathúileach i scrúdaithe

**School:** Scoil Mhuire

**County:** Cork

**Teacher:** Mrs Katie Uí Néill

**Student(s):** Ellen Ní Bhuachalla,  
Una Ní Dhuinnín

**1540**

**Title:** The Implementation of Wellbeing in Schools: has it made enough of a difference or did it cause more stress?

**Overview:** The new Junior Cycle has a large focus on wellbeing with subject hours reduced by the Board of Education to facilitate wellbeing in the curriculum.

**School:** Presentation Secondary School Mitchelstown

**County:** Cork

**Teacher:** Ms Julie Hanlon

**Student(s):** Aoife O'Farrell,  
Emily O' Brien, Anna Moran

**1541**

**Title:** What's the 'Carbon Cost'?

**Overview:** A study to determine if point-of-purchase information can positively influence consumers weekly shopping behaviour?

**School:** Gonzaga College

**County:** Dublin

**Teacher:** Mr Stephen McGroggan

**Student(s):** Alex Mc Donnell,  
Emmet O' Boyle

**1542**

**Title:** What makes a hit song, a hit song?

**Overview:** Our project involves investigating sound frequency, composition, and factors such as voice range to see if a formula can be found for a popular song.

**School:** Regina Mundi College

**County:** Cork

**Teacher:** Mr Ger O'Donovan

**Student(s):** Beth O'Halloran,  
Emma O'Sullivan

**1543**

**Title:** The Psychological Effects of Performance Monitoring, using GPS Tracking, on GAA Players .

**Overview:** To evaluate the potential psychological effects that performance monitoring that utilises GPS tracking has on GAA players.

**School:** St Aloysius College

**County:** Cork

**Teacher:** Ms Angelina Carew

**Student(s):** Zoe Whelan,  
Meadhbh McCarthy



# Social & Behavioural Sciences

1544

**Title:** Is Dehydration Actually What We Believe Sleep Inertia Is?

**Overview:** Our project aim is to investigate if sleep inertia is actually dehydration symptoms and does hydrating during the night improve difficulty in waking up.

**School:** Midleton College

**County:** Cork

**Teacher:** Ms Laura O Donovan

**Student(s):** Rachel O'Sullivan, Katie Magnier

1545

**Title:** Do school uniform codes create unhealthy binary gender roles that hinder self-expression?

**Overview:** We are testing to see if stereotypical school uniforms create gender roles that may affect a student's self/gender expression rights.

**School:** St Joseph's Secondary School

**County:** Dublin

**Teacher:** Mr Daryl Dunne

**Student(s):** Caithlyn Fitzpatrick, Amanda Pogule

1546

**Title:** Can white noise improve the quality and quantity of teenage sleep?

**Overview:** The benefits of white noise to sleep are well documented for babies and we want to see if those benefits extend into the teenage years?

**School:** St. Anne's Secondary School

**County:** Tipperary

**Teacher:** Ms Jeanne Dowling

**Student(s):** Kyra Duggan, Eilish Dowdall

1547

**Title:** An Investigation into the effect of social motivation, attention and physical effort on competition.

**Overview:** The effectiveness of competitiveness can be seen in different ways through an individual's performance when it comes to social motivation, physical effort and attention.

**School:** Coláiste Na Toirbhirte

**County:** Cork

**Teacher:** Mr Declan Cronin

**Student(s):** Ella Donegan, Clíodhna Prendergast

1548

**Title:** Gen Z vs Millennials vs Generation X

**Overview:** A survey analysing the entertainment habits such as streaming services, cable television and internet, of the three different generations, Gen Z, Millennials and Generation X.

**School:** Borrisokane Community College

**County:** Tipperary

**Teacher:** Ms Rachel Ahern

**Student(s):** Gulan Wahid, Aine Milner, Sarah Richardson

1549

**Title:** Is there a place for older people on social media and smartphone applications?

**Overview:** Our project aims to determine if there is a place for older people on social media and smartphone applications and the possible benefits of them.

**School:** Loreto Secondary School

**County:** Kilkenny

**Teacher:** Mr Brendan Williams

**Student(s):** Orla Flynn, Sophie Maher, Kate Browne

1550

**Title:** Are music festivals as "green" as they claim to be?

**Overview:** We are investigation whether music festivals are as green as they claim by interviewing organisers and surveying festival goers, charities that clean up and vendors.

**School:** Presentation Secondary School Mitchelstown

**County:** Cork

**Teacher:** Ms Julie Hanlon

**Student(s):** Caoimhe Leonard, Sarah Moher, Mary Kate Dalton

1551

**Title:** Climate Change Education Gone Too Far? A statistical study of the links between Climate Change Education, Locus of Control, Eco-Anxiety and effects on Youth's actions

**Overview:** To statistically test the most effective way to educate youth on climate change and assess how locus of control affects their pro-environmental actions and behaviours.

**School:** Kinsale Community School

**County:** Cork

**Teacher:** Mr Shaun Holly

**Student(s):** Rachel Henderson, Aoife Walsh, Meadhbh Hurley

1552

**Title:** Life on the Frontline- Paramedic well-being!

**Overview:** We wish to investigate how paramedics well-being is affected by working on the front line.

**School:** Boherbue Comprehensive School

**County:** Cork

**Teacher:** Mrs Orla Dineen

**Student(s):** Katie McCann, Laura Foley Treacy, Saoirse Ryan

1553

**Title:** An exploration on the views and attitudes of the adults of tomorrow on Genetic Engineering

**Overview:** This project is an experiment to try and find out what young adults think of genetic engineering and how they think it will affect them.

**School:** Cistercian College

**County:** Tipperary

**Teacher:** Mr Jim McManus

**Student(s):** Caleb Faughnan,

Oliver Feely, Pablo Gutierrez

1554

**Title:** Is humanity becoming more eco-friendly?

**Overview:** Our project aims to investigate and evaluate if younger generations are becoming more eco-friendly.

**School:** Presentation College

**County:** Wicklow

**Teacher:** Mr Stuart Hannon

**Student(s):** Ryan Crinnion, Stéphane de Bairéid, Eimhin Morgan-Fennessy

1555

**Title:** Investigating the environmental knowledge possessed by Irish voters as relates to reducing legal voting age.

**Overview:** We will investigate whether voters of Cork are as informed on environmental issues as students under 18 to decide if voting age should be reduced.

**School:** Schull Community College

**County:** Cork

**Teacher:** Ms Larissa Kelly

**Student(s):** Jasmine Kelly, Ella Collins

1556

**Title:** The Stigma Around Stem Cell Research.

**Overview:** Our project is about investigating the stigma around stem cell research in society. We want to inform people about the truth of stem cell research.

**School:** Scoil Mhuire gan Smál

**County:** Roscommon

**Teacher:** Ms C Fergus

**Student(s):** Anna Campbell, Ciara Carr

1557

**Title:** What causes us to fall into the black hole that is conformity?

**Overview:** Our project investigates the influences of conformity on teenagers and the reasons why we fall into the pattern of following others so easily.

**School:** Coláiste Muire

**County:** Cork

**Teacher:** Mr. Niall O'Sullivan

**Student(s):** Amylee Byrne, Eva Cannon

1558

**Title:** Investigating The Effectiveness Of The New Junior Cycle Curriculum

**Overview:** Our project aims to investigate how effective the new Junior Cycle is compared to the old Junior Cert system.

**School:** Coláiste An Spioraid Naoimh

**County:** Cork

**Teacher:** Ms Aileen O Mahony

**Student(s):** Brian Donnelly, Harry O'Donoghue, Senan Walsh

1559

**Title:** A study into the prevalence of twins skipping a generation in our

community

**Overview:** Our project aims to investigate whether the myth that twins generally skip a generation is true, and how prevalent it is in our community today.

**School:** Castletomer Community School

**County:** Kilkenny

**Teacher:** Miss Fiona Morrissey

**Student(s):** Katelyn O' Brien, Abby Marnell, Abbie Lalor

1560

**Title:** A Statistical Investigation into whether First Aid should be a compulsory subject

**Overview:** We are investigating if first aid should be a compulsory subject in secondary schools.

**School:** Presentation Secondary School Mitchelstown

**County:** Cork

**Teacher:** Ms Julie Hanlon

**Student(s):** Aimee Walsh, Katelyn Tierney, Danielle Creed

1561

**Title:** What are the barriers that hinders Irelands Greta Thunberg

**Overview:** What factors makes Ireland society less aware of climate change compared to Sweden?

**School:** Millstreet Community School

**County:** Cork

**Teacher:** Mr Shane Guerin

**Student(s):** David O'Brien, Una Healy, Finn Radamm

1562

**Title:** Heed your speed-the impact of a behavioural change intervention on driver behaviour

**Overview:** An investigation into the impact of a behavioural change intervention on driver speed in housing estates

**School:** Loreto Secondary School

**County:** Kilkenny

**Teacher:** Ms Elaine O'Dwyer

**Student(s):** Maebh Richardson, Lucy Harte, Clara Cashion

1563

**Title:** Improve Accident and Emergency Experience for Patients and Hospital Staff with a simple Queuing system

**Overview:** Our Project will investigate if a queuing system for A&E, reducing most Patients time in A&E, would improve Patient & Staff experience and increase efficiency.

**School:** Mercy Secondary School

**County:** Longford

**Teacher:** Mr Sean Bohan

**Student(s):** Dúileach Ryan, Brendan Finnán, Eoin Farrell

1564

**Title:** Are people aware of the disadvantages that come with receiving radiation and chemotherapy to treat cancer?

**Overview:** In our project, we're going



to research the disadvantages which come with receiving radiation and chemotherapy to treat cancer and how many people are aware.

**School:** St. Brendan's Community School

**County:** Offaly

**Teacher:** Ms Aisling Duane

**Student(s):** Clíodhna Donoghue, Aoibhe Kennedy, Frances Bugler

**1565**

**Title:** An investigation into the creation & awareness of the 20x20 female sports campaign. Does it have the power to shift Ireland's cultural perception and participation of women in sport

**Overview:** A research project investigating the implementation of the 20x20 female sports campaign. Is it effective in creating an all-inclusive sport culture in Ireland.

**School:** St Mary's Secondary School

**County:** Dublin

**Teacher:** Ms Bronwyn Mulvey

**Student(s):** Rugile Auskalnyte, Aoife Scully, Aoife Hughes

**1566**

**Title:** An investigation into job satisfaction among General Practitioners north and south of the Irish border

**Overview:** We wish to investigate if there is a difference in job satisfaction between General Practitioners in the north and south of Ireland.

**School:** Magh Ene College

**County:** Donegal

**Teacher:** Ms Yvonne Higgins

**Student(s):** Shannon Bowman, Ella Breslin, Aoise Browne

**1567**

**Title:** An investigation into the attitudes of different groups towards the use of antibiotics, probiotics and bacteriophages in treating pathogenic bacterial infections using statistics

**Overview:** Collecting data regarding the public's perception of antibiotics, probiotics and bacteriophages. We also hope to educate people on the positives of bacteriophages and probiotics.

**School:** Kinsale Community School

**County:** Cork

**Teacher:** Ms Cliona O'Shaughnessy

**Student(s):** Joe Brennan, Niamh Brennan, William Walsh

**1568**

**Title:** That's a Mirror-cle!

**Overview:** Our project is to explore the psychology behind mirror therapy.

**School:** Ursuline College

**County:** Sligo

**Teacher:** Mr Anthony Carolan

**Student(s):** Isabelle Roche, Tara Ni Bhroin, Holly O Boyle

**1569**

**Title:** A study on the ethics of having children in a world being ruined by

climate change

**Overview:** Is it ethical to still have children, when the world is slowly becoming ruined due to climate change?

**School:** Bush Post Primary School

**County:** Louth

**Teacher:** Mr Gary Galvin

**Student(s):** Declan Cavanagh, Ronan Murphy, James McDonald

**1570**

**Title:** Is our generations English language after degrading or is the language just simply evolving?

**Overview:** We are investigating if our generations different use of language (spelling etc.) is wrong or if it just evolving.

**School:** Presentation Secondary School Mitchelstown

**County:** Cork

**Teacher:** Ms Julie Hanlon

**Student(s):** Leanne Quirke, Susan Rea, Brianna Fuller

**1571**

**Title:** A cultural approach in tackling the obesity epidemic in young children by altering our treat system from a young age.

**Overview:** A qualitative investigation into our cultural mindset in rewarding children which can contribute to long term addiction and it's effects on the obesity epidemic.

**School:** Meanscoil Gharman

**County:** Wexford

**Teacher:** Ms Elaine Nic Réamoinn

**Student(s):** Bríd Chaomhánach, Alannah McCann, James Byrne

**1572**

**Title:** Should the Alexander Technique be Incorporated into the Irish Educational System

**Overview:** Our project aims to find out how the Alexander Technique can improve students physical and mental well-being and why it should be incorporated into school-life.

**School:** Coláiste Na Toirbhirte

**County:** Cork

**Teacher:** Mr Declan Cronin

**Student(s):** Emma O'Sullivan, Katie O'Regan, Orla Mellerick

**1573**

**Title:** SEAL Grants- A study into the awareness and uptake of SEAL government grants by region(s) in Ireland

**Overview:** We are investigating the breakdown of SEAL grants by region across Ireland, and highlighting the effectiveness of the grants

**School:** John The Baptist Community School

**County:** Limerick

**Teacher:** Mr James Devereux

**Student(s):** Luke O'Shea, Colin Kelly, Adam Boyle

**1574**

**Title:** Éifeachtaí drugaí agus alcól i

Deagóirí

**Overview:** We are looking at the effects of drugs and alcohol in teenagers by doing surveys with questions based on how, when, why teenagers drink illegally.

**School:** Pobalscoil Ghaoth Dobhair

**County:** Donegal

**Teacher:** Miss Leanna Ní Bhaoill

**Student(s):** Orna Ní Duibheannaigh, Meagan Ní Duibhir, Shannon Ní cholla

**1575**

**Title:** What happened to Ireland's school system?

**Overview:** An analysis of the Irish school system and all of its flaws, with comparisons to other countries and the stagnation of Irelands education over time.

**School:** Colaiste Mhuire

**County:** Westmeath

**Teacher:** Ms Eva Acton

**Student(s):** Sam McGrath, Mark Langtry, Jamie Lynch

**1576**

**Title:** The effects of political propaganda on technological development and the views of citizens

**Overview:** We wish to find the effect of political propaganda on technological developments and the views of citizens.

**School:** Comeragh College

**County:** Tipperary

**Teacher:** Ms Carrie Hogan

**Student(s):** Tadhg Sheehan, Eiran Styles, Rhys Phelan

**1577**

**Title:** Foot and mouth disease-20 years on

**Overview:** Our project aims to research the effect of the 2001 outbreak of the Foot and Mouth Disease in the Cooley Peninsula 20 years on.

**School:** Bush Post Primary School

**County:** Louth

**Teacher:** Ms Sharon Boyle

**Student(s):** Dearbhla Byrne, Millie Rice, Rebecca Hanlon

**1578**

**Title:** The motivation behind subject choice at Senior Cycle

**Overview:** Our project seeks to investigate if student's personal motivation type is the defining influence in their choice of LC subject using a modified motivational scale

**School:** St. Mary's College

**County:** Galway

**Teacher:** Mr Anthony Carey

**Student(s):** Cormac Hannon, Victor Asiegbu, Ryan Thornton-Byrne

**1579**

**Title:** A statistical comparison of the carbon footprint of foods across 3 economic levels, 3 different diets, and the development of an app to calculate food miles of a range of products

**Overview:** Comparison of carbon footprint of food across three diets, developing an application to calculate food miles and investigating whether food miles should be on packaging.

**School:** Coláiste Choilm

**County:** Cork

**Teacher:** Mrs Karina Lyne

**Student(s):** Faustina Sheehan, Abbie O' Sullivan, Rhian Dawkins

**1580**

**Title:** Na bacanna a chuirtear os comhair daltáí i dTír Chonaill agus iad ag dul i mbun oideachas tríú leibhéal

**Overview:** Our project is about the barrier that students have to proceed to third level education in the north west

**School:** Pobalscoil Ghaoth Dobhair

**County:** Donegal

**Teacher:** Ms Susan Ní Loinsigh

**Student(s):** Hannah Diver, Lauren Gray, Emily Cipriano

**1581**

**Title:** "I had no other choice" - A review of the newly introduced Bereavement Scheme proposed for State Examinations.

**Overview:** We wish to investigate the new Bereavement Scheme proposed for the Leaving Cert examinations and make recommendations to ensure its success

**School:** St Joseph's Secondary School

**County:** Dublin

**Teacher:** Mr Daryl Dunne

**Student(s):** Charly Smullen-Foley, Ciara Monks, Faith Azeez

**1582**

**Title:** Keeping the young modern teenage Traveller in school.

**Overview:** To examine The Travelling Community's school attendance in school and investigate if there's a link between higher attendance in travellers and involvement in school activities.

**School:** Vocational College Bunclody

**County:** Wexford

**Teacher:** Mr Pat O'Leary

**Student(s):** Leah Coleman, Leah Power, Hannah Kavanagh

**1583**

**Title:** Do opposites really attract?

**Overview:** An investigation into whether people are attracted to someone who resembles themselves. By researching and surveying people we intend to come to a conclusion.

**School:** Loreto High School

**County:** Dublin

**Teacher:** Mr Seamus Hayes

**Student(s):** Ellie McEneaney, Lucy O'Donnell, Ella Feehan

**1584**

**Title:** Would 2 referees improve refereeing in sports?

**Overview:** Our project is to test and see would 2 referees help and improve refereeing in sports in Ireland such as in hurling.



# Social & Behavioural Sciences

**School:** St Joseph's College  
**County:** Tipperary  
**Teacher:** Ms Mary Gorey  
**Student(s):** Emma Galvin, Miriam Murphy, Maria Victoria Andréu Pérez-Rubio

**1585**  
**Title:** To investigate if participation in sport increases emotional resilience in adolescents  
**Overview:** The aim of the project is to examine resilience levels of adolescents who participate in sports compared to those who do not participate.  
**School:** Loreto Secondary School  
**County:** Kilkenny  
**Teacher:** Ms Laura Whelan  
**Student(s):** Asha McHardy, Emma Manogue, Emma Farrell

**1586**  
**Title:** Assessing the effect of different aerobic interventions for early teenage girls.  
**Overview:** Comparison of the different modalities or interventions to improve aerobic capacity in early teenage girls.  
**School:** Loreto College  
**County:** Cavan  
**Teacher:** Ms Michelle Rogan  
**Student(s):** Maeve Young, Deirbhile Lynch, Áine Smith

**1587**  
**Title:** Cleachtais Feirmeoireachta Inbhuanaithe in Éireann  
**Overview:** Tá sé mar aidhm ag ár dtionscadal daoine den phobal, go háirithe feirmeoirí, a chur ar an eolas faoi chleachtais feirmeoireachta inbhuanaithe.  
**School:** Coláiste Mhuire  
**County:** Mayo  
**Teacher:** Ms Annette Ni Chathain  
**Student(s):** Aibínn Mckewon, Melissa McGing, Daithi Conlon

**1588**  
**Title:** Does learning in an outdoor environment affect stress levels, mood, alertness and eating habits?  
**Overview:** Our project involves investigating the effects of outdoor learning on the stress levels, mood, eating habits and alertness of students.  
**School:** Loreto Secondary School, Balbriggan  
**County:** Dublin  
**Teacher:** Dr Niamh Mc Nally  
**Student(s):** Hannah Cullen, Grace Kodja, Sophie O'Sullivan

**1589**  
**Title:** Is greyhound racing ethical?  
**Overview:** Our project is a survey for on whether people think greyhound racing is ethical. We aim to resolve the issue surrounding current questionable activities.  
**School:** Meánscoil na mBráithre Criostaí

**County:** Kilkenny  
**Teacher:** Ms Emma Manning  
**Student(s):** Eamonn O Reilly, David Drennan, Zac McHardy

**1590**  
**Title:** Morality: A mixed methods behavioural analysis of adolescents' perception of morality  
**Overview:** To investigate the key influences and of morality in adolescents, their strengths, how the morals differ and how aware adolescents are of their actions.  
**School:** St Aloysius College Carrigtwohill  
**County:** Cork  
**Teacher:** Ms Angelina Carew  
**Student(s):** Aisling Sexton, Kellie Montgomery, Zara Smith

**1591**  
**Title:** Why has Ireland not adopted an Electronic System of Prescribing (ESP) and what obstacles/barriers stand in the way of Electronic Prescribing in Tipperary Town and Cahir.  
**Overview:** We will identify the barriers that are preventing GPs and Pharmacists from E-Prescribing in Irish towns - Tipperary Town and Cahir and in Ireland nationally.  
**School:** St. Anne's Secondary School  
**County:** Tipperary  
**Teacher:** Mr. Patrick Kivlehan  
**Student(s):** Áibhín Kivlehan, Leah Carew, Erika Ryan

**1592**  
**Title:** How tinnitus effects learning in the classroom  
**Overview:** Our project aims to provide information about tinnitus and its effect on a person's education.  
**School:** Sacred Heart School Tullamore  
**County:** Co. Offaly  
**Teacher:** Mr Cathal Dunne  
**Student(s):** Alex Drea, Ruby Bennett, Lauren Kavanagh

**1593**  
**Title:** How do different levels of caffeine affect your short-term memory  
**Overview:** Our project aims to investigate how different levels of caffeine in various beverages affect the short-term memory of people of different genders and age groups.  
**School:** St Wolstan's Community School  
**County:** Kildare  
**Teacher:** Ms Paula Kirrane  
**Student(s):** Eimear O'Neill, Aoife Ryder, Emma Russell

**1594**  
**Title:** Fiosrúchán ar an Meon Dúiltach atá ag Daoine Faoin Vacsaín HPV  
**Overview:** Beidh muid ag fiosrú na fáthanna atá ag baint leis an meon diúltach atá ann faoi vaicsíníú agus déanfaimid iarracht an meon seo a athrú.

**School:** Geal Cholaiste Chill Dara  
**County:** Kildare  
**Teacher:** Mr Michael Moriarty  
**Student(s):** Órlaith Ní Dhubhsláine, Róisín Ní Ghallcháoir, Síofra Ní Raghallaigh

**1595**  
**Title:** Monkey See Monkey Do  
**Overview:** Why does 'monkey see monkey do' occur in the human brain and how it could be utilized to improve teaching and learning.  
**School:** St Joseph's Secondary School  
**County:** Dublin  
**Teacher:** Mr Daryl Dunne  
**Student(s):** Megan Collins, Dylan Gavin, Alicia Murtagh

**1596**  
**Title:** Cén éifeacht a bhíonn ag úsáid méain shóisialta ar féinmhuinín deagóirí?  
**Overview:** Our project investigates the opinions and experiences of teenagers with social media applications and its impact on their self-esteem with use of a questionnaire.  
**School:** Coláiste Pobal Osraí  
**County:** Kilkenny  
**Teacher:** Mrs Jessica Ní Dhruacháin  
**Student(s):** Diarmuid Mullins, Aaron Powis, Francis Henry

**1597**  
**Title:** Does technology affect learning and research?  
**Overview:** We try to find if iPads should be used instead of regular textbooks.  
**School:** Ardscoil Phadraig  
**County:** Longford  
**Teacher:** Ms Alice Magan  
**Student(s):** Sebastian Faller, Alex Vernon Fahy, Michael Tierney

**1598**  
**Title:** What factors influence the educational aspirations of girls from the Midlands?  
**Overview:** The aim of our project is to identify the factors that influence the progression of girls in the Midlands post Leaving Cert.  
**School:** Mercy Secondary School  
**County:** Longford  
**Teacher:** Ms Fiona Noone  
**Student(s):** Ruth Farrell, Ciara Gavigan, Ellen Costello

**1599**  
**Title:** Girls confidence in maths and stem careers  
**Overview:** We aim to investigate whether girls' level of self-efficacy in their mathematical abilities affects their rate of interest in pursuing a career in STEM fields  
**School:** Loreto Secondary School, Balbriggan  
**County:** Dublin  
**Teacher:** Dr Niamh Mc Nally  
**Student(s):** Ella Walsh, Robyn Bagley, Ella Markey

## SENIOR GROUP

**1700**  
**Title:** Has Fridays For Future Made An Impact?  
**Overview:** Investigating the effect of Climate Action groups on the perception of climate change issues, and investigating if people have changed their habits as a result.  
**School:** St Raphaels College  
**County:** Galway  
**Teacher:** Ms Brenda O'Dea  
**Student(s):** Eoin Kinsella, Seán Burke

**1701**  
**Title:** Flood Assist :An Application and Investigation into the Long Term Effects Global Warming Will Have On Ireland  
**Overview:** Investigating effects of climate change on Ireland and if small changes will impact future outlook with accompanying app to assist people in flood prone areas.  
**School:** Colaiste Mhuire  
**County:** Westmeath  
**Teacher:** Ms Eva Acton  
**Student(s):** Cian Flaherty, Eoin Rhatigan

**1702**  
**Title:** An féidir linn deireadh a chur le plaisteach aon úsáide inár scoil lastaigh de 3 mhí?  
**Overview:** We would like to investigate our theory if we can turn our school single-use plastic free within 3 months.  
**School:** Scoil Mhuire  
**County:** Cork  
**Teacher:** Mrs Katie Uí Néill  
**Student(s):** Jessica Ní Cheilleachair, Abbey O Shea

**1703**  
**Title:** An Investigation into why green technology (focusing on bio-plastics) isn't being implemented  
**Overview:** The project aims to investigate why green technology and sustainable practices are not being implemented and actively promoted by local businesses and local government.  
**School:** St. Macartan's College  
**County:** Monaghan  
**Teacher:** Mr Hugh Moyna  
**Student(s):** Adam Lambe, James McKenny

**1704**  
**Title:** Too keen on protein?  
**Overview:** Investigating the percentage of Irish Teenagers that take excess protein.  
**School:** St Francis Capuchin College  
**County:** Cork  
**Teacher:** Ms Nicola Barry  
**Student(s):** Darragh Murphy, Conor Sexton



1705

**Title:** Optimizing Gen Z's z's  
**Overview:** Researching the effects of sound on our sleep.  
**School:** Presentation College Headford  
**County:** Galway  
**Teacher:** Mr. John Toner  
**Student(s):** Ava Kantti, Katie Behan

1706

**Title:** NCCA vs Students: Where is the Change?  
**Overview:** There is an urgent need for change to the current leaving certificate, should the curriculum be decided by students? What would they do?  
**School:** Meán Scoil an Chlochair  
**County:** Westmeath  
**Teacher:** Ms Niamh Daly  
**Student(s):** Erin Heeney, Lisa Ennis

1707

**Title:** Bliss Code  
**Overview:** We will be helping in improving the wellbeing of our town, using technology and art in specific areas of our town and improving people's health.  
**School:** Ennistymon Vocational School  
**County:** Clare  
**Teacher:** Mr Cian Ó Súilleabháin  
**Student(s):** Shane Bliss, Ryan Bliss

1708

**Title:** Virtually Connected ! Socially Disconnected ?  
**Overview:** We hope to show while we are so contactable and connected people have never felt so isolated. Digital wellbeing needs to be put on the agenda.  
**School:** Beara Community School  
**County:** Cork  
**Teacher:** Mrs Marie Murphy  
**Student(s):** Naomi O' Sullivan, Aine Spencer, Ben Sullivan

1709

**Title:** Don't Miss A Day Of School  
**Overview:** This project aims to analyse school absence data using Python analytics packages and investigate if there are certain trends or patterns that would be useful.  
**School:** Cashel Community School  
**County:** Tipperary  
**Teacher:** Mr TJ Quinn  
**Student(s):** Diarmuid English, Finbarr English, Kiril Cariov

1710

**Title:** Awareness of testicular cancer in young boys and men  
**Overview:** To measure awareness of testicular cancer in men aged 15-34 years, using a survey and educate them about the risks and importance of self examination.  
**School:** Millstreet Community School  
**County:** Cork  
**Teacher:** Ms Eileen Lyons  
**Student(s):** Harry Linehan, Darragh Cashman, Donagh Murphy

1711

**Title:** Can being environmentally friendly affect our mood?  
**Overview:** We want to see if making our school more environmentally friendly affects the mood of the students in our school.  
**School:** St. Mary's Secondary School  
**County:** Tipperary  
**Teacher:** Mr Kevin Browne  
**Student(s):** Niamh Anderson, Roisin Hayes, Molly Quinlan

1712

**Title:** Feeling Tyred? A clarification in the RSA 'Tiredness Kills' campaign  
**Overview:** We will investigate which drinks have the best effect of preventing sleepiness, how quickly they act, and if there is a definite slump afterwards  
**School:** St. Mary's College  
**County:** Galway  
**Teacher:** Mr Anthony Carey  
**Student(s):** Mircea Tabalae, Nathan McNeela, Cathal Forde

## Young Scientist & Technology of the Year Limited



The BT Young Scientist and Technology Exhibition is the main activity of a charitable trust, Young Scientist and Technology Exhibition Limited. The charitable trust which has been in existence since 2003 and was set-up in order to create a separate corporate entity to protect and act as custodian for the YS&TE. The Company aims to build on the successful track record of the Young Scientist and Technology Exhibition ("Exhibition") and maintain and develop the integrity and identity of the Exhibition.

The trust has worked with some important entities outside and has granted licensing arrangements to stakeholders in Tanzania, Kenya and the United Arab Emirates to allow them to operate the Young Scientist model in these countries.

The first Young Scientist Tanzania took place in 2011. In 2018 the first Young Scientist Kenya was held in Nairobi and in 2019 the first United Arab Emirates edition took place. There are stand representing these three wonderful competitions in the Eco Zone.



**YOUNG SCIENTISTS  
TANZANIA**



**YOUNG SCIENTISTS  
KENYA**





# Chemical, physical & mathematical sciences

## JUNIOR INDIVIDUAL

2100

**Title:** A Simple Iterative Method for Solving Diophantine Equations

**Overview:** Diophantine equations must be solved using only integers. This is usually difficult to do. My project describes a simple iterative method for solving such equations.

**School:** Synge Street CBS

**County:** Dublin

**Teacher:** Mr Ger Davin

**Student(s):** Aditya Joshi

2101

**Title:** Does plastic effect the quality of the water in it

**Overview:** To see if there is plastic affects the quality of the water and negatively effects the health of humans

**School:** Choláiste Cholmcille

**County:** Donegal

**Teacher:** Ms Louise Conlon

**Student(s):** Alessandro Cian

2102

**Title:** How do you take your tea?

**Overview:** This project uses a homemade electronic device to measure the strength of different teas subjected to different temperatures of water and brewing times.

**School:** St Mary's College

**County:** Derry / Londonderry

**Teacher:** Mrs Ann Blanking

**Student(s):** Aimee Moore

2103

**Title:** Investigation of a Compact Electromagnetic Satellite Launch System

**Overview:** I am investigating a novel electromagnetic satellite launch system using a basic mathematical model and conducting experiments on a small scale model.

**School:** Presentation College Athenry

**County:** Galway

**Teacher:** Mr Kenneth O'Dea

**Student(s):** Samuel Regan

2104

**Title:** The effectiveness of colour on a bike light

**Overview:** My bike light will record what type of light is the best to reflect of a hi-vis, but not blind the driver or cyclist.

**School:** St Conleth's College

**County:** Dublin

**Teacher:** Mr Seamus Callaghan

**Student(s):** Cúan Moore

2106

**Title:** Quantum Mechanics, black holes, Einstein and maths: The connection between modern research in algebraic topology relating to Ricci flow and modern physics

**Overview:** My project is a study of the connection between theorems of Ricci flow and the theories of physics.

It applies the mathematics ideas to science.

**School:** St Andrew's College

**County:** Dublin

**Teacher:** Ms Emma Buckley

**Student(s):** Matthew O'Regan

2107

**Title:** Which factor can cause the most affect to the golf ball hitting distances?

**Overview:** In my project, I will show the method of testing all the environmental factors and result of the factor that most affect the hitting distance.

**School:** Sandford Park School Ltd

**County:** Dublin

**Teacher:** Ms Katherine Gray

**Student(s):** Alex Li

2108

**Title:** A Mathematical View of a Heron's Fountain

**Overview:** For the project I will look at the mathematical side of a Heron's fountain which is a pneumatics device. I will also build a demonstration.

**School:** Newbridge College

**County:** Kildare

**Teacher:** Mr Dermot Walsh

**Student(s):** Joshua Murphy

2109

**Title:** A Plastic for Our Planet – Toward a Sustainable Biodegradable

**Overview:** Creating a bio-mass entirely from food waste with similar mechanical properties to corn starch based plastics enhanced with food waste bio-fillers.

**School:** Castletroy College

**County:** Limerick

**Teacher:** Ms Shellie Galligan

**Student(s):** Orna Collins

## INTERMEDIATE INDIVIDUAL

2200

**Title:** A quantitative analysis and comparison of the dissolution of both pharmaceutical and herbal remedies in the treatment of arthritis, anxiety and heart failure.

**Overview:** I am going to dissolve different pharmaceuticals and herbal remedies (that are a substitute for the pharmaceuticals) in a stomach simulator and record the outcomes.

**School:** Scoil Mhuire Community School

**County:** Kildare

**Teacher:** Ms Helena Lynn

**Student(s):** Katie Connolly

2201

**Title:** Is Randomness Predictable?

**Overview:** Using a game where all choices carry equal probabilities, I make a system that can predict and beat peoples supposed 'random' decisions.

**School:** Tullamore College

**County:** Offaly

**Teacher:** Miss Jillian Browne

**Student(s):** Jean Carson

2202

**Title:** Using Black Soldier Fly Larvae Fat as a Biofuel

**Overview:** For my project I investigated the calorific value of Black Soldier Fly Larvae fat to see if it could be used as a bio fuel

**School:** Pobailscoil Iosolde

**County:** Dublin

**Teacher:** Ms Lynda Jordan

**Student(s):** Amelia Andrews

2203

**Title:** Electric Paint - how much graphite is needed to heat your home?

**Overview:** An investigation into the optimum amount of graphite required to produce a viable cost-effective method of domestic space heating.

**School:** St Gerard's

**County:** Wicklow

**Teacher:** Mr John Reidy

**Student(s):** Evan Dargan Hayes

2204

**Title:** An investigation into the Tsiolkovsky rocket equation

**Overview:** In this project, I will predict the height that a water bottle rocket will reach using the Tsiolkovsky rocket equation and verify it experimentally.

**School:** Dominican College

**County:** Galway

**Teacher:** Dr Paul Edmundson

**Student(s):** Lucy Garrett

2205

**Title:** The Kaye Effect and how different viscous liquids affect it

**Overview:** An investigation of how the Kaye effect is affected by the viscosity of the liquid and using the results to make a formula.

**School:** Colaiste Dun an Ri

**County:** Cavan

**Teacher:** Ms Lorraine Hickey

**Student(s):** Aoife Sherriff

2206

**Title:** Investigation the absorption of Oxybenzone through skin and identifying alternatives

**Overview:** Investigating the presence of Oxybenzone in Suncream and determining if it can enter the bloodstream. If so, is there a viable alternative to replace it?

**School:** Ardgillan Community College

**County:** Dublin

**Teacher:** Ms Laura Sheahan

**Student(s):** Joseph Ferguson

2207

**Title:** Determining The Fastest Route Between Two Control Points On An Orienteering Course

**Overview:** Creating a variant of Dijkstra's Algorithm to find the quickest route on a finite element representation of an orienteering map.

**School:** Coláiste Choilm

**County:** Cork

**Teacher:** Mr Paudie Scanlon

**Student(s):** Liam Cotter

2208

**Title:** 'To Infinity and Beyond' - A Study of the Mathematics of Fractals and their Occurrence in Daily Life

**Overview:** I will use geometry and algebra to investigate how maths describes patterns in everyday life by examining Fractal forms.

**School:** St. Joseph's Secondary School

**County:** Meath

**Teacher:** Ms Elaine Rothwell

**Student(s):** Emily Navagh Burke

2209

**Title:** Extensions of Marden's Theorem

**Overview:** Marden's Theorem has been described as possibly 'the most marvellous theorem in mathematics'. My project contains proofs of a number of extensions of Marden's Theorem.

**School:** Synge Street CBS

**County:** Dublin

**Teacher:** Ms Elaine Egan

**Student(s):** Yaduvir Harhangi

2210

**Title:** Better Angles, More Roles? An Investigation into Ideal Angles in the Royal Ballet

**Overview:** Devising a formula to define how close a dancer is to the ideal, investigating whether this is a significant factor in their number of roles.

**School:** St Aloysius School

**County:** Cork

**Teacher:** Ms Katie O'Donovan

**Student(s):** Andrea Marshall

2211

**Title:** Not plastic? The Single Use Revolution

**Overview:** The Harmful Effects of Single Use Plastic and How to Replace it with Degradable Materials

**School:** St Michaels College

**County:** Dublin

**Teacher:** Ms Linda Ward

**Student(s):** Yichang Wang

2212

**Title:** Does the wattage of a light-bulb affect the heat generated as measured at a set distance?

**Overview:** I aim to investigate the amount of heat a light-bulb generates, and whether or not that varies based on the wattage/type of the light-bulb.

**School:** Scoil Mhuire Community School

**County:** Kildare

**Teacher:** Ms Helena Lynn

**Student(s):** Priya Evans

2213

**Title:** Heat Power

**Overview:** I am going to use a thermoelectric generator to convert useless heat energy into useful electrical energy.



**School:** Lucan Community College  
**County:** Dublin  
**Teacher:** Ms Clare Healy  
**Student(s):** Ronak Pathak

## 2214

**Title:** Comparative study on the biodegradability of polycarbonates derived from various sugars  
**Overview:** To determine how biodegradable a new biomass-derived polycarbonate is compared to other sugar-based polycarbonates as a biodegradable, biomass-derived, BPA-free polycarbonate would be hugely environmentally beneficial.  
**School:** Coláiste Mhuire Ennis  
**County:** Clare  
**Teacher:** Ms Nicola Meere  
**Student(s):** Cliona O'Keeffe

## 2215

**Title:** "Are yee drinking that!" – The electrochemical detection of nitrates in river water using a modified copper electrode  
**Overview:** To develop a simple modified copper electrode for the electrochemical determination of Nitrate ions in river water by the method of standard additions  
**School:** Mulroy College  
**County:** Donegal  
**Teacher:** Ms Fiona Temple  
**Student(s):** Tiarnan Farrell

## 2216

**Title:** Detecting Gravitational waves by analysing interferometer data while increasing the range of detection and accuracy.  
**Overview:** Detecting Gravitational waves by analysing and cross-referencing data from the LIGO-VIRGO database against other reliable sources to reduce noise and interference while increasing sensitivity range.  
**School:** Coláiste na Coiribe  
**County:** Galway  
**Teacher:** Mr Maidhc Ó hÉanaigh  
**Student(s):** Ruán O'Donnell

## 2217

**Title:** The Mathematical Connection between our Gardens and the Environment  
**Overview:** The decline in the bee population is a major issue. I plan to develop a mathematical model to show how grass cutting impacts pollinators.  
**School:** Coláiste Iognáid S.J.  
**County:** Galway  
**Teacher:** Ms Eimear Hennelly  
**Student(s):** Clara O'Gorman

## SENIOR INDIVIDUAL

## 2300

**Title:** AMSIMP: An Open Source Implementation to Simulating Tropospheric and Stratospheric Dynamics on a Synoptic Scale  
**Overview:** An open-source

implementation to simulating atmospheric dynamics on a synoptic scale in the troposphere and the stratosphere, written in the programming language of Cython.  
**School:** Pobalscoil Inbhear Scéine  
**County:** Kerry  
**Teacher:** Ms Sarah Abbott  
**Student(s):** Conor Casey

## 2301

**Title:** A Systematic Review of Constructed Wetlands to Optimise Their Design  
**Overview:** I wish to investigate the design aspects of Integrated Constructed Wetlands (ICW) with a view to improving these aspects for future ICWs implementation.  
**School:** Scoil Mhuire Community School  
**County:** Kildare  
**Teacher:** Ms Helena Lynn  
**Student(s):** Adam McNulty

## 2302

**Title:** Photoactive Water Purification: Novel Materials for Global Accessibility to Clean Water  
**Overview:** Design novel photocatalytic materials with optimum properties for water purification (Using TiO<sub>2</sub>, P3HT, Cu, Fe, Ni, etc.) and construct a prototype photoreactor to demonstrate practicality.  
**School:** St Aloysius College Carrigtwohill  
**County:** Cork  
**Teacher:** Ms Angelina Carew  
**Student(s):** Aoife Morris

## 2303

**Title:** Investigating harmful chemicals in Vaping Liquid and Vapours  
**Overview:** As a result of recent deaths in the USA attributed to vaping, this project investigates harmful chemicals that are present in vaping liquid and vapours.  
**School:** St Mary's College  
**County:** Derry / Londonderry  
**Teacher:** Mrs Ann Blanking  
**Student(s):** Hollie Harkin

## 2304

**Title:** Explorations Inspired by an Infinite Series Studied by Ramanujan and H. F. Sandham  
**Overview:** Is it ever possible to sum an infinite series by evaluating a related integral? The answer leads to proofs that certain numbers are transcendental.  
**School:** Synge Street CBS  
**County:** Dublin  
**Teacher:** Mr Shane Freeman  
**Student(s):** Carl Jones

## 2305

**Title:** An Investigation on the occurrence of prime numbers in the Collatz function  
**Overview:** An investigation into whether there is a higher than normal

occurrence of prime numbers in Collatz series beginning with prime numbers  
**School:** Colaiste Choilm  
**County:** Offaly  
**Teacher:** Ms Ann Molloy  
**Student(s):** Paul Sheehan

## 2306

**Title:** Using Linguistic Analytic Techniques to Highlight Negative Sentiments in Social Media Activity  
**Overview:** The aim of my project is to analyze social media activity on different platforms using linguistic techniques to highlight negative themes, sentiments and behavior.  
**School:** Jesus & Mary Secondary School  
**County:** Mayo  
**Teacher:** Ms Niamh Breheny  
**Student(s):** Gordon McHale

## JUNIOR GROUP

## 2400

**Title:** A Study of an Alternative to SAR Testing to Compare Mobile Phone Radiations  
**Overview:** The development of an alternative methodology to SAR testing for the standardised measurement and evaluation of mobile phone radio frequency emissions.  
**School:** St Mary's Secondary School Mallow  
**County:** Cork  
**Teacher:** Ms Cait Thompson  
**Student(s):** Camille Ní Shúilleabháin, Clodagh Lehane

## 2401

**Title:** Bernoulli's Principle from "Whooh – Haah" to Hurling  
**Overview:** 'Whooh' and 'Haah' sounds produce different temperatures when spoken, also exhibited in Bernoulli's principle as demonstrated in aeronautics, we applied this phenomenon to hurling.  
**School:** Desmond College  
**County:** Limerick  
**Teacher:** Mr Donal Enright  
**Student(s):** Emma Greaney, Faye Murphy

## 2402

**Title:** Discovery of new and more efficient forms of Urea and Phosphate to be used as fertilizers  
**Overview:** Developing different forms of Urea and Phosphate to be used as fertilizers, by growing crystals and analysing their structure as well as their physicochemical properties.  
**School:** Coláiste Mhuire Ennis  
**County:** Clare  
**Teacher:** Mrs Colette Redington  
**Student(s):** Jennifer Weston, Zoé Ellingstad, Lauren Cahill

## 2403

**Title:** Can We Control Crystal Growth with Surfaces?

**Overview:** This project will investigate the effect of additives and surfaces upon the crystallisation of organic compounds.  
**School:** St. Brogan's College  
**County:** Cork  
**Teacher:** Ms Laura O'Regan  
**Student(s):** Muireann McCarthy, Maighread Kleily, Kelly-Anne O Sullivan

## 2404

**Title:** Rotten Energy  
**Overview:** Our project is about using rotten fruit and vegetables to create electricity using a microbial fuel cell.  
**School:** St Mary's Diocesan School  
**County:** Louth  
**Teacher:** Miss Sophie Caine  
**Student(s):** Rian Gray, Luke Dalton, Tadhg Kearney

## 2405

**Title:** Does a higher volume of oil in foundation increase the risk of acne cosmetia?  
**Overview:** A comparative study, investigating whether the volume of oil in foundations impact the amount of makeup that is absorbed through a semi-permeable membrane.  
**School:** St Patrick's College  
**County:** Tyrone  
**Teacher:** Miss Sinéad O'Neill  
**Student(s):** Gaudvile Paulauskaite, Goda Ablonskyte, Kate McGoldrick

## 2406

**Title:** An bhfuil tionchar ar meachán mála scoile ar iompar an choirp  
**Overview:** Chun fiosrú a dhéanamh ar tionchar meachán na málaí scoile ar iompar an choirp sa dalta.  
**School:** Coláiste Iosagáin  
**County:** Dublin  
**Teacher:** Ms Clíodhna Ní Chroídhéain  
**Student(s):** Cara Ní Mhóirigh, Rósanna Ní Artagáin, Isabella Nic Ambróis

## 2407

**Title:** An Investigation into the Photolytic Degradation of the Nitrate Radical (NO<sub>3</sub>) by Light Pollution in Cork City and County  
**Overview:** We wish to investigate the possible relationship between light pollution levels the photolytic degradation of the nitrate radical (NO<sub>3</sub>) in Cork City and County.  
**School:** St Mary's Secondary School Mallow  
**County:** Cork  
**Teacher:** Mr Rory Coote  
**Student(s):** Sophie McQuillan, Roisin Grant

## INTERMEDIATE GROUP

## 2500

**Title:** A study of how the structures of pyrite degrade using artificial oxidation  
**Overview:** Our project aims to study how elements and the various



# Chemical, physical & mathematical sciences

structures of pyrite influence the degradation of the compound in different building materials.

**School:** Castlknock Community College

**County:** Dublin

**Teacher:** Ms Jamie-Lee Dunne

**Student(s):** Alison Egan, Caoimhe Harrington

## 2501

**Title:** Analysis of leached chemicals from microbeads in water of different temperatures and when exposed to UV light.

**Overview:** Microbeads can be broken down by photooxidative degradation. When broken down, "embrittlement" allows toxins/chemicals to be released. It is our objective to study these chemicals.

**School:** Scoil Mhuire Community School

**County:** Kildare

**Teacher:** Ms Helena Lynn

**Student(s):** Miriam McDermott, Anna Murphy

## 2502

**Title:** Electricity Generating Chimney Turbine

**Overview:** Construction of an Electricity Generating Chimney Turbine to utilize smoke and heat to generate electricity and to test efficiency with a variety of natural resources.

**School:** Borrisokane Community College

**County:** Tipperary

**Teacher:** Ms Mary Brady

**Student(s):** Cillian Bergin, Michael Haugh

## 2503

**Title:** Are sweet flavoured e-liquids a factor in the vaping epidemic among teenagers?

**Overview:** We will investigate if sweet flavoured e-liquids are contributing to the widespread use of e-cigarettes among teenagers and young adults and why.

**School:** St Angela's

**County:** Waterford

**Teacher:** Mr Séamus Hearne

**Student(s):** Afqah Marzuki, Oliwia Olczykowska

## 2504

**Title:** Exploring fractals

**Overview:** Investigating and experimenting with fractals through mathematics, and getting a greater understanding of fractals.

**School:** Loreto Secondary School

**County:** Kilkenny

**Teacher:** Mr Brendan Williams

**Student(s):** Niamh Hayes, Aoibhinn Heffernan

## 2505

**Title:** Mitigating the physical harms associated with field hockey for outfield players

**Overview:** Our project aims to create a lightweight, shock absorbing shirt that protects the abdomen of outfield players from the impact of an accelerating hockey ball.

**School:** Loreto High School

**County:** Dublin

**Teacher:** Dr Rachel Hiney

**Student(s):** Claire Crowley, Athena Wu

## 2506

**Title:** Creating an Intuitive simulation for modelling Laws of Light

**Overview:** We are going to create a computer simulation that will accurately model the mechanics of light, to aid in student learning.

**School:** Kishoge Community College

**County:** Dublin

**Teacher:** Mr Micheal Griffin

**Student(s):** Marcin Witkowski, Oscar Gomez Keenan

## 2507

**Title:** The lasting effects of Arigna coal mine on the environment

**Overview:** We will be researching the lasting effects of Arigna coal mine on the surrounding environment by testing for metal leaching in the water supply.

**School:** Carrick-On-Shannon Community School

**County:** Leitrim

**Teacher:** Ms Louise Gallagher

**Student(s):** Hannah Stenson, Erica Mc Tiernan

## 2508

**Title:** An bhfuil Uachtar Reoite 99 Sabhailte?

**Overview:** Tá sé mar aidhm ag ár dtionscadal sábháilteacht meaisín uachtar reoite agus na baictéir ata orthu a d'fhéadfadh dochar a dhéanamh do dhaoine a scrúdú.

**School:** Gaelcholáiste Phort Láirge

**County:** Waterford

**Teacher:** Ms Claire Joyce

**Student(s):** Kate Ni Scinneir, Heather De Spáinn

## 2509

**Title:** Investigating the varying effects of magnets on ant behaviour

**Overview:** To investigate if strength, distance and magnet type have an effect on ant behaviour.

**School:** St Aloysius College Carrigtwohill

**County:** Cork

**Teacher:** Ms Angelina Carew

**Student(s):** Amy Morrissey, Anna Ring

## 2510

**Title:** Creating a pressurised toilet to reduce household water usage.

**Overview:** Our project aims to create a small scale pressurised toilet that is more water efficient than current ultra low flow household toilets.

**School:** Ardscoil Rís

**County:** Dublin

**Teacher:** Ms Anne Doyle

**Student(s):** Aidan Clair, Donnacha Gibbons

## 2511

**Title:** Is Your Well Water Well? - In-line monitoring of private water supplies using sensors.

**Overview:** Using electrical conductivity and turbidity sensors connected to an arduino, to provide inline monitoring of private water supplies and notify the householder of atypical fluctuations.

**School:** St Finian's College

**County:** Westmeath

**Teacher:** Ms Martina Roache

**Student(s):** Maya Kamboj, Michael Corcoran

## 2512

**Title:** Investigation into poppyseeds contributing to opiate-positive drug tests.

**Overview:** We are carrying out experiments and investigating the quantity of poppy seeds necessary to result in a positive drug test.

**School:** St Mary's High School

**County:** Cork

**Teacher:** Ms Niamh Jones

**Student(s):** Mary Millerick, Abigail Cody

## 2514

**Title:** A Notion in Electric Motion

**Overview:** An investigation and analysis of the static electricity build-up on the outside of a conductor.

**School:** Coláiste Chríost Rí

**County:** Cork

**Teacher:** Miss Aoife O Donovan

**Student(s):** Ben O'Connor, Seán Meskill

## 2515

**Title:** An Investigation into the Components of Picea Sitchensis Sap and its Antibacterial Properties

**Overview:** This project investigates the antibacterial effects of the components of Picea Sitchensis sap on E. coli

**School:** Loreto Secondary School, Balbriggan

**County:** Dublin

**Teacher:** Mr Brian Higgins

**Student(s):** Jennifer Bura, Alana Foy-Nicolleau

## 2516

**Title:** An Investigation Into Iron Content in Foods After Food Processing and Cooking

**Overview:** An investigation through redox titration into the effect of food processing and cooking on heme iron available in chickpeas and spinach.

**School:** Coláiste Lorcáin

**County:** Kildare

**Teacher:** Ms Amy Sullivan

**Student(s):** Diaga Marini, Abbie McDermott

## 2517

**Title:** An investigation to examine how the compression of a gymnastics mat will affect safe landings.

**Overview:** Our project aims to examine how the compression of a gymnastics mat will affect safe landings.

**School:** Loreto College

**County:** Dublin

**Teacher:** Dr Karen Young

**Student(s):** Molly Wilson, Olivia Forde

## 2518

**Title:** A Mathematical Comparison Between Hurling and Camogie

**Overview:** The investigation compares Elite level matches of both codes. Time in play, Average length of play, Scores, Free.

**School:** St Brigids Vocational School

**County:** Galway

**Teacher:** Mr John Breheny

**Student(s):** Alana Whelan, Katie Gilchrist

## 2519

**Title:** Would Cork Have Been Napoleon's Waterloo? - A Study on Martello Towers in Cork Harbour as a Successful Defence Mechanism during the Napoleonic Era.

**Overview:** A study of the effectiveness of the Martello Towers to defend Cork Harbour against a French invasion during the Napoleonic wars.

**School:** Coláiste Muire Crosshaven

**County:** Cork

**Teacher:** Ms Bridget Lehane

**Student(s):** Bebhinn Blanche Lombard, Eilís O'Donoghue

## 2520

**Title:** Investigating and Simulating the Theoretical Collision of Two Interacting Galaxies' Supermassive Black Holes

**Overview:** To investigate what would occur if the two supermassive black holes at the centre of two galaxies collided, and attempting to simulate such an event.

**School:** Mount Anville Secondary School

**County:** Dublin

**Teacher:** Ms Aileen Nally

**Student(s):** Katie Shaw, Ciara McCormick, Alice Maddock O'Driscoll

## 2521

**Title:** An Investigation into the use of Coconut Oil to Desalinate Water

**Overview:** Coconuts contain decanoic acid which removes salt from water, we want to use coconut oil as a viable method of desalination for the developing world.

**School:** Clonakilty Community College

**County:** Cork

**Teacher:** Mr Patrick O Keeffe

**Student(s):** Aaron O'Donovan, Liam O'Connell, Dylan O'Donovan



2522

**Title:** The Effects of Water Type and Light Exposure on Plastic Degradation into Microplastics in Water

**Overview:** This project investigates the influence of different water types and light exposure on the amount of microplastics degraded by three common plastics.

**School:** Summerhill College

**County:** Sligo

**Teacher:** Miss Kathy Mc Morrow

**Student(s):** Jacob Hamilton, John Mackey, Sean McLoughlin

2523

**Title:** Brains Over Brawn? Game Theory in Sports.

**Overview:** We aim to optimise decision making in sports using mathematics and statistics by investigating common trends in professional athletes and testing this for ourselves.

**School:** Ardgillan Community College

**County:** Dublin

**Teacher:** Ms Laura Sheahan

**Student(s):** Alex Finnegan, Elena Manek, Conor Murphy

2524

**Title:** This is the final straw

**Overview:** Our project compares the overall impacts on the environment and human health of plastic, metal and paper straws when their production, transport, use and disposal is all taken into account.

**School:** Tarbert Comprehensive School

**County:** Kerry

**Teacher:** Mr Gerard Nash

**Student(s):** Demi Quirke, Brigid Flahive, Zuzanna Payls

2525

**Title:** Investigating the Feasibility of Converting Kinsale into a Virtual Power Plant in order to Reduce our Carbon Footprint

**Overview:** A study using mathematical models to assess the current and future viability of creating a communal VPP that is self-reliant and beneficial to the environment.

**School:** Kinsale Community School

**County:** Cork

**Teacher:** Mr Shaun Holly

**Student(s):** Mia Casey, Sylvie Plant, Emer Heery

2526

**Title:** Are Professional Golfers As Good As We Think

**Overview:** To test the effects of the temperature of a golf ball on performance by measuring distance (carry and total), peak height, accuracy and spin.

**School:** Athlone Community College

**County:** Westmeath

**Teacher:** Mrs Sharon Kelly

**Student(s):** Adam Milton, Shane Cleary, Emma Flannery

2527

**Title:** Hurling's Winning Formula - A statistical and comparative study to predict the outcome of senior inter county championship and senior schools hurling matches.

**Overview:** We aim to create a mathematical model to predict match outcomes at senior inter county and schools level without the use of final scores.

**School:** St Kieran's College

**County:** Kilkenny

**Teacher:** Mr David Hennessy

**Student(s):** Padraig Lennon, Jack Butler, Conor Booth

2528

**Title:** An investigation into the silage quality on farms around the Roadstone Quarry in Co. Roscommon

**Overview:** We intend to investigate the quality of the silage produced surrounding the Roadstone quarry and pit in Castlemine, Co. Roscommon.

**School:** C.B.S. Roscommon

**County:** Roscommon

**Teacher:** Ms Breege Grennan

**Student(s):** Seán Griffin, Korey Kedian, Sean McCormack

2529

**Title:** To optimise the sol gel procedure as a preventative measure for rusting of metals.

**Overview:** Our project will include creating a simple sol-gel solution, which will be heated to be used in the prevention of the rusting of metals.

**School:** St Aloysius College

**County:** Cork

**Teacher:** Ms Angelina Carew

**Student(s):** April Devlin, Clodagh Murphy, Ciara Meany

2530

**Title:** An féidir Sreabháin Neamh-Newtonacha a úsáid chun cuidiú le leathadh tinte aiteann a chosc

**Overview:** Cruthaímid sreabháin agus tástáil neamh-newtonian chun a fháil amach an mbeadh siad ina gcuntar éifeachtach ar dhóiteáin aittinn.

**School:** Pobalscoil Ghaoth Dobhair

**County:** Donegal

**Teacher:** Ms Susan Ní Loinsigh

**Student(s):** Dáire Ó Gallachóir, Jamesie Ó Rabhaigh, Conall Ó Cnaimhshí

2531

**Title:** The way we move!

**Overview:** A measure of the way students/staff move in our school and weather the school is designed effectively for this movement.

**School:** Abbey Community College

**County:** Waterford

**Teacher:** Mr Seán Ó Catháin

**Student(s):** Ally O'Brien, Ally Fiona O'Brien, Mark Finn

2532

**Title:** Fighting for breath; is the school drop off harmful to students' health

**Overview:** We aim to measure the air quality in primary school drop-offs using a CAIR monitor, and discover if it is at a safe standard.

**School:** Meán Scoil an Chlochair

**County:** Westmeath

**Teacher:** Ms Sarah Clarke

**Student(s):** Tiarnan Clarke MacMahon, Owen Bagnall, Luke Seery

2533

**Title:** Common injuries among adolescents in GAA the cause and prevention's compared to other sports

**Overview:** we will be researching into the common injuries adolescents suffer while playing GAA compared to different sports, how they are caused and how to prevent

**School:** St Kieran's College

**County:** Kilkenny

**Teacher:** Mr David Hennessy

**Student(s):** Richard McEvoy, Luke Connellan, Oisín O'Connor

2534

**Title:** Modhanna chun daoine gan dídean a choinneal té i rith an gheimhridh

**Overview:** Our project investigates if simple scientific procedures can be used to help homeless people keep warm during the winter.

**School:** Pobalscoil Ghaoth Dobhair

**County:** Donegal

**Teacher:** Ms Susan Ní Loinsigh

**Student(s):** Emma Ní Phaidín, Katelyn Ní Phaidín, Aoibhe Ní Bhaoill

2535

**Title:** Minimum Amount of Time to Wait before Allowing Schoolchildren to Retrieve Items from a Car Boot

**Overview:** We wish to investigate the necessary time for a child to wait before retrieving bags from the car boot to avoid exposure to harmful chemicals.

**School:** Meánscoil na mBráithre

**County:** Kilkenny

**Teacher:** Ms Emma Manning

**Student(s):** Enda McCabe, Cian Farrell, Ben Kinsella

2536

**Title:** Icy Hot: An investigation to prove the existence of the Mpemba Effect and examine under which physical circumstances it can occur.

**Overview:** The aim of our project is to determine how hot water can freeze faster than cold water (Mpemba Effect), which currently no physical law explains.

**School:** Our Lady's Secondary School

**County:** Monaghan

**Teacher:** Mr Kevin Nolan

**Student(s):** Kaitlin Brereton, Emma Bannigan, Ryan George

2537

**Title:** Can essential oils be an effective disinfectant?

**Overview:** We would like to investigate can essential oils be used as a natural alternative to bleach or other chemical disinfectants.

**School:** C.B.S. Roscommon

**County:** Roscommon

**Teacher:** Ms Anne-Marie Callaghan

**Student(s):** Jack Donnellan, Michael Devine, Karol Feerick

2538

**Title:** Organic food...Is it really better for the environment?

**Overview:** this project has been established to ask the question, 'how good for the environment is organic food, and to delve deeper into farming aspects.

**School:** St Kieran's College

**County:** Kilkenny

**Teacher:** Mr David Hennessy

**Student(s):** Charlie Delahunty, Nick Doheny, Killian Carey

2539

**Title:** Spatial Awareness and Women in STEM: Is There a Link?

**Overview:** Our project aims to investigate if there is a link between being skilled at spatial awareness tests and the amount of women in STEM careers.

**School:** St Mary's Secondary School

**County:** Cork

**Teacher:** Ms Jennifer Butler

**Student(s):** Caoimhe Kelleher, Ellie Cooney Lynch, Laoise O'Sullivan

2540

**Title:** Preserving Conspicuous Road Markings

**Overview:** Developing a material for road surfaces that is visible in the rain whilst maintaining a high longevity

**School:** Terenure College

**County:** Dublin

**Teacher:** Ms Aine Hallahan

**Student(s):** Jack Mulvihill, Matthew Heffernan, Rory Maher

2541

**Title:** Tackling Climate Change Through Plastic

**Overview:** We are creating a biodegradable and eco-friendly plastic made out of natural ingredients. We will combine this with Formaldehyde to make a durable plastic.

**School:** Loreto Secondary School

**County:** Kilkenny

**Teacher:** Mr Brendan Williams

**Student(s):** Laura Moore, Aisling Mullaney, Ciara Hoban

2542

**Title:** Chondrus crispus seaweed:

Improving on biodegradable plastic

**Overview:** To develop a biodegradable polymer derived from a seaweed component to be a viable alternative to current bioplastics, which



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don't biodegrade in most marine environments.

**School:** St Aloysius College Carrigtwohill

**County:** Cork

**Teacher:** Ms Angelina Carew  
**Student(s):** Emily Fitzgerald-O'Hanlon, Sarah Mulkeen, Elizabeth Faustyna Long

2543

**Title:** To Investigate the most effective method of removing trace of Bisphenol A from water

**Overview:** Our project aims to discover the most effective and convenient method of removing BPA (a harmful chemical commonly found in plastics) from water

**School:** Athlone Community College

**County:** Westmeath

**Teacher:** Mr Ronan Mitchell

**Student(s):** Daniel Skene, Óran Benton, Kyle Greasley

## SENIOR GROUP

2600

**Title:** A Statistical Analysis into the Accuracy of Weather Forecasts in Predicting Hot vs Cold Temperatures

**Overview:** Analysing the accuracy of temperature forecasts by comparing 5-day forecasts to present day forecasts in cities with similar geographical factors but different climates

**School:** Bandon Grammar School

**County:** Cork

**Teacher:** Mr Stephen McLaughlin

**Student(s):** Katrin Birk, Aisling Barry

2601

**Title:** Case Study of the Behaviour of Freshwater Algae in Acidic Conditions

**Overview:** We will be investigating how samples of freshwater algae from Coumshingaun lake behave in varying acidic concentrations.

**School:** Ard Scoil na nDeise

**County:** Waterford

**Teacher:** Ms Joanne Brosnan

**Student(s):** Martha Ryan, Oliwia Pawlikowska

2602

**Title:** Using chitosan to create a biodegradable, antimicrobial plastic alternative to aid in the reduction of plastic waste in hospitals.

**Overview:** We plan to derive chitosan from chitin to create an antimicrobial, biodegradable plastic alternative to reduce harmful plastic waste from hospitals.

**School:** Loreto Secondary School, Balbriggan

**County:** Dublin

**Teacher:** Mr Brian Higgins

**Student(s):** Zainab Shahid, Mizna Shahid

2603

**Title:** Spectrophotometry analysis of paint pigment composition versus fading under UV degradation

**Overview:** Various paint pigments are exposed to UV light and a spectrophotometer is used to quantitatively measure fade over a unit frame

**School:** Balbriggan Community College

**County:** Dublin

**Teacher:** Mr Tom O'Donoghue

**Student(s):** Ian Doherty, Aaron Quinn,

2604

**Title:** Does Every Cloud Have A Silver Lining? - An Investigation into the Acute Effects of e-Cigarette Use

**Overview:** An investigation into the acute effects of e-cigarette use using daphnia pulex and the EC50 Acute Immobilisation test according to OECD procedures

**School:** Presentation College

**County:** Cork

**Teacher:** Mr Martin Garvey

**Student(s):** Illann Wall, Caomhán Budhlair

2605

**Title:** The Kelp Our Environment Needs

**Overview:** To convert seaweed oil into a carbon neutral biofuel through the method of transesterification and highlight the importance of carbon neutral energy sources like Seaweed.

**School:** Salesian Secondary College, Pallaskenry

**County:** Limerick

**Teacher:** Mr John O'Flynn

**Student(s):** Megan Browne, Alison Coffey, Fiona Meehan

2606

**Title:** Makeup Cost Vs Makeup Quality

**Overview:** Does the cost of makeup (bronzers) have a relationship to the quality of the ingredients in the product?

**School:** Naas Community College

**County:** Kildare

**Teacher:** Ms Michaela Piaré

**Student(s):** Sarah Shanfrezan, Qistina Syazulifah, Mutiat Adebayo

2607

**Title:** Measuring the Effect of Temperature on the Degradation of Plastics into Smaller Plastic Fragments in Water

**Overview:** Our goal for this project is to measure the rate at which plastics break down into plastic fragments when suspended in a body of water.

**School:** St Anne's Community College

**County:** Clare

**Teacher:** Ms Greta Hogan

**Student(s):** Stephanie Connor, Jack Fairfield, Eoin Gilmartin

2608

**Title:** Effective Water: The contrasts between Reverse Osmosis and Solar Distillation for water treatment in the 21st century

**Overview:** Which process of water treatment is more efficient and cost effective. The ways the by-products can be used, and the economic impact on developing/developed countries.

**School:** Coláiste An Spioraid Naoimh

**County:** Cork

**Teacher:** Tom Healy

**Student(s):** Aditya Pillai, Daniel O'Reilly

## BTYSTE 2020 Events

Check the schedules on pages 64-66 for specific show times





# Technology

## JUNIOR INDIVIDUAL

3100

**Title:** NOVA: Innovative Navigational Aid for the Visually Impaired.

**Overview:** My project is made of two parts, a smart cane that detects obstacles and a mobile application that gives directions to the user.

**School:** Dundalk Grammar School

**County:** Louth

**Teacher:** Mr Shane Lynch

**Student(s):** Solomon Doyle

3101

**Title:** A-Ok, A digital communication wristband for people with autism.

**Overview:** A digital communication aid between a person with autism and their Teachers, coaches and mentors.

**School:** Colaiste Mhuire

**County:** Westmeath

**Teacher:** Ms Eva Acton

**Student(s):** Hugh Murtagh

3102

**Title:** e-CBT - An Electronic Solution To Impulse Control

**Overview:** This project will create an e-CBT(e-Cognitive Behavioural Therapy) wearable device that uses evidence-based CBT practices to address unproductive thought patterns in a new way.

**School:** St Mary's Secondary School

**County:** Dublin

**Teacher:** Ms Bronwyn Mulvey

**Student(s):** Mony Aramallia

3103

**Title:** Electricity generator

**Overview:** This product produces energy by using a magnet to pull a metal cylinder up a tube sucking water, from the tray below, through a fan

**School:** Blackwater Community School

**County:** Waterford

**Teacher:** Mr Paul Joyce

**Student(s):** Tiernán Stevenson

3104

**Title:** Emergency Response Drone

**Overview:** The aim of the project is to create a drone ambulance. The drone can be used as an AED unit and as a First Aid Kit

**School:** Colaiste Mhuire

**County:** Westmeath

**Teacher:** Ms Eva Acton

**Student(s):** Robert Brennan

3105

**Title:** JC Coder - An e-learning Website for Teachers and Students of the Junior Cycle Short Course in Coding.

**Overview:** Students can learn about computer science, coding, hardware and software by completing lessons, videos, projects and quizzes. Teachers can manage their class and assign lessons.

**School:** Sandford Park School Ltd

**County:** Dublin

**Teacher:** Ms Katherine Gray  
**Student(s):** Benjamin Murray

3106

**Title:** Adapting a Neural Network to efficiently run on a Quantum Circuit  
**Overview:** Is there a way to adapt neural networks to take advantage of quantum phenomena such as entanglement and superposition to speed up the learning process?

**School:** Stratford College

**County:** Dublin

**Teacher:** Ms Helen O'Kelly

**Student(s):** Ayush Tambde

3107

**Title:** Ag méadú éifeachtúlacht caidéal teasá tríd comhcheangail córas téamh agus fuarú

**Overview:** Táim ag ceagail an cuisneoir don córas téamh chun an uisce fuar a úsáid sa chusneoir agus an teas a thagann amach sa caidéal teasá.

**School:** Colaiste Pobal Osraí

**County:** Kilkenny

**Teacher:** Dr Lughaidh Ó Néill

**Student(s):** Iain Ó Coimín

3108

**Title:** Be Seen Trendy

**Overview:** Be Seen Trendy helps people with visual impairments to access vital guidance relating to selecting garments to wear using NFC tags and a Pi.

**School:** St Killian's College

**County:** Antrim

**Teacher:** Mr Peter Marrs

**Student(s):** Tess Brady

3109

**Title:** Pictuir foclair

**Overview:** My project is an app that transcribes Irish to English by taking a photo of a sentence/word

**School:** Blackwater Community School

**County:** Waterford

**Teacher:** Mr Paul Joyce

**Student(s):** Shane Cunningham

## INTERMEDIATE INDIVIDUAL

3200

**Title:** C.B.A - Crash Barrier Ambulance

**Overview:** An ambulance which mounts the crash barrier to get to an accident on the motorway quicker, if it is blocked by traffic or other obstacles.

**School:** Castletroy College

**County:** Limerick

**Teacher:** Ms Shellie Galligan

**Student(s):** Joe Kelly

3201

**Title:** An assessment of underwater compressed air storage for Irish renewable energy

**Overview:** I am investigating how underwater compressed air storage systems can be optimally deployed to support Irish renewable energy production.

**School:** Presentation College Athenry

**County:** Galway

**Teacher:** Mr Kenneth O'Dea

**Student(s):** Niah McCarthy

3202

**Title:** ScootSure - Making Electric Scooters Safer and Insurable Using AI

**Overview:** Using neural networks to clarify if the driver is using a helmet and preventing scooter's usage on unsuitable terrain making scooters safer and more insurable

**School:** Ardscoil Ris

**County:** Limerick

**Teacher:** Mrs Diane Condon

**Student(s):** Niall Meade

3203

**Title:** Anonymous long-term emotional monitoring using Gait Analysis and Machine Learning

**Overview:** We aim to outline a system that anonymously monitors individuals' mental health, and alerts those with the ability to help them.

**School:** Ballymakenny College

**County:** Louth

**Teacher:** Ms Alison Leahy

**Student(s):** Conor Browne

3204

**Title:** Joint righting: An accurate electronic kinematics and muscle strength system for improved patient recovery after joint surgery.

**Overview:** Development of accurate electronic sensor measurements of body joint movement and muscle strength to inform patients rehabilitating from joint surgery.

**School:** Ard Scoil Na Mara

**County:** Waterford

**Teacher:** Ms Niamh Shannon

**Student(s):** Caoimhín O'Leary

3205

**Title:** Ultrasonic Vision Assistant

**Overview:** A headband designed to assist visual disabled people walking in the city. A first prototype has been built with ultrasonic sensor, controller, battery and speaker.

**School:** Our Lady's Bower

**County:** Westmeath

**Teacher:** Mrs Julie-Anne Greaney

**Student(s):** Marina Caballero

3206

**Title:** Intelligent Greenhouse Monitoring and Controlling System using Renewable Energy

**Overview:** The main intention of the project is to create an automated greenhouse that will adjust and regulate the light, soil moisture, and temperature, when needed.

**School:** Carrigaline Community School

**County:** Cork

**Teacher:** Mr Steven Corbett

**Student(s):** Ishaan Anwar Arakkal

3207

**Title:** Sports Grips

**Overview:** Developing a hand moulding system to create individualised sports grips, with a

performance analysis software to measure the effect of the grip on a player.

**School:** St. Brendan's Community School

**County:** Offaly

**Teacher:** Mrs Kelly-Anne Milne

**Student(s):** Edel Daly

3208

**Title:** We are not safe.

**Overview:** My project investigates the ways technology is vulnerable in everyday life and also how insecure the services we use every day.

**School:** Belvedere College

**County:** Dublin

**Teacher:** Mr. Michael Grehan

**Student(s):** Brian Kelleher

3209

**Title:** Cheap & Easy to Use Interactive Whiteboard

**Overview:** I aim to create a cheap and easily accessible interactive whiteboard by using a set of Raspberry Pis and infrared cameras combined with an Infrared-Pen.

**School:** Mayfield Community School

**County:** Cork

**Teacher:** Ms Catherine Russell

**Student(s):** Barnabas Somodi

3210

**Title:** VAR AI - Efficient Intelligent Decisions

**Overview:** An AI based video assistant refereeing system that removes ambiguity from refereeing decisions using pose estimation to understand interactions between hurlers during a tackle.

**School:** Castletroy College

**County:** Limerick

**Teacher:** Ms Shellie Galligan

**Student(s):** Liam O'Mara

3211

**Title:** Tackling back pain due to sitting posture using technology

**Overview:** A device which senses and gives feedback on sitting posture to tackle the growing global problem of occupation-induced back pain and related conditions.

**School:** Gallen Community School

**County:** Offaly

**Teacher:** Mrs Catherine Hopkins

**Student(s):** Eoin Sheridan

3212

**Title:** eConstituency: Can Computer Software be used to draw impartial Electoral Boundaries?

**Overview:** Can software be used to generate random constituency boundaries? This would prevent against gerrymandering and help ensure fair democratic elections across the globe.

**School:** St Joseph's College

**County:** Tipperary

**Teacher:** Ms Mary Gorey

**Student(s):** William Quinlan



# Technology

3213

**Title:** Electronic Tag and Scanning App for Livestock

**Overview:** This project contains an electronic sheep tag with many purposes which all help tagging and scanning sheep, cows and other livestock with an app.

**School:** Coláiste Bhréanainn

**County:** Kerry

**Teacher:** Miss Coramarie Kelliher

**Student(s):** Eoghan o Dubhain

3214

**Title:** Solar School Bag

**Overview:** My goal is to make an efficient school bag that has solar technology built into it that allows people to recharge their devices with solar.

**School:** St Francis Capuchin College

**County:** Cork

**Teacher:** Ms Nicola Barry

**Student(s):** Mark Lecane

3215

**Title:** A more efficient energy transfer medium, fiber optic cables

**Overview:** I want to investigate into whether or not fiber optic cables are more efficient at transmitting energy than traditional copper wires.

**School:** Mount St Michael

**County:** Cork

**Teacher:** Mr Brendan Hogan

**Student(s):** Alyssa Mannix

3216

**Title:** Franken-Drón

**Overview:** Tá mé ag iarraidh seachadadh drón a fheabhsú trí sciathán a chur ar quadcopter chun raon, luas agus pálasta a mhéadú. (saghas Franken-Drón d'fhéadfá a rá!)

**School:** Gaelcholáiste Charraig Uí Leighin

**County:** Cork

**Teacher:** Dr Pól Ó Drisceoil

**Student(s):** Tomas Ó'Cróinín

3217

**Title:** A Simple Solution to our Recycling Problem!

**Overview:** To build a device that will assist the user with the recycling of items by giving instructions on how it should be recycled.

**School:** Colaiste Choilm

**County:** Offaly

**Teacher:** Ms Ann Molloy

**Student(s):** Fiachra Carroll

3218

**Title:** Device to motivate preschool children to clean up

**Overview:** I created a piece of technology to encourage kids to pick up toys

**School:** Carrick-On-Shannon Community School

**County:** Leitrim

**Teacher:** Ms Anna-Marie Kelly

**Student(s):** Daniels Kasperovis

3219

**Title:** The study and analysis of local air quality

**Overview:** By building a circuit to monitor pollutants, I will seek to quantify the air quality in my local area

**School:** Coláiste Mhuire Ennis

**County:** Clare

**Teacher:** Ms Nicola Meere

**Student(s):** Aoibhinn Leyden

3220

**Title:** AK Hydro Lighting

**Overview:** This project is utilizing used water in a household from shower etc. to generate electricity through hydroelectricity. It will reduce the carbon footprint in households.

**School:** Elphin Community College

**County:** Roscommon

**Teacher:** Mr. Paul Connellan

**Student(s):** Karl Gilmartin

## SENIOR INDIVIDUAL

3300

**Title:** iScope - The Design and Development of an Enhanced Digital Stethoscope for Remote Auscultation

**Overview:** Improve the functionality of stethoscopes by including electronics, facilitating connection to the internet, allowing for remote diagnostic of conditions & prevent spread of infectious diseases.

**School:** Desmond College

**County:** Limerick

**Teacher:** Mr Donal Enright

**Student(s):** Oisín O'Sullivan

3301

**Title:** Determining The Difference Between Ego-Motion and Regular, Object Motion Within A Frame

**Overview:** A program to help computers determine the difference between ego-motion and from actual movement within the frame

**School:** Presentation College

**Headford**

**County:** Galway

**Teacher:** Mr. John Toner

**Student(s):** Pawel Blok

3302

**Title:** Allergy Alert - Food Shopping App

**Overview:** I used an augmented reality software development kit and an AIY vision kit to make scanning food labels safer, easier and quicker for people who have allergies

**School:** Our Lady's Bower

**County:** Westmeath

**Teacher:** Mrs Ellen Maguire

**Student(s):** Nirmitha Premnath

3303

**Title:** Changes to a petroleum engine.

**Overview:** This project will investigate how a hydrocarbon engine could be altered to run safely on hydrogen.

**School:** Coláiste Oiriall

**County:** Monaghan

**Teacher:** Ms Roisin Uí Choinn

**Student(s):** Hugh Ó Caoláin

3304

**Title:** Inside Out - A wearable device that externalises inside emotions

**Overview:** A wearable device which reads and learns the physiological triggers caused by various emotions and displays the emotions associated colour on the device.

**School:** Ursuline College

**County:** Sligo

**Teacher:** Mr Anthony Carolan

**Student(s):** Ellen Woodward

3305

**Title:** Learning to communicate

and collaborate: Discovering optimal cooperative multiplayer non-zero-sum game strategies and environments using deep learning

**Overview:** How can we cooperate effectively? The application of deep learning to multi-agent non-zero-sum games leads to the emergence of language, communication, and optimal coordination.

**School:** Gonzaga College

**County:** Dublin

**Teacher:** Mr Stephen McGroggan

**Student(s):** Luke Rickard

3306

**Title:** An investigation into Electroencephalography and how it can help emulate human empathy and emotion in Artificial Intelligence

**Overview:** Using data gathered from Electroencephalography and Functional Magnetic Resonance Imaging in order to build emotion and empathy models for an Artificial Intelligence Therapist to follow.

**School:** Scoil Phobail Sliabh Luachra

**County:** Kerry

**Teacher:** Ms Sinead Tangney

**Student(s):** Liam McSherry

3307

**Title:** S.P.E.D (Solar Powered Educational Device)

**Overview:** I built a fully working solar-powered device for education in developing countries & refugee camp as well as an educational app that doesn't require Wi-Fi.

**School:** St. Angela's College

**County:** Cork

**Teacher:** Mrs Claire O'Donovan

**Student(s):** Anna O'Connor

3308

**Title:** The Real-World Applications of Augmented Reality

**Overview:** Investigating how Augmented reality can be implemented in the real world and how it can bridge the disconnect between information and how we apply it.

**School:** Meánscoil Na Mbráithre

**County:** Clare

**Teacher:** Ms Louise Kennedy

**Student(s):** Patrick Sheridan

3309

**Title:** "Landmark App" Bunaithe ar GPS

**Overview:** Aip a thugann eolas "on-the-fly" duit faoi "landmarks" a thrasnaíonn tú, de húsáid do comhordanáidí GPS, gan ionchur rialta a bheith ag tastáil.

**School:** Gaelcholáiste Cheatharlach

**County:** Carlow

**Teacher:** Ms Julia Coffey

**Student(s):** David Callanan

3310

**Title:** Synthesis, my software to measure destruction of the amazon rain forest using satellite imagery.

**Overview:** Creating a piece of software that makes use of ESA satellites to compare, contrast and identify the health of plants in a region

**School:** Templeogue College

**County:** Dublin

**Teacher:** Mr Darren O'Sullivan

**Student(s):** Joshua Butler

3311

**Title:** Vender Independent Age Verification (VIIV)

**Overview:** VIIV is an AI based age verification system for social media platforms that provides an independent, accurate age indicator without breaking data privacy restrictions.

**School:** Bandon Grammar School

**County:** Cork

**Teacher:** Dr Maire Flynn

**Student(s):** Greg Tarr

## JUNIOR GROUP

3400

**Title:** Solar powered temperature monitor for a pram

**Overview:** Our project will be able to monitor the temperature inside the pram, thus avoiding overheating of babies and reducing sudden infant death syndrome (SIDS).

**School:** Scoil Mhuire gan Smál Blarney

**County:** Cork

**Teacher:** Ms Marguerite ODonoghue

**Student(s):** Aishling Reeves, Nadia O'Sullivan

3401

**Title:** Steering Us To Safety: An interactive steering wheel with accompanying application

**Overview:** An interactive steering wheel with accompanying application which measures the user's vital signs indicating if it is safe for them to be behind the wheel

**School:** Colaiste Mhuire

**County:** Westmeath

**Teacher:** Ms Eva Acton

**Student(s):** Oran Dunne, Oisín Smullen, Luke Raeside

3402

**Title:** Generating electricity from the water mains



**Overview:** Putting water turbines in the water mains so that we can generate electricity.

**School:** Douglas Community School

**County:** Cork

**Teacher:** Mr Cian O'Mahony

**Student(s):** Luke Broderick, Jakub Orlowski

**3403**

**Title:** ASD-smart device

**Overview:** We have built a wearable smart device that helps adjust the environmental conditions in a room to help children who have ASD

**School:** Coláiste Phádraig

**County:** Dublin

**Teacher:** Ms Jacqueline Farrell

**Student(s):** Taha Fareed, Jevin Joy

**3404**

**Title:** Bin Buddy - A SMART Sorting Bin

**Overview:** At a time when climate change is discussed constantly, our project is a SMART bin that sorts general waste, compost and recyclables into separate bins.

**School:** Castletroy College

**County:** Limerick

**Teacher:** Ms Shellie Galligan

**Student(s):** Cathal O'Mara, James O'Malley

**3405**

**Title:** Safe Sensor

**Overview:** The safe sensor will be a temperature sensing device which you attach to an electric plug, to prevent it overheating and causing a fire.

**School:** St Ciaran's High School

**County:** Tyrone

**Teacher:** Miss Lauren Teague

**Student(s):** Connor Quinn, Emer Quinn

**3406**

**Title:** Slurry pit laser-save lives

**Overview:** We want to make a laser to put in slurry pits so if the laser breaks an alarm will be sent to a phone

**School:** St John Bosco Community College

**County:** Clare

**Teacher:** Mrs Margaret Walsh

**Student(s):** Abbey Hehir, Rebecca Murphy, Ryely Cantrell

**3407**

**Title:** Weight Watching Plate

**Overview:** Weight Watching Plate is a device that can weigh the food on a plate and calculate the total number of calories.

**School:** St Killian's College

**County:** Antrim

**Teacher:** Mr Peter Marrs

**Student(s):** Emma Martin, Niamh Reid

**3408**

**Title:** Quick Shop

**Overview:** This project is a mobile app that serves the purpose of making shopping in retailers quicker and

easier for the consumer.

**School:** Meánscoil na mBráithre Criostaí

**County:** Kilkenny

**Teacher:** Ms Emma Manning

**Student(s):** Evan O'Hara, David Bracken

**3409**

**Title:** DLD Sensor

**Overview:** A mass-sensor connected to a mobile-app. The sensor is put on the pivot of tractor loader to let the farmer know how much feed it contains

**School:** St Joseph's College

**County:** Tipperary

**Teacher:** Ms Mary Gorey

**Student(s):** Lochlainn Hodgins, Dylan Ryan, David Conway

**3410**

**Title:** Algorithmic Mood Detector using facial recognition

**Overview:** We want to use Artificial Intelligence to measure the wellbeing of students in schools and with the data collected, help schools improve emotional wellbeing.

**School:** Kishoge Community College

**County:** Dublin

**Teacher:** Mr Micheal Griffin

**Student(s):** Madalina Costovici, Nedas Smigelskas,

**3411**

**Title:** Luas Alert

**Overview:** We are creating an app which alerts cyclists and other road users to the danger of nearby Luas trams.

**School:** Colaiste Mhuire

**County:** Westmeath

**Teacher:** Ms Eva Acton

**Student(s):** Killian McGrath, Evan McGreal, Kyle O Mahoney

**3412**

**Title:** Energy Efficient Fridge

**Overview:** We're designing an energy efficient fridge using solar energy to cool down a salt solution removing the need for electricity during the night

**School:** Kinsale Community School

**County:** Cork

**Teacher:** Mr Shaun Holly

**Student(s):** Ian Cullinane, Noah Dennehy Bailey, Jake Grace

**3413**

**Title:** PianEASYmo: a new mathematical-based system to help people learn to play the piano

**Overview:** PianEASYmo is a mathematical-based system to help inexperienced and/or people with special needs to play piano without having to be musically literate.

**School:** Glenamaddy Community School

**County:** Galway

**Teacher:** Ms Niamh O'Flanagan

**Student(s):** Davóg Kelly, Ava Doherty, Sarah Raftery

**3414**

**Title:** The Eco Powered Dollshouse

**Overview:** Our project is a revolutionary toy designed to teach children about eco-technology in an innovative way.

**School:** St Ciaran's High School

**County:** Tyrone

**Teacher:** Miss Lauren Teague

**Student(s):** Aine Mc Brearty, Chloe Curran, Rionach Hackett

**3415**

**Title:** Reeling in the Years - An Adaptive Machine Learning Algorithm to Measure Interactivity of Elderly Users

**Overview:** This project will create a machine learning algorithm using pattern matching to measure interactivity of older people with an App showing photographs from their lives.

**School:** Our Lady's Bower

**County:** Westmeath

**Teacher:** Mrs Julie-Anne Greaney

**Student(s):** Ciara Fallon, Marie Flatley, Arlene Devery

**3416**

**Title:** The Ultimate Smart Bike Lock

**Overview:** We will design a smart bike lock that does not require WiFi and sends you a message when you bike is being tampered with.

**School:** Gonzaga College

**County:** Dublin

**Teacher:** Mr Stephen McGroggan

**Student(s):** Joe O'Grady, Justin Ikwu, Toby Burns

**3417**

**Title:** Wild Bird Preservation Unit

**Overview:** Our product will provide constant food, water and shelter for wild birds all year round, helping to preserve the species.

**School:** St Ciaran's High School

**County:** Tyrone

**Teacher:** Miss Lauren Teague

**Student(s):** Ben Trainor, Peter Trainor

## INTERMEDIATE GROUP

**3500**

**Title:** 'RefAid' - An electronic safety device worn by players to alert referees of high tackles within contact sports.

**Overview:** Development of a sophisticated safety device which can be worn by players on the pitch to alert the referee of high tackles in contact sports.

**School:** Pobalscoil Neasain

**County:** Dublin

**Teacher:** Ms Gemma Buicke

**Student(s):** Dennis Power, Nathan Reilly

**3501**

**Title:** HealthPal

**Overview:** HealthPal is a website promoting Health and Fitness amongst our fellow students and

beyond. Our website is fully coded with HTML and CSS.

**School:** Meánscoil Iognáid Rís

**County:** Dublin

**Teacher:** Ms Therese Kelly

**Student(s):** Ross Manning, Roshan Jagan

**3502**

**Title:** "Twinkle-twinkle little star" - A systematic study of light pollution in rural Donegal

**Overview:** Measuring sky glow at numerous predetermined sites surrounding the rural village of Kilmacrennan in Co Donegal in order to determine suitable sites for Astro-tourism

**School:** Loreto Community School

**County:** Donegal

**Teacher:** Mrs Roisin Coyle

**Student(s):** Oisín Farrell, Thomas Cannon

**3503**

**Title:** The Spine Saving Schoolbag

**Overview:** Our project is to create a schoolbag that alerts a student when their schoolbag is too heavy in order to protect their spines.

**School:** Ardscoil Rís

**County:** Limerick

**Teacher:** Mrs Diane Condon

**Student(s):** Darragh Murphy, Thomas Collins

**3504**

**Title:** Can High Speed Rail be Viable in Ireland?

**Overview:** We seek to make high speed rail viable on Irish rail infrastructure on popular express routes, by introducing changes to the current locomotives and rolling-stock.

**School:** Patrician Secondary School

**County:** Kildare

**Teacher:** Mr Colin Doherty

**Student(s):** Fintan Lalor, Ben O'Shea, Nibu Rajan

**3505**

**Title:** Smart Stick

**Overview:** This project is to improve the white cane used by blind people. We will do this by placing sensors on it to detect any obstacles.

**School:** St. Joseph's Secondary School

**County:** Meath

**Teacher:** Miss Bronagh Farrell

**Student(s):** Annmarie Asiruvatham, Mariessa Mc Manus

**3506**

**Title:** Manual horse loading system (MHLS)

**Overview:** This mechanism helps loading horses, that are scared or bold when it comes in contact with a horse box/truck.

**School:** Colaiste Chraobh Abhann

**County:** Wicklow

**Teacher:** Ms Julie Corrigan

**Student(s):** Dylan Cryan, Sean Kavanagh



# Technology

3507

**Title:** Applying the Turing Test to self-made algorithms for musical composition

**Overview:** This project will consist of creating a computer program that will compose music given certain parameters, and of testing the outputs with a Turing Test.

**School:** St. Fintan's High School

**County:** Dublin

**Teacher:** Ms Jenna Behan

**Student(s):** Michael Doyle, Fionn McGregor

3508

**Title:** Cyclist Safe Passing Distance Alert System

**Overview:** A visible alert system to make motorist aware of how much space they need to be away from a cyclist when overtaking them

**School:** Clonakilty Community College

**County:** Cork

**Teacher:** Mr Patrick O Keeffe

**Student(s):** Chinaza Ogwudiegwu, Declan McPeake

3509

**Title:** Hybrid Home Appliances

**Overview:** Our project aims to show that, like hybrid cars, we can make hybrid and self-powering home appliances to decrease emissions and scavenge waste energy.

**School:** Ardgillan Community College

**County:** Dublin

**Teacher:** Ms Laura Sheahan

**Student(s):** Marcela Mahon Mas, William Leonard

3510

**Title:** Sodium Concentration Monitor  
**Overview:** A sensor applied to the skin allowing the sodium in the interstitial fluid to be easily measured and averaged over time for an accurate reading.

**School:** C.B.S. Thurles

**County:** Tipperary

**Teacher:** Mr Patrick Dunne

**Student(s):** Luke Aherne, Ben O'Driscoll

3511

**Title:** Mobile app for identifying poisonous plants and mushrooms.

**Overview:** We have designed an app to help the user to identify poisonous plants and mushrooms while foraging.

**School:** Coláiste Chiaráin

**County:** Limerick

**Teacher:** Ms Edel Farrell

**Student(s):** Diana Nedelcu, Anika Sheehan

3512

**Title:** Exercise is the "KEY"

**Overview:** A device that will count one's active minutes and by inserting it into a modified power adapter, will control the power to a gaming device.

**School:** Desmond College

**County:** Limerick

**Teacher:** Mr Donal Enright

**Student(s):** Aoife Lee, Emma Brennan

3513

**Title:** Reusable Braille Translator

**Overview:** To create a reusable device which enhances visually impaired peoples' reading and web surfing experience by converting text into Braille form.

**School:** Patrician Secondary School

**County:** Kildare

**Teacher:** Mr Colin Doherty

**Student(s):** Ruairi Mullally, Justin Cunningham

3514

**Title:** The development of an automatic role call system for post primary schools to monitor attendance within the classroom using RFID tags

**Overview:** Our project aims to develop an automatic roll call system to monitor students attendance throughout the school day for each class they attend.

**School:** Pobalscoil Neasain

**County:** Dublin

**Teacher:** Ms Gemma Buicke

**Student(s):** Joshua Hand, Luke McDonnell

3515

**Title:** Electromagnetic Brake System

**Overview:** An Electromagnetic Brake System for a bicycle in which a magnet applies force to a disk brake through a resin bicycle brake pad.

**School:** Pobalscoil Inbhear Scéine

**County:** Kerry

**Teacher:** Ms Sarah Abbott

**Student(s):** Asher Grant, Alec Mulcahy

3516

**Title:** Iris tracker through OpenCV to assist people who are unable to use their arms

**Overview:** This is a project to help people who can't use their arms use technology. Written in python with OpenCv

**School:** Salesian Secondary College, Pallaskenry

**County:** Limerick

**Teacher:** Ms Claire Sheehy

**Student(s):** Gerard Garvey, Cathal Gaumont

3517

**Title:** Wi - Fire

**Overview:** Anti-Vandal, Wifi and 5G enabled device that retrofits an existing fire extinguisher. Wi-Fire - saves lives, money and time!

**School:** St Ciaran's High School

**County:** Tyrone

**Teacher:** Mrs Pauline Murphy

**Student(s):** Hannah McVeigh, Chloe Quinn

3518

**Title:** Exploring Schools App

**Overview:** An app that provides prospective students with a

comprehensive overview of the post-primary schools in their location to make choosing a school simpler

**School:** Presentation College

**Headford**

**County:** Galway

**Teacher:** Mr. John Toner

**Student(s):** Elana Monaghan, Saibh Malcolm

3519

**Title:** Dispelling the Plague of Fake News Effortlessly

**Overview:** An app that compiles a database of public record statistics and information that is easily accessible with an intuitive user interface.

**School:** Mount St Michael

**County:** Cork

**Teacher:** Mr Brendan Hogan

**Student(s):** Darragh Nagle, Oisín O' Sullivan

3520

**Title:** Periodt.

**Overview:** We hope to create an ethical period product to be made available to women in third world countries and combat waste from these products.

**School:** St. Joseph's Secondary School

**County:** Meath

**Teacher:** Miss Bronagh Farrell

**Student(s):** Sophie McElligott, Salome Maher Bordalo

3521

**Title:** Flax as an alternative to heavy duty plastic strapping

**Overview:** Research, analysis, and practical application of the use of Flax fibres as a sustainable alternative to plastic strapping.

**School:** Abbey Vocational School

**County:** Donegal

**Teacher:** Ms Donna Furey

**Student(s):** Ella Doherty, Ailbhe Loughney

3523

**Title:** Carbon Monoxide Vent

**Overview:** We made a Carbon Monoxide Vent that opens up when Carbon Monoxide levels reach a harmful level.

**School:** Pobalscoil Neasain

**County:** Dublin

**Teacher:** Ms Gemma Buicke

**Student(s):** Arturs Markovics, Peter Slattery

3524

**Title:** Unsecured Tractor attachments indicator

**Overview:** indicator outside tractor that will signal driver through a buzzing noise inside the tractor, indicating if the attachments to the loader are hooked on properly

**School:** Coláiste Na Toirbhirte

**County:** Cork

**Teacher:** Mr Declan Cronin

**Student(s):** Aoife Ahern, Stephanie Hodge

3525

**Title:** Feel 'n' Float - A lifesaving buoy that sends out vibrations through the water in order to be sensed and then grabbed by the visually impaired, the deaf and the distressed.

**Overview:** A lifesaving buoy that sends out vibrations through water in order to be sensed and then grabbed by the visually impaired, deaf and distressed.

**School:** Ardscoil Ris

**County:** Limerick

**Teacher:** Mrs Diane Condon

**Student(s):** David Fitzpatrick, Frank Corcoran

3526

**Title:** To Develop a Contactless Electric Car Charging Road System

**Overview:** Our idea is to create a road which powers an electric car while it is driving using sustainable energy sources.

**School:** Clonakilty Community College

**County:** Cork

**Teacher:** Mr Patrick O Keeffe

**Student(s):** Dylan Geaney, Brian Carroll, Ben Wycherley

3527

**Title:** Do Diesel Car Filters Actually Benefit the Environment?

**Overview:** We will be examining whether DPF (Diesel Particulate Filters) reduce harmful emissions from cars. When DPFs are regenerated, where do the fumes go?

**School:** Loreto High School

**County:** Dublin

**Teacher:** Dr Rachel Hiney

**Student(s):** Abbie Brennan, Alyssa Burns, Sophie Burns

3528

**Title:** Future of transport: can Ireland reach 1 million e-cars by 2030?

**Overview:** To evaluate Ireland's capacity to reach 1 million electric vehicles on the road by 2030 and give predictions whether or not this goal is realistic.

**School:** Marist College

**County:** Westmeath

**Teacher:** Mr Cian O'Brien

**Student(s):** Dylan Corcoran, Rory Kilgarrieff, Donagh Claffey

3529

**Title:** HSO - Helping Sensory Overload

**Overview:** An app to assist carers, parents or anyone in helping to prevent sensory overloads in those who suffer from hypertensive hearing and ASD.

**School:** St Louis Grammar School

**County:** Antrim

**Teacher:** Mr Patrick Trainor

**Student(s):** Bronagh Dempster, Daniel Montgomery, Liam Young



**3530**

**Title:** To design and create a safe, comfortable and practical head and specifically facial protection to encourage more interest in rugby  
**Overview:** Our project aims to encourage a greater interest in rugby, especially women's teams as there is a much lower rate in women participating in rugby.  
**School:** Kinsale Community School  
**County:** Cork  
**Teacher:** Mr Shaun Holly  
**Student(s):** Alice O'Callaghan, Kenzie Desmond, Grace O'Rielly

**3531**

**Title:** Autonomous Fire Detection and Warning Drone  
**Overview:** An autonomous drone which will fly in pre-programmed patterns over large swathes of forested areas and detect forest fires along their routes  
**School:** Athlone Community College  
**County:** Westmeath  
**Teacher:** Mr Gavin Beirne  
**Student(s):** Noa Moric, Gvido Milass, Cian Fuery

**3532**

**Title:** What risk does social engineering pose?  
**Overview:** An analysis on the risks of social engineering attacks and what elements of scam emails are most effective.  
**School:** Coláiste Mhuire  
**County:** Dublin  
**Teacher:** Ms Nora Jane Ní Mhéalóid  
**Student(s):** Jeaic Ó Cathasaigh, Rian Mac an tSionnaigh, Luke McQuade

**3533**

**Title:** I've Got The Power! – An Electromechanically Controlled Flexible Lens for Photovoltaic Cells  
**Overview:** This project is concerned with retro fitting a flexible lens to solar cells to optimise the incident light.  
**School:** Ursuline College  
**County:** Sligo  
**Teacher:** Mr Anthony Carolan  
**Student(s):** Ella McDaid, Niamh Carolan, Lile Hensey

**3534**

**Title:** Save the planet one flush at a time!  
**Overview:** We want to save the planet by cutting the amount of tissue with an Automatic Toilet Paper Dispenser, which gives trees a chance.  
**School:** St Marys College  
**County:** Wicklow  
**Teacher:** Ms Joanne English  
**Student(s):** Senuri Wickramaratne, Leilani Phillips, Patricia Purina

**3535**

**Title:** Using artificial membranes to create an optimum microfiber filtration system for your washing machine

**Overview:** We will design and build an effective microfiber filtration system to be installed in your washing machine exit pipe to prevent ocean pollution via microfibers.  
**School:** St Aloysius College Carrigtwohill  
**County:** Cork  
**Teacher:** Ms Angelina Carew  
**Student(s):** Ava Dowdall, Leanna Bell, Chloe McIntyre

**3536**

**Title:** Are They Listening To Us?  
**Overview:** We are investigating whether or not the microphones in our apple devices are listening to our private conversations, to tailor our ads on social media.  
**School:** Le Chéile Secondary School  
**County:** Dublin  
**Teacher:** Dr. Ciara Finnegan  
**Student(s):** Abigail Cunningham, Emma Connolly, Kerryann Walker

**3537**

**Title:** How might using sensor technology improve dairy production  
**Overview:** Our project aims to benefit dairy farmers during their daily routine by introducing automatic sliding doors for robotic milking parlours which will work off sensors.  
**School:** Athlone Community College  
**County:** Westmeath  
**Teacher:** Mr Ronan Mitchell  
**Student(s):** Aoife Galvin, Eimer O'Neill, Heather Mcgrane

**3538**

**Title:** Can Discos be self-powered by the attendees' movements?  
**Overview:** This project aims to look at the science of piezoelectricity – using dance movement to power discos.  
**School:** St. Anne's Secondary School  
**County:** Tipperary  
**Teacher:** Ms Jeanne Dowling  
**Student(s):** Maeve O'Dea, Aoife Flynn, Holly Ryan O'Connor

**3539**

**Title:** Diet Made Easy  
**Overview:** To create an app that will allow people with specific dietary requirements to find recipes based on what ingredients they have available in their kitchen.  
**School:** Athlone Community College  
**County:** Westmeath  
**Teacher:** Mr Gavin Beirne  
**Student(s):** Hollie Walsh, Liam Hennelly, Finn Carey

**3540**

**Title:** Handiful  
**Overview:** Device designed to aid people with chronic illnesses in accomplishing physical therapy.  
**School:** Alexandra College  
**County:** Dublin  
**Teacher:** Mr Patrick Cushen  
**Student(s):** Maya Herz, Kate Seoyeon Kim, Bethany Stanley

**3541**

**Title:** (ARES) Automated Risk Evaluation System  
**Overview:** To build a device that mounts onto a firearm and uses AI to detect a threat and can tell the user to take necessary action.  
**School:** St Joseph's Secondary School  
**County:** Dublin  
**Teacher:** Mr Daryl Dunne  
**Student(s):** Stephen Flynn, Isaac Hall, Oisín Brick

## SENIOR GROUP

**3600**

**Title:** We Didn't Start the Fire – The development of a portable charging station that simultaneously alerts to overheating while providing a fire proof environment  
**Overview:** We are developing a portable charging station that simultaneously alerts to the overheating of your device through Bluetooth while providing a fire proof environment.  
**School:** Ursuline College  
**County:** Sligo  
**Teacher:** Mr Anthony Carolan  
**Student(s):** Bríd Madden, Maura Madden

**3601**

**Title:** A Kinetic Energy Recovery System For Modern Road Cars  
**Overview:** Improving the fuel efficiency and CO2 emissions of road cars using an exhaust gas kinetic energy recovery system.  
**School:** The Institute Of Education – Dublin  
**County:** Dublin  
**Teacher:** Mrs Tara Lyons  
**Student(s):** Rhys Mordaunt, Rohan Kadam

**3602**

**Title:** The Exploration and Utilization of Shortest-Path Algorithms  
**Overview:** An Investigation into the Performance of Various Shortest-Path Algorithms when Applied Outside Mapping  
**School:** Scoil Mhuire  
**County:** Clare  
**Teacher:** Mrs Sue-Ann Sheridan  
**Student(s):** Niamh McMahon, Lara Mellett

**3603**

**Title:** Developing a low cost and low-tech water filtration system  
**Overview:** Our project aims to develop a low cost and low-tech water filter using natural and recycled materials.  
**School:** South Eastern Regional College – Bangor Campus  
**County:** Down  
**Teacher:** Mr Michael Holmes  
**Student(s):** Johnathan McQuillan, Paul French, Martin McKeown

**3604**

**Title:** Using 3-D printed generators to convert water in pipes into electricity  
**Overview:** We plan to harness the force in water pipes to create electricity using a 3-D printed hydro-electric generator-A revolution in energy conservation.  
**School:** St Eunan's College  
**County:** Donegal  
**Teacher:** Mrs Caitriona Hempenstall  
**Student(s):** Shyam Shaji, Gareth Neely, Daniel Padmore

**3605**

**Title:** Using a heart rate sensor and an E-Bike to create a more accessible bicycle  
**Overview:** We aim to create an electronic device using an arduino that will take the users heart rate and adjust the assistance of an E-bike accordingly.  
**School:** St Marys College – C.S.Sp.  
**County:** Dublin  
**Teacher:** Mr John Nisbet  
**Student(s):** Samuel Byers, Ben Sheeran, Tim Cleary

**3606**

**Title:** Working Waves – Using wave energy to our advantage!  
**Overview:** Our project is a brand new way of creating sustainable, renewable energy using the force of ocean waves applied to pressure pads to harvest energy.  
**School:** Laurel Hill Secondary School FCJ  
**County:** Limerick  
**Teacher:** Ms Karen Kinnerk  
**Student(s):** Aoife-Marie Costelloe, Nadine McMahon, Caoimhe Cahill

**3607**

**Title:** A Sustainably Powered Dry Heat Steriliser for Medical Devices in the Developing World  
**Overview:** We aim to increase global access to sterilisation technologies by constructing a sustainable proof-of-concept dry heat steriliser to make surgery more viable in poorer countries.  
**School:** Colaiste An Phiarsaigh  
**County:** Cork  
**Teacher:** Mr Caoimhín Ó Buachalla  
**Student(s):** Síomha Nic Aodha, Avril O' Mahony, Paddy O' Donnell

# 2020







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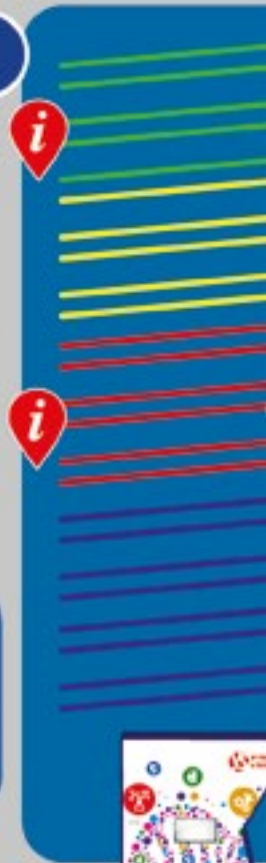
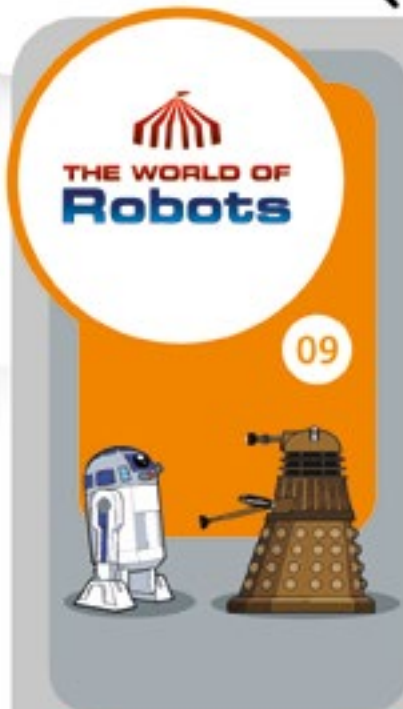
QUEUE FOR WORLD OF ROBOTS <



08

RSA

07



SCHOOL VISITS  
TICKETING

01

02



ENTRA  
FROM



## MAP KEY

- 01 School visits ticketing
- 02 Coffee Bar
- 03 Information Desks
- 04 Organisers Office
- 05 Exhibition Hall
- 06 BT Arena
  - Opening/Awards Ceremonies
  - Morgan & West: Unbelievable Science
  - Airmazing - engineering the future
  - Physics of Breakdancing
- 07 RSA Interactive Shuttle
- 08 Irish Coast Guard
- 09 The World of Robots
- 10 Food Court
- 11 Ring Bistro
- 12 The World of Science & Technology
- 13 Meeting Points 1 & 2 for coach party departure
- 14 Packed lunch area
- 15 The Primary Science Fair
- 16 Eco Zone
- 17 Screen 3D & Student Club
- 18 "Bang the Drum" with Irish Aid
  - Drumming Workshop (Clyde Room Foyer)
- 19 Results video wall



# Biological & Ecological Sciences

## JUNIOR INDIVIDUAL

4100

**Title:** An eifeacht atá ag easpa fuinseoige ar chúrsaí iománaíochta agus an gá atá le trial a bhaint as crainn eile chun camáin a dhéanamh in Éirinn.

**Overview:** Le laghdú na fuinseoige, an bhfuil adhmaid ó chrainn dúchasacha eile na hÉireann foirsteanach chun camáin a dhéanamh?

**School:** Coláiste Ailigh

**County:** Donegal

**Teacher:** Mr Micheál Ó Giobúin

**Student(s):** Cormac Breathnach

4101

**Title:** Are bioplastic commercial degradation times accurate?

**Overview:** A study into the degradation times of bioplastics in the natural environment

**School:** Kinsale Community School

**County:** Cork

**Teacher:** Mr Shaun Holly

**Student(s):** Aengus Price

4102

**Title:** Food waste lightbulb

**Overview:** I plan to make a lightbulb powered by fruit and vegetable food waste.

**School:** St David's Secondary

**County:** Wicklow

**Teacher:** Ms Aisling Keaveney

**Student(s):** Eliana Gallagher

4103

**Title:** Feol i gcoinne Quorn

**Overview:** Táim ag iarraidh anailís a dhéanamh ar na miocróibeanna ar Quorn agus mionfheoil chun comparáid a dhéanamh agus eolas bia-sabháilteacht a fháil ar Quorn.

**School:** Gaelcholáiste an Phiarsaigh

**County:** Dublin

**Teacher:** Ms Emma De Búrca

**Student(s):** Alex Ó'hÉideáin

4104

**Title:** Can Holly Make Your Farm Jolly?

**Overview:** This projected showed the affect of holly extract on fungus, we prepose to use it on farms to kill ringworm.

**School:** Our Lady's Bower

**County:** Galway

**Teacher:** Julie-Anne Greaney

**Student(s):** Orla Cuffe, Ivana Devery

4105

**Title:** "Is our environment DYing?"

**Overview:** I'm looking into pigments and dyes, and seeing if it's better to source them locally, to use synthetic ones or to buy from other countries.

**School:** Coláiste Naomh Mhuire

**County:** Kildare

**Teacher:** Ms Nadine Hennessy

**Student(s):** Amelia Read

4106

**Title:** A Statistical Analysis Of

Neuromuscular Priming On Sporting

Performance

**Overview:** I wish to investigate whether or not resistance priming can be used to enhance neuromuscular performance in sporting activities.

**School:** St Joseph's Secondary School

**County:** Dublin

**Teacher:** Mr Daryl Dunne

**Student(s):** Niall Rudden

4107

**Title:** Cén tionchar atá ag reo fad tearma ar na treithe frith-baictearach atá ag mogóir róis

**Overview:** The objective of my project is to determine the effect of long term freezing on the anti-bacterial properties of rose buds.

**School:** Coláiste Ailigh

**County:** Donegal

**Teacher:** Mr Micheál Ó Giobúin

**Student(s):** Róisín Ní Dhubhgaín

## INTERMEDIATE INDIVIDUAL

4200

**Title:** An evaluation of the results of isotope analysis conducted on human remains from Irish excavations to explore origins and dietary patterns.

**Overview:** Results will be used to explore changes in diet over time and some patterns of human movement over time.

**School:** Sacred Heart Secondary School

**County:** Louth

**Teacher:** Ms Laura Dempsey

**Student(s):** Clíodhna Brady

4201

**Title:** Amaranth in Ireland: a sustainable path for food security, rural regeneration and climate mitigation

**Overview:** This project examines the potential for introducing Amaranth, a novel crop for farmers, with the intention of impacting rural regeneration, health, wellbeing and climate action.

**School:** Colaiste Treasa

**County:** Cork

**Teacher:** Ms Joanne Corkery

**Student(s):** Isobel Hynes

4202

**Title:** An Investigation into the Population of Earthworms, Nutrient Content and Organic Matter Content on Organic vs Artificially Fertilised Farms

**Overview:** This is an investigation into how the population of earthworms and nutrient content differ between organic vs artificially fertilised farms.

**School:** Colaiste Dun an Ri

**County:** Cavan

**Teacher:** Ms Lorraine Hickey

**Student(s):** Evan O'Reilly

4203

**Title:** Investigating the antimicrobial effects of herbal plant and vegetable

extracts against a plant pathogen.

**Overview:** I will test several herbal plant and vegetable extracts against a plant pathogen called 'Pseudomonas syringae pathovar tomato DC 3000', using the Agar Well-Diffusion Method.

**School:** Loreto High School

**County:** Dublin

**Teacher:** Dr Rachel Hiney

**Student(s):** June Polgolla

4204

**Title:** Is exercise recovery time in teenager's dependent on the type of sport participated in.

**Overview:** I want to find out if the fitness and recovery time of teenagers depends on the type of sporting activity they participate in.

**School:** Scoil Mhuire

**County:** Donegal

**Teacher:** Ms Laura Corbett

**Student(s):** Jennifer Doherty

4205

**Title:** An investigation of Niche Feeding in Leaf Fragmenting Macrofauna

**Overview:** My project explores the extent of competition in leaf fragmentation by different macrofauna by investigating if different feeding niches exist.

**School:** St. Mary's College

**County:** Galway

**Teacher:** Mr Anthony Carey

**Student(s):** Dan Carey

4206

**Title:** Bits or bitless, that is the question?

**Overview:** I want to see if horses display discomfort when using a bit as against using a hackamore and if their performance is affected by it.

**School:** Mary Immaculate Secondary School Lisdoonvarna

**County:** Clare

**Teacher:** Mr John Sims

**Student(s):** Shauna O'Kane

4207

**Title:** Effects of caffeine on cognitive performance, health and retaining information

**Overview:** Testing different amounts of caffeine from different drinks such as tea, coffee, coke, and energy drinks. This is tested using a cognitive response test.

**School:** Sacred Heart Secondary School

**County:** Louth

**Teacher:** Ms Laura Dempsey

**Student(s):** Chloe Peters

4208

**Title:** Investigating the survival rate of Tardigrades when faced with the changing pH level of seawater as a result of global warming.

**Overview:** I will put tardigrades in more acidic seawater and test

their survival rate. This is to test if tardigrades would survive global warming.

**School:** Muckross Park College

**County:** Dublin

**Teacher:** Ms Leona Mulvaney

**Student(s):** Katie Ryan

4209

**Title:** An investigation into the prevalence and importance of woodlice in Dún an Rí forest park, Kingscourt, Co. Cavan.

**Overview:** My project aims to investigate the different species of woodlice found in a forest and to conduct an experiment into their importance in the area.

**School:** Colaiste Dun an Ri

**County:** Cavan

**Teacher:** Ms Lorraine Hickey

**Student(s):** Shanice Alwell

4210

**Title:** A statistical Analysis of balancing a carbon footprint through redirecting the carbon tax toward tree growth and incentivising the diversification of high carbon output farming

**Overview:** Irish individual produces 8.65 tonnes of CO2 per year. Balance carbon emissions by planting more trees using carbon tax to pay farmers to do so.

**School:** Coláiste Na Toirbhirte

**County:** Cork

**Teacher:** Mr Declan Cronin

**Student(s):** Hannah Morrissey

4211

**Title:** Using Photosynthesis in the

Design of Eco-Friendly Housing

**Overview:** This project involves investigating different methods of improving the air quality inside a home through the use of photosynthesising plants and algae.

**School:** Sutton Park School

**County:** Dublin

**Teacher:** Ms Joanne Hanratty

**Student(s):** Eliana Coughlan

4212

**Title:** To investigate various seed types accessible in third world countries as a natural coagulant for water treatment

**Overview:** This investigation aims to examine the use of various seeds widely available in third world countries for their effectiveness as natural water treatment methods.

**School:** Pobalscoil na Tríonóide

**County:** Cork

**Teacher:** Ms Edel Charles

**Student(s):** Jelden Sibi

4213

**Title:** Is there more in your mackerel than meets the eye?

**Overview:** I am looking at the occurrence of microplastics in mackerel and classifying the



microplastics found in the mackerel by size and type.

**School:** Mary Immaculate Secondary School Lisdoonvarna

**County:** Clare

**Teacher:** Mr John Sims

**Student(s):** Cindy O'Leary

## 4214

**Title:** Swarm today, isn't it?

**Overview:** I will test a sample of 30-50 honeybees per hive for the presence of Nosema in individual honeybees and in colonies in Cork county.

**School:** Coláiste Muire Crosshaven

**County:** Cork

**Teacher:** Ms Bridget Lehane

**Student(s):** Taylor Moore

## 4215

**Title:** Not Just Any Owl Place! An Investigation Into How Habitat Influences Barn Owl Breeding Success and Prey Availability

**Overview:** I aim to investigate if the quality of barn owl habitats affect the diversity/density of mammal prey & if it influences success in breeding productivity.

**School:** Boherbue Comprehensive School

**County:** Cork

**Teacher:** Mrs Orla Dineen

**Student(s):** Fionn O'Hanlon

## 4216

**Title:** Trees on the bog - good or bad for carbon storage?

**Overview:** My aim is to use the trees on Abbeylax bog as an indicator of whether the bog is a carbon source or sink.

**School:** Heywood Community School

**County:** Laois

**Teacher:** Ms Sharon Magner

**Student(s):** Orla McCorry

## SENIOR INDIVIDUAL

## 4300

**Title:** The Cure for Stroke and Heart Attack

**Overview:** An investigation into the MG53 protein and how a drug with the same properties could revolutionise medicine.

**School:** Patrician High School

**County:** Monaghan

**Teacher:** Mr John O'Rourke

**Student(s):** Niall Murnaghan

## 4301

**Title:** A comparison of the pre and post injury mobility and rehabilitation of hip fracture patients

**Overview:** Research aims to establish the mobility and rehabilitation of hip fracture patients, following surgery to either repair their biological bone or having artificial hip replacement.

**School:** St. Clare's Comprehensive School

**County:** Leitrim

**Teacher:** Miss Edel McPhelim

**Student(s):** Rachel Mc Partlin

## 4302

**Title:** Applying Data-Driven Experimental Analysis to the Irish Longitudinal Study on Ageing

**Overview:** This project will conduct data analysis on the Irish Longitudinal Study on Ageing, and use the insights gleaned to design controlled experiments regarding geriatric health.

**School:** Sandford Park School Ltd

**County:** Dublin

**Teacher:** Dr Dana Kilroy

**Student(s):** Oscar Despard

## 4303

**Title:** Myth-busting Soapnuts

**Overview:** The aim of my Project is to compare soapnuts to commercial laundry detergent to find out if they are a genuine, environmentally-friendly alternative.

**School:** Skerries Community College

**County:** Dublin

**Teacher:** Ms Emer Kinsella

**Student(s):** Louis Grelet

## 4304

**Title:** An Investigation into the Effect of Excess Nitrates Found in Precipitation on Plant Life in Areas with High Levels of Atmospheric NO<sub>2</sub>.

**Overview:** The aim of my project is to investigate the effect of high concentrations of NO<sub>2</sub> on plant life in areas with high atmospheric NO<sub>2</sub> levels.

**School:** Pobailscoil Iosolde

**County:** Dublin

**Teacher:** Ms Lynda Jordan

**Student(s):** Aisling Corcoran

## 4305

**Title:** Mealworm Gut Bacteria and their Plastic Degradation Capabilities

**Overview:** Isolating and cultivating the individual bacteria present in the intestinal tract of Tenebrio molitor and testing their ability to break down plastic in different environments.

**School:** St Andrew's College

**County:** Dublin

**Teacher:** Ms Hilary Rimbi

**Student(s):** Isabel Schmidt

## 4306

**Title:** LEAF me alone, it's the YEAST you can do: An investigation into the growth of leaf yeast at different altitudes on trees.

**Overview:** This project is to investigate the growth of leaf yeast, which indicate air pollution, at different heights on trees.

**School:** Ursuline College

**County:** Sligo

**Teacher:** Mr Anthony Carolan

**Student(s):** Nadia Mohamed

## 4307

**Title:** Toxicological investigation of pesticides, using paramecium as a model organism

**Overview:** My project is a study of the effect of two widely-used herbicides (glyphosate and chlorothalonil) on the motility, growth and reproduction of paramecium.

**School:** St Andrew's College

**County:** Dublin

**Teacher:** Ms Hilary Rimbi

**Student(s):** Giulia Baratta

## 4308

**Title:** Relating Personality Factors like School Subject Preferences to Fingerprint Patterns

**Overview:** My project aims to relate personality factors, e.g school subject preference, to the 9 fingerprint subtypes and the Big Five personalities in a sample group.

**School:** Franciscan College

**County:** Meath

**Teacher:** Ms Pauline Murphy

**Student(s):** Makua Ifediora

## 4309

**Title:** Citrus Peels - The answer to global drought

**Overview:** An organic cross-linking method using UV light and heat followed by emulsion polymerization to make a cheap, biodegradable, efficient Super Absorbent Polymer to retain soil water

**School:** Our Lady's Bower

**County:** Westmeath

**Teacher:** Mrs Ellen Maguire

**Student(s):** Leah Shaw

## 4310

**Title:** Imscrudu ar an tionchar at ag ceimic in uachtar greine ar ar gcráiceann

**Overview:** Investigating the correlation between chemical sunscreens and acne

**School:** Coláiste Ailigh

**County:** Donegal

**Teacher:** Mr Micheál Ó Giobúin

**Student(s):** Chloe Ní Chiaráin

## 4311

**Title:** Can an activated charcoal dietary supplement control hindgut acidosis in horses?

**Overview:** This study aims to determine whether an activated charcoal supplement can alter equine hindgut pH and so prevent hindgut acidosis and its associated behavioural problems.

**School:** South Eastern Regional College - Lisburn

**County:** Antrim

**Teacher:** Dr Susan Stokesberry

**Student(s):** Hollie Smith

## 4312

**Title:** Using Earthworms as an Indicator of Soil Health in North Clare.

**Overview:** I am looking at the health of the soil on farms throughout the Burren using earthworms as a soil health indicator.

**School:** Mary Immaculate Secondary School Lisdoonvarna

**County:** Clare

**Teacher:** Mr John Sims

**Student(s):** Sarah McNamara

## JUNIOR GROUP

## 4400

**Title:** The Grey Area within Greywater

**Overview:** We are looking at the effect greywater has on the level of nutrients in the soil, on plant growth and earthworm population.

**School:** Mary Immaculate Secondary School Lisdoonvarna

**County:** Clare

**Teacher:** Mr John Sims

**Student(s):** Alice Davoren, Emily Cullinan

## 4401

**Title:** Are You Ready To Tumble?

Protecting oceans from the microplastics in laundry.

**Overview:** An investigation into microfibres released during washing cycles and creation of a product to filter and remove these fibres

**School:** Sandymount Park Educate Together Secondary School

**County:** Dublin

**Teacher:** Mr Conor Maxwell

**Student(s):** Greta Whipple, Sarah Boissier

## 4402

**Title:** To Investigate the Effect of Spreading Slurry on Earthworms

**Overview:** We will collect, count and measure Earthworms from soil samples treated with slurry and untreated samples of soil. We will compare these results.

**School:** St Muredachs College

**County:** Mayo

**Teacher:** Ms Cliodhna Boyce

**Student(s):** Adrian Tuffy, Ultan Tuffy

## 4403

**Title:** A Statistical analysis on PE taken as an Examination subject at Leaving Certificate level will it improve the overall health and wellbeing of students

**Overview:** To examine when PE becomes a Leaving Certificate exam subject will it benefit the participating student's overall health and wellbeing

**School:** Heywood Community School

**County:** Laois

**Teacher:** Ms Sharon Magner

**Student(s):** Luke O'Reilly, Sam Farrell

## 4404

**Title:** Antimicrobial Seaweeds

**Overview:** The antimicrobial properties of different types of seaweed in extract treated bacterial cultures.

**School:** Abbey Vocational School

**County:** Donegal

**Teacher:** Ms Donna Furey

**Student(s):** Eadaoin Murphy, Shane Harvey



# Biological & Ecological Sciences

4405

**Title:** An Analysis of Physiological and Running Metrics in 3K Cross Country in comparison to Track and Treadmill Running.

**Overview:** We're analysing the different running metrics such as heart rate, cadence and power over 3k, xc and comparing them to track and treadmill running.

**School:** St Vincent's Secondary School

**County:** Louth

**Teacher:** Mr John White

**Student(s):** Erinn Leavy, Sophie McArdle

4406

**Title:** The heads up on headphones, are they damaging teenagers hearing?

**Overview:** We are looking at whether the type of headphones and earbuds used by teenagers to listen to music with affects the risk to their hearing.

**School:** Mary Immaculate Secondary School Lisdoonvarna

**County:** Clare

**Teacher:** Mr John Sims

**Student(s):** Jack Rush, Matthew Irwin

4407

**Title:** When does your nose doze?

**Overview:** To investigate if age is a factor in olfactory fatigue among adolescents aged 12-18.

**School:** Castleblayney College

**County:** Monaghan

**Teacher:** Mrs Celine Keith

**Student(s):** Sarah Mooney, Katie Mooney

4408

**Title:** Dogs Defined

**Overview:** In this project, we would like to find out more about if our companion's mind differs depending on their breed.

**School:** St Joseph's Secondary School

**County:** Mayo

**Teacher:** Ms Margaret Tighe

**Student(s):** Erica Mooney, Ruby McMahon

4409

**Title:** Banking on the willow: An investigation on the effectiveness of willow in promoting riverbank biodiversity

**Overview:** Our project is an investigation of the benefits of the willow tree planting in promoting biodiversity on riverbanks.

**School:** Colaiste Treasa

**County:** Cork

**Teacher:** Ms Danielle Murphy

**Student(s):** Hannah Walsh, Johannah Pigott

4410

**Title:** The environmental impact of solar energy

**Overview:** An investigation into the environmental effect of substances within solar panels and the possible use of graphene as an environmentally safer option.

**School:** Sandymount Park Educate

Together Secondary School

**County:** Dublin

**Teacher:** Mr Conor Maxwell

**Student(s):** Harper Walsh, Arlo Daly

4411

**Title:** The power of poo, an investigation into the impact of various manures on the power output of microbial fuel cells

**Overview:** We are using 3 different types of animal manures to see if it increases or decreases the amount of power outputted by microbial fuel cells

**School:** St. Mogue's College

**County:** Cavan

**Teacher:** Mr Jesse Gaffey

**Student(s):** Fionan Donohoe, Jesse Marsden

4412

**Title:** Marvellous Microbes and Mental Health-Change your food to change your mood?

**Overview:** Our project aims to investigate whether or not the changes we have made in our diet will have a positive impact on our mental health.

**School:** St Marys College

**County:** Wicklow

**Teacher:** Ms Joanne English

**Student(s):** Lauren Raftery, Ciara Kelly

4413

**Title:** Hydroponics Vs Ithir: Cén Cheann atá níos fearr?

**Overview:** Comparing the amount of resources that go into making and maintaining a hydroponic system and a traditional soil system.

**School:** Colaiste An Phiarsaigh

**County:** Cork

**Teacher:** Mr Caoimhín Ó Buachalla

**Student(s):** Emily Hearne, Faye O Connell

4414

**Title:** Testing the effects of SO<sub>2</sub>, NO<sub>2</sub> and particulate matter on the air quality surrounding trees.

**Overview:** Our project aims to investigate whether the presence of trees in urban areas has an effect on the levels of SO<sub>2</sub>, NO<sub>2</sub> and particulate matter.

**School:** Sandford Park School Ltd

**County:** Dublin

**Teacher:** Ms Katherine Gray

**Student(s):** Breffni Carroll, Ruth Caraway Pointon

4415

**Title:** Are our food choices affecting our environment?

**Overview:** Are our food choices affecting our environment? If so how are they affecting it and what foods are most influential?

**School:** Bandon Grammar School

**County:** Cork

**Teacher:** Mr Mark Sugrue

**Student(s):** Jack O' Crowley, Chulainn Prendergast

4416

**Title:** To investigate the lung capacity of different age groups based on their activity levels

**Overview:** Our project will investigate how activity levels impact lung capacity at age groups including teenagers, adolescents and older adults.

**School:** Moyle Park College

**County:** Dublin

**Teacher:** Mr Colin McCarthy

**Student(s):** Eoghan Halpin, Matthew McKenna

4417

**Title:** Do biodegradable plastics adversely affect the growth of plants?

**Overview:** Our project involves the making of different biodegradable plastics and testing if they adversely affect the growth of plants when compared to a control

**School:** Crescent College Comprehensive

**County:** Limerick

**Teacher:** Mrs Anne O'Dea

**Student(s):** Aoibhe O'Halloran, Taibou Gabi

4418

**Title:** No Sense; How Disabilities Affect Our Everyday Lives

**Overview:** We propose to prove that when you lose one of more of your 5 senses that the remaining senses become heightened.

**School:** Tullamore College

**County:** Offaly

**Teacher:** Ms Sarah Rossiter

**Student(s):** Amy Noonan, Ellen Grennan

4419

**Title:** Genetic investigation of 1st year students

**Overview:** We plan to do a comprehensive genetic review of our year group to answer questions that occur regularly for them.

**School:** St Marys College - C.S.Sp.

**County:** Dublin

**Teacher:** Mr John Nisbet

**Student(s):** Alex Rice, Shane McHugh

4420

**Title:** An Analysis of the Carbon Footprint of a 30 Month Old Beef Animal Versus a 36 Month Old Beef Animal

**Overview:** We wish to compare the Carbon Footprint of a 30 month old beef animal versus a 36 month old beef animal.

**School:** St Joseph's Secondary School

**County:** Dublin

**Teacher:** Mr Daryl Dunne

**Student(s):** Darragh Halpin, Andrew Leonard

4421

**Title:** Chicken Feathers as an alternative Insulator

**Overview:** Our project aims to prove how beneficial chicken feathers would be as an eco-friendly alternative to current insulation.

**School:** Colaiste Dun an Ri

**County:** Cavan

**Teacher:** Ms Linda Kelly

**Student(s):** Lauren McCabe, Alannah Clarke, Freya Watterson

4422

**Title:** MushROOM TO IMPROVE

**Overview:** Spent Mushroom Compost is a waste product of the mushroom industry that we will turn into dry fertiliser pellets with many horticultural and agricultural uses.

**School:** Athlone Community College

**County:** Westmeath

**Teacher:** Mr John Friel

**Student(s):** Abigail Olwill, Derval Furey-Callinan, Sophie Gardner

4423

**Title:** Does whey protein inhibit fungal growth?

**Overview:** We are investigating what brand and what quantity of whey protein is the best inhibits fungal growth

**School:** Loreto College

**County:** Dublin

**Teacher:** Ms Louise Kerr

**Student(s):** Honor Lynch, Amelia Trenaman, Beth Lynam

4424

**Title:** The Environmental Cost of Driving Secondary School Students to school (Galway City)

**Overview:** Our project aims to measure the average level of CO<sub>2</sub> emissions resulting from transporting our First Year Students at Dominican College, Taylor's Hill to school

**School:** Dominican College

**County:** Galway

**Teacher:** Ms Laura Thornton

**Student(s):** Ani Andonian, Grace Conway, Lauren Crowe

4425

**Title:** How much time and exercise does it require to burn a certain amount of calories using different exercises and which is the most effective exercise for burning calories?

**Overview:** We're going to investigate how long it will take to burn an amount of calories from certain foods and what is the most efficient way.

**School:** Douglas Community School

**County:** Cork

**Teacher:** Mr Cian O'Mahony

**Student(s):** Kaushik Akash Gomathi Kalirajan, Jack Gleeson, Adnan Ali Aga



4426

**Title:** Water resistance on glasses and goggles

**Overview:** Our project is investigating if the particles of the lotus leaf plant can be used to make a clear coating to put on glasses/goggles.

**School:** Scoil Mhuire agus Íde

**County:** Limerick

**Teacher:** Ms Rebecca Phillips

**Student(s):** Aoibhe Byrne, Sinéad Brosnan, Orlaith Healy

4427

**Title:** An investigation into the effect that local industry has on the water quality of the Lung river in Co. Roscommon

**Overview:** We will investigate the water quality in the Lung river which runs near the town of Ballaghaderreen which contains an large milk processing plant.

**School:** St Nathy's College

**County:** Roscommon

**Teacher:** Ms Jeannette Conlon

**Student(s):** Leah McCabe, Naomi Cahil, Caoimhe Duffy

4428

**Title:** Bio Gum

**Overview:** Bio Gum is a biodegradable chewing gum made from natural ingredients, that will improve our planet by decreasing the amount of chewing gum pollution.

**School:** Our Lady's Bower

**County:** Westmeath

**Teacher:** Mrs Julie-Anne Greaney

**Student(s):** Jessica Mollie Eimear Collins McDonnell Gillen, Eimear Gillen, Mollie McDonnell

4429

**Title:** Prevention is Better than Cure: The Ergonomic Benefits of Standing Desks to Secondary School Students

**Overview:** We propose to test the idea that standing desks would be very beneficial to secondary school students. We aim to prove the health benefits here.

**School:** Colaiste An Phiarsaigh

**County:** Cork

**Teacher:** Mr Caoimhín Ó Buachalla

**Student(s):** Aoife Connolly, Sorcha O' Donovan, Lily-Sue Moloney

4430

**Title:** A Comparative Study of the Effect Cormorant (Phalacrocorax Carbo) Populations have on the Botanical Composition of Three Islands on Lough Derg.

**Overview:** Based on observations, when a cormorant population colonises an island the plant life deteriorates. We will investigate by using a variety of experimental methods.

**School:** Portumna Community School

**County:** Galway

**Teacher:** Mr Leo Smith

**Student(s):** Senan Harris, Liam O'Sullivan, Michael Dughan

4431

**Title:** To Antibiotic or not to Antibiotic, That is the Question / Le hAntaibheathach nó gan Antaibheathach sin í an ceist.

**Overview:** We have conducted numerous experiments comparing the effects of antibiotics and natural remedies on common bacteria. We hope to link our research to antibiotic resistance.

**School:** Gaelcholáiste Luimnigh

**County:** Limerick

**Teacher:** Ms Maria Kennelly

**Student(s):** Sarah Madden, Laura McMahon, Niamh Muldowney

4432

**Title:** Ag stopadh ollghluaiseacht

**Overview:** Ba mhaith linn staidear a dheanamh ar ollghluaiseacht agus cad e an rud is fearr chun iad a stopadh

**School:** Coláiste Pobal Osraí

**County:** Kilkenny

**Teacher:** Ms Gemma Byrne

**Student(s):** Jack Bowe, Lúcas Ó faoláin, Ollie Butler

4433

**Title:** Propolis To Bee or not to Bee

**Overview:** Our investigation is on the Bee product Propolis. We are investigating its antibacterial properties linked to the abundance of Poplar trees across Europe.

**School:** St Patrick's High School

**County:** Armagh

**Teacher:** Mrs Colleen Connolly

**Student(s):** Ryan Clarke, Josie Lennon, Shea Mallon

4434

**Title:** An Tionchar atá ag Ábhair Éagsúla ar do Phatrún Codlatach

**Overview:** Fiosróimid an tionchar atá ag ábhair éagsúla ar an bpátrún codlatach, mar shampla roghnóimid meascán de bhia agus plandaí atá tionchair éagsúla acu orainn.

**School:** Coláiste Iosagáin

**County:** Dublin

**Teacher:** Ms Clíodhna Cryan

**Student(s):** Chloe Nic Fhearchair, Cait Eyre, Tara Ní Fhachtnáin

4435

**Title:** To investigate if birds feel safer feeding on garden feeders high up, at mid-height or low down.

**Overview:** Our project aims to examine: 1. The height at which birds feel safest feeding 2. If different species of birds prefer feeding at different heights.

**School:** Colaiste Dun an Rí

**County:** Cavan

**Teacher:** Ms Siobhan Hamill

**Student(s):** Louise Kennedy, Tara Shannon, Sophie Byrne

4436

**Title:** Can Chitosan Prevent or Reduce Fungal Growth in an Herb Garden?

**Overview:** We are testing the effect

that chitosan has on the fungal growth of herbs to see if it reduces the amount of fungal spores present.

**School:** Loreto Secondary School, Balbriggan

**County:** Dublin

**Teacher:** Ms Chloe White

**Student(s):** Abigail O'Brien Murray, Erica O'Brien Murray, Olivia O'Shea

## INTERMEDIATE GROUP

4500

**Title:** Sikta vs Native Broad-leaf: The Impact of Ireland's Forestry Plan on Biodiversity

**Overview:** To compare the ecological impact of sikta forests to native broad-leaf forests on soil physical and chemical properties, water quality and species biodiversity.

**School:** Moate Community School

**County:** Westmeath

**Teacher:** Miss Mairead Cusack

**Student(s):** Niamh Collins, Rachael McCann

4501

**Title:** Bioremediation: The Pollution Solution

**Overview:** Our project investigates how cheap, environmentally friendly bioremediation processes can be used to degrade oil in contaminated soil.

**School:** Colaiste Treasa

**County:** Cork

**Teacher:** Ms Joanne Corkery

**Student(s):** Ellen Breen, Tara Sweeney

4502

**Title:** To Examine the Possible Implications of Sweeteners on Mental Health

**Overview:** We will be investigating the effects that sucralose, saccharin and Stevia have on certain gut bacteria which influence mental health.

**School:** Mount Mercy College

**County:** Cork

**Teacher:** Mr Aaron O'Sullivan

**Student(s):** Dania Salim, Aoife Ong

4503

**Title:** An investigative study into naturally occurring nitrates in vegetables and how they may help improve athletic performance

**Overview:** The aim of our project is to investigate if naturally occurring nitrates within vegetables have the ability to enhance athletic performance.

**School:** Pobalscoil Neasain

**County:** Dublin

**Teacher:** Ms Gemma Buicke

**Student(s):** Robyn Young, Kyra Murphy

4504

**Title:** Does Artificially Produced Quorn Chicken Provide More Energy Than Naturally Produced Raw Chicken?

**Overview:** Our aim is to find out

which provides more energy; Quorn or chicken, and so which is better for athletes to consume before exercise.

**School:** St. Joseph's Secondary School

**County:** Clare

**Teacher:** Mr Michael McDonagh

**Student(s):** Diarmaid Byrne, Ellen O'Donoghue

4505

**Title:** Weight Loss at the Speed of Light

**Overview:** An investigation into the effect of various colours of LED lights on the basal metabolic rate of organisms.

**School:** Ursuline College

**County:** Sligo

**Teacher:** Mr Anthony Carolan

**Student(s):** Rosha McDonnell, Laoise Moylan

4506

**Title:** Can we control algae growth?

An investigation into algal blooms and light exposure in a domestic fish tank.

**Overview:** Our investigation is about preventing algae growth in a fish tank. We will investigate the ideal amount of light to expose the tank to.

**School:** Moyle Park College

**County:** Dublin

**Teacher:** Mr Colin McCarthy

**Student(s):** Eoin Whelan, MJ Moore

4507

**Title:** An Investigation into the Use of a Colloidal Clay Suspension as an Organic Post Emergence Herbicide

**Overview:** A colloidal clay and water mixture sprayed onto weeds to completely cover their surface and block out light for photosynthesis causing the weeds to die.

**School:** Clonakilty Community College

**County:** Cork

**Teacher:** Mr Patrick O Keeffe

**Student(s):** Cian M Downey, James O'Brien

4508

**Title:** How to make suckler farms carbon neutral

**Overview:** We will be investigating how much carbon produced and absorbed on five different farms and seeing what these farmers can do to become carbon neutral.

**School:** Scoil Mhuire gan Smál

**County:** Roscommon

**Teacher:** Ms C Fergus

**Student(s):** Orla Cox, Ava Mc Fadden

4509

**Title:** Ná téigh chuig gaol de bharr folcadh béil

**Overview:** Teastaíonn uainn failt amach na torthaí a faigheann tú le anáileadan tar éis folcadh beil difriúla a úsáid.

**School:** Scoil Mhuire

**County:** Cork

**Teacher:** Mrs Katie Uí Néill



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**Student(s):** Tamara Ní Chéilleachair,  
Aoibheann Ní Lachtnáin,  
Caoimhe Ní Choitir

**4510**

**Title:** Do high levels of calcium in drinking water increase your probability of forming kidney stones?

**Overview:** Our project aims to investigate the level of calcium in water to see if it affects the number of patients who were diagnosed with kidney stones.

**School:** Coláiste Naomh Mhuire

**County:** Kildare

**Teacher:** Ms Naoise Gallagher

**Student(s):** Laura Whelan,  
Elizabeth Downey,  
Milena Fiodorow

**4511**

**Title:** Do carrots have an effect on night sight?

**Overview:** Our project aims to investigate the impact of eating carrots on human night vision, due to their high Vitamin A content.

**School:** St. Brendan's Community School

**County:** Offaly

**Teacher:** Ms Aisling Duane

**Student(s):** Anna Morris,  
Jillian Crowley

**4512**

**Title:** Investigating the viability of two methane reducing Lactic Acid Bacteria (LAB) strains, in a mini silo trial.

**Overview:** To investigate the possibility of using two strains of Lactic Acid Bacteria to reduce methane production in ruminants, thus reducing the environmental carbon footprint of livestock.

**School:** Colaiste Treasa

**County:** Cork

**Teacher:** Ms Bríd-Anne O'Donoghue

**Student(s):** Clodagh Hogan,  
Sarah Jordan

**4513**

**Title:** Effects of dredging on the River Shannon

**Overview:** To identify the impact of dredging on the physical, chemical and biological properties of the River Shannon.

**School:** Moate Community School

**County:** Westmeath

**Teacher:** Ms Irene O'Sullivan

**Student(s):** Cliona McCormack,  
Emily Korzeniewski

**4514**

**Title:** Seeing is Believing

**Overview:** Our project focuses on the regions of our eyes, where optic nerve and blood vessels leave the eye, also known as the 'blind spot'.

**School:** Mercy College

**County:** Sligo

**Teacher:** Ms Caoimhe Lynn

**Student(s):** Tresha Dolera,  
Teresa Devaney

**4515**

**Title:** The effectiveness of natural fungicides in treating the growth of Septoria tritici

**Overview:** Investigating the effectiveness of natural fungicides as a sustainable alternative to chemical products for the purpose of eliminating a fungal pathogen (Septoria tritici) from soil.

**School:** Holy Child Secondary School

**County:** Dublin

**Teacher:** Ms Sharon Quigley

**Student(s):** Mia Conlon,  
Georgina Dowling

**4516**

**Title:** An investigation into herbivore stress on lettuce plants

**Overview:** We are investigating the effect that herbivores such as snails have on the production of defence anthocyanins by lettuce plants

**School:** Magh Ene College

**County:** Donegal

**Teacher:** Ms Yvonne Higgins

**Student(s):** John Fallon,  
Conor Gorman-Hogan,  
Emma Inns

**4517**

**Title:** To Prove The Impact of terroir on new make spirits

**Overview:** Our project aims to examine the effect Terroir has on the taste of Irish Whiskey.

**School:** Loreto Secondary School

**County:** Kilkenny

**Teacher:** Ms Maureen Hand

**Student(s):** Emily Duggan,  
Eva Duggan

**4518**

**Title:** Oh Deer, Damage?

**Overview:** We are investigating the damage and the extent of damage caused by the fallow deer in Lough Key Forest Park.

**School:** Carrick-On-Shannon Community School

**County:** Leitrim

**Teacher:** Ms Louise Gallagher

**Student(s):** Eimear Moran,  
Nicola Peck

**4519**

**Title:** How Nitrates Affect Humans Through Meat

**Overview:** We wish to find out how nitrate affects people through their diet and see which common foods eaten has the most nitrate added into it.

**School:** St. Mary's C.B.S.

**County:** Laois

**Teacher:** Ms Helen Dunleavy

**Student(s):** David Ekpemandu,  
Stephen Mathai

**4520**

**Title:** The Real Price is Consumer Choice: Examining the Effects of Textile Dye and Chemicals from Landfilled Clothing on the Germination of Crops

**Overview:** We will examine the germination of cress seeds when the soil it is planted in is contaminated by the chemical dyes found in landfilled clothing/textiles.

**School:** St Mary's Secondary School

**County:** Cork

**Teacher:** Ms Jennifer Butler

**Student(s):** Cáioimhe Horgan,  
Sinéad Clancy

**4521**

**Title:** A classification of fingerprint patterns among Irish adults

**Overview:** This project investigates the frequency of particular fingerprint patterns among a large and reliable sample of adults using a SPSS analysis technique.

**School:** Scoil Mhuire

**County:** Donegal

**Teacher:** Ms Laura Corbett

**Student(s):** Andreea Radu,  
Philomena O'Brien

**4522**

**Title:** Blood Clotting To The Rescue

**Overview:** To investigate the effects of anticoagulants on blood and of the effect of trisodium citrate levels on blood clotting.

**School:** St Ciaran's High School

**County:** Tyrone

**Teacher:** Mrs Pauline Murphy

**Student(s):** Anastazja Milczarek,  
Ronan Cassley

**4523**

**Title:** Do some insulin pump infusion sites have a better impact on blood glucose levels or movement and confidence levels in teenagers?

**Overview:** We will investigate the effect of different insulin infusion sites on blood glucose levels and their impact on movement and confidence levels in teenage diabetics.

**School:** Loreto Secondary School,  
Balbriggan

**County:** Dublin

**Teacher:** Ms Chloe White

**Student(s):** Sinéad Clarke,  
Éabha McLoughlin

**4524**

**Title:** The Impact of Waste Disposal from the Mogeely Cheese Plant

**Overview:** We'll test the water in East Ferry before and after the pipeline pumps the waste of the plant to see the quality of the water.

**School:** St Mary's High School

**County:** Cork

**Teacher:** Ms Niamh Jones

**Student(s):** Clíodhna Cashman,  
Caoimhe Cronin,  
Chloe Garde

**4525**

**Title:** Does Seaweed Hold the Solution to Ireland's Fertiliser Run-Off Problem?

**Overview:** To develop a brown seaweed-based fertiliser that inhibits nutrient run-off and prevents soil

erosion on Irish farms.

**School:** Moate Community School

**County:** Westmeath

**Teacher:** Miss Mairead Cusack

**Student(s):** Hannah Malone,  
Emma Keenan,

**4526**

**Title:** The effect of moths on ecosystems

**Overview:** The effect moths have on a peatland ecosystem in North Meath, their benefits to it and why Moths are so important.

**School:** St Ciaran's Community School

**County:** Meath

**Teacher:** Mr Ciaran Dunne

**Student(s):** Timothy Sullivan,  
Denis Lynch

**4527**

**Title:** Is regenerative farming the solution to Ireland's climate crisis?

**Overview:** Our project aims to investigate whether regenerative farming using minimal tillage sequesters more carbon dioxide in soil than traditional farming methods.

**School:** Ursuline Secondary School

**County:** Tipperary

**Teacher:** Miss Marian Ryan

**Student(s):** Eva McBrearty,  
Annabelle Ryan

**4528**

**Title:** An investigation into antimicrobials in fermented foods

**Overview:** Different fermented foods will be screened for bacteriocin producers in the hope of finding new discoveries that can inhibit the growth of some pathogenic bacteria.

**School:** Presentation Secondary School

**County:** Cork

**Teacher:** Ms Gretta O'Sullivan

**Student(s):** Ciara Elliott,  
Emma Daly

**4529**

**Title:** Genetic engineering in humans: how it can help prevent neurological disorders and eliminate disease

**Overview:** We will be looking into genetic engineering, how it can prevent neurological disorders and eliminate disease while looking at its effects on society.

**School:** Salesian Secondary College,  
Pallaskenry

**County:** Limerick

**Teacher:** Mr John O'Flynn

**Student(s):** Amanda Cummins,  
Sionna Ronan O'Sullivan

**4530**

**Title:** An investigation on how different organisms effect the rate of composting waste

**Overview:** An investigation on how different organisms effect the rate of composting waste. We will be testing to see if organisms can produce organic fertilizer

**School:** Coláiste Choilm



**County:** Cork

**Teacher:** Ms Megan Furlong

**Student(s):** Rachel Coburn,  
Nicole Murphy, Ella Foley

**4531**

**Title:** Back To The Future

**Overview:** A comparison of a multi-species sward to a basic mono-species perennial ryegrass sward focusing on nitrogen levels, nutrients the soil receives, grazing conditions and resilience.

**School:** St. Joseph's Secondary School

**County:** Meath

**Teacher:** Miss Bronagh Farrell

**Student(s):** Aoife Heaney,  
Heather-Mai Kane

**4532**

**Title:** An investigation into the fat quality in chilled milk before pasteurisation and how long it stays suitable for human consumption.

**Overview:** This study focuses on chilled milk samples from five different breeds of cow. We want to focus on the length of time it stays safe.

**School:** Millstreet Community School

**County:** Cork

**Teacher:** Mr Francy Lyons

**Student(s):** Orlaith Twomey,  
Jennifer Kelleher

**4533**

**Title:** Which colour are teenagers most drawn to?

**Overview:** To investigate if colours influence the choices teenagers make.

**School:** Loreto Secondary School

**County:** Kilkenny

**Teacher:** Mr Brendan Williams

**Student(s):** Anna Slattery,  
Estella D'Alessandro,  
Caoimhe Daly

**4534**

**Title:** Can management practices on Dairy Farms reduce the need for antibiotic usage?

**Overview:** To make farmers more aware for how management practices on farm can reduce the need for using antibiotics.

**School:** St Joseph's Secondary School

**County:** Westmeath

**Teacher:** Ms Louise Bell

**Student(s):** Luke Leacy,  
Brian Gaffney, Sean McCann

**4535**

**Title:** Comestibles

**Overview:** We plan to make a tasty, edible substitute for plastic.

**School:** Coláiste Chiaráin

**County:** Limerick

**Teacher:** Ms Edel Farrell

**Student(s):** Alex healy,  
Mollie Healy

**4536**

**Title:** Brace Yourself! - An investigation into how the presence of orthodontic treatment influences the

acidity or alkalinity of saliva.

**Overview:** We aim to examine the pH of saliva during orthodontic treatment. We will observe the relationship between fluctuating pH level and changes in physical wellbeing.

**School:** Coláiste Naomh Mhuire

**County:** Kildare

**Teacher:** Ms Naoise Gallagher

**Student(s):** Emma Culhane,  
Sophie Naughton,  
Ellen Sievwright

**4537**

**Title:** An mbíonn tionchar ag deochanna fuinnimheach agus deochanna spóirt ar toilleadh aeróbach aclaíochta in deagóirí idir 12-16 bliain d'aois?

**Overview:** Táimid ag iarraidh fiosrú an mbíonn tionchar ag deoch fuinnimheach agus spóirt ar toilleadh aeróbach aclaíochta. Má tá, táimid ag iarraidh compáraid a dhéanamh eatarthu.

**School:** Coláiste Pobal Osraí

**County:** Kilkenny

**Teacher:** Mrs Jessica Ní Dhruacháin

**Student(s):** Aideen Edmondson,  
Seán Ó Máille, Tom Ruiséal

**4538**

**Title:** Can lug worms be used as a biomarker for soil pollution?

**Overview:** To investigate if lugworm can be used as a biomarker for soil pollution by carrying out quantitative examinations on estuaries and beaches in Cork.

**School:** St. Brogan's College

**County:** Cork

**Teacher:** Ms Laura O'Regan

**Student(s):** Tomas Kiely,  
Darragh Collins O'Brien,  
Charlie Nolan

**4539**

**Title:** Investigation into the Prevalence of Femoroacetabular Impingement Syndrome in Irish Sports People

**Overview:** Investigation into the prevalence of femoroacetabular impingement syndrome (Cam or Pincer type) and what sports are most likely to cause severe hip impingement syndrome

**School:** Clonakilty Community College

**County:** Cork

**Teacher:** Mr Patrick O Keeffe

**Student(s):** Michael Walsh,  
Tomas O Hea, Finn O Connell

**4540**

**Title:** Kelp Help! An investigation to determine if kelp from Co. Clare's west coast can combat ocean acidification.

**Overview:** Our project aims to determine the ability of kelp, from Co. Clare's west coast, to increase and sustain higher pH levels in the surrounding seawater.

**School:** St. Joseph's Secondary School

**County:** Clare

**Teacher:** Mr Michael McDonagh

**Student(s):** Ellen Flanagan,  
Angie Kelly, Aoife Talty

**4541**

**Title:** Could Hemp be the key to a Sustainable Future?

**Overview:** Investigating Hemp while raising awareness and showing its benefits. We're also studying the knowledge of Irish Farmers and their likeliness to grow hemp.

**School:** Millstreet Community School

**County:** Cork

**Teacher:** Ms Eileen Lyons

**Student(s):** Eabha Sheehan,  
Taragh Casey, Fia Hurley

**4542**

**Title:** Eating Bugs to Save the World

**Overview:** An investigation into the feasibility of converting our protein intake to insects from animal-based protein such as cows in particular.

**School:** Community College

**County:** Meath

**Teacher:** Miss Fiona McKeever

**Student(s):** Seán O'Hara,  
Emma Deegan, Kaja Zielinska

**4543**

**Title:** Dispel the Smell of Goats Milk

**Overview:** Reducing the presence of foul-smelling fatty acids in goat's milk in order to increase public consumption of this nutritional beverage.

**School:** Moate Community School

**County:** Westmeath

**Teacher:** Ms Irene O'Sullivan

**Student(s):** Emily Ray,  
Sharon Seery

**4544**

**Title:** Money Actually Does Grow On Trees

**Overview:** Our project aims to examine the monetary value of a tree, analysing its ecological and economical value and what is the burning amazon's economical cost.

**School:** Bush Post Primary School

**County:** Louth

**Teacher:** Mr Gary Galvin

**Student(s):** Cathal Malone,  
Pierce Mc Kevitt, Sean Brennan

**4545**

**Title:** To test BPA levels in water before and after exposure to sunlight, in different types of bottles.

**Overview:** We will be checking BPA levels in water from the same source after being in different types of containers and left out in the sun.

**School:** Bush Post Primary School

**County:** Louth

**Teacher:** Ms Emily Kerr

**Student(s):** Gerard Hanlon,  
Sean Mc Carragher,  
Connasaw O' Donoghue

**4546**

**Title:** Does the area you live in have an impact to your perception of salt

**Overview:** Do people living in coastal regions have a lower salt perception than the people living inland.

**School:** Carrick-On-Shannon Community School

**County:** Leitrim

**Teacher:** Ms Louise Gallagher

**Student(s):** Wiktorina Weinert,  
Aislinn Smyth,  
Jonathan Casey

**4547**

**Title:** Investigating alternatives for foetal bovine serum in cultured meat practice

**Overview:** Cultured meat, created through in-vitro methods requires Foetal Bovine Serum (FBS), an animal-derived product. We aim to remove FBS from this process, by sourcing alternatives.

**School:** Ardscoil Uí Urmloltaigh

**County:** Cork

**Teacher:** Dr Paul Bouchier

**Student(s):** Paddy O'Halloran,  
Jack O'Donovan, John Mullán

**4548**

**Title:** Methods used to prevent hens from eating their own eggs.

**Overview:** Our project aims to find what methods prevent hens from eating their own eggs.

**School:** Scoil Mhuire gan Smál

**County:** Roscommon

**Teacher:** Ms C Fergus

**Student(s):** Kate O'Brien,  
Katie Lohan

**4549**

**Title:** What's causing Irish beach closures?

**Overview:** Our project aims to identify why E.coli enters our waters, the measures of prevention that are currently in place and how these can be improved.

**School:** Skibbereen Community School

**County:** Cork

**Teacher:** Ms Mags Breen

**Student(s):** Laura O'Brien,  
Kate O'Donovan,  
Aine McCarthy

**4550**

**Title:** Kefir in an Irish Kitchen

**Overview:** We will investigate the method production of kefir in an Irish kitchen by varying milk types, storage conditions, and monitoring pH, bacteria, and grain mass.

**School:** Laurel Hill Secondary School FCJ

**County:** Limerick

**Teacher:** Ms Karen Kinnerk

**Student(s):** Kate O'Doherty,  
Jane O'Brien, Vicky O'Connell

**4551**

**Title:** Investigating the ecological conditions controlling the distribution, abundance and size of Brook and River lamprey in the Upper Blackwater SAC, Duhallow, Ireland.



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**Overview:** Investigating the ecological conditions controlling the distribution, abundance and size of Brook and River Lamprey in the Upper Blackwater SAC, Duhallow, Ireland.  
**School:** Colaiste Treasa  
**County:** Cork  
**Teacher:** Ms Joanne Corkery  
**Student(s):** Nojus Perminas, Noah Walsh, Patrick Buckley

**4552**  
**Title:** Can biochars derived from farm waste reduce greenhouse emissions from Irish soils?  
**Overview:** To determine the effectiveness of biochar from farm waste at reducing the emissions of greenhouse gases from Irish soils.  
**School:** Moate Community School  
**County:** Westmeath  
**Teacher:** Ms Irene O'Sullivan  
**Student(s):** Aoife Murray, Megan Clinton

**4553**  
**Title:** Can Cows Cut the Carbon Crisis?  
**Overview:** We are investigating bovine sexed semen to see if it could be the answer to Ireland's greenhouse gas emissions problem.  
**School:** Presentation Secondary School  
**County:** Tipperary  
**Teacher:** Mr John Flynn  
**Student(s):** Hannah Hassett, Kate Anna Molony Ryan, Clara Coonan

**4554**  
**Title:** A comparative study investigating the antibacterial effectiveness of Manuka Honey that has been exposed to heat.  
**Overview:** An investigation assessing the antibacterial effect of Manuka Honey that has been exposed to five temperatures - 0°C, 35°C, 45°C, 55°C, 80°C - .  
**School:** John The Baptist Community School  
**County:** Limerick  
**Teacher:** Ms Brid O'Dwyer  
**Student(s):** Ruth Maher, Saoirse Kelly, Lisa Upton

**4555**  
**Title:** Sunflower Pith as a biodegradable packaging alternative  
**Overview:** Pith is a biodegradable packaging alternative made of sunflowers it is superior than other packaging alternatives. It is also cheaper to manufacture.  
**School:** Douglas Community School  
**County:** Cork  
**Teacher:** Mr Cian O'Mahony  
**Student(s):** Benjamin Velon, Eoin Cottrell, Jamie O Callaghan

**4556**  
**Title:** Does Instagram Stress You Out? Understanding the Physiological and Psychological Implications of Photo-sharing.

**Overview:** We aim to examine the physiological and psychological implications of posting a photograph to Instagram among males and females of different ages.  
**School:** Coláiste Choilm  
**County:** Cork  
**Teacher:** Mrs Karina Lyne  
**Student(s):** Olivia Lynch, Kate Burns, Meabh Murphy

**4557**  
**Title:** Phone Fingers- The Physical Effects of Phones on our Bodies  
**Overview:** Our project gives a detailed account of the main effects of phones on our physical health. Mainly focusing on our fingers and neck.  
**School:** Presentation Secondary School Mitchelstown  
**County:** Cork  
**Teacher:** Ms Julie Hanlon  
**Student(s):** Julia Trojak, Emily O'Hanlon, Paulina Grieciute

**4558**  
**Title:** An investigation into the effect of soil vibrations on soil biodiversity  
**Overview:** We are investigating whether soil vibrations impacts the biodiversity in soil.  
**School:** Carrick-On-Shannon Community School  
**County:** Leitrim  
**Teacher:** Ms Louise Gallagher  
**Student(s):** Daragh O'Beirne, Emmett Regan, Iarlaith O'Brien

**4559**  
**Title:** Mind Over Mouth  
**Overview:** Our project aims to find out if our taste buds can be influenced by our other senses and company strategies.  
**School:** St Mary's Secondary School  
**County:** Cork  
**Teacher:** Ms Shannen Foley  
**Student(s):** Kate Dromey, Fey Healy

**4560**  
**Title:** A Case for Statutory Labelling of Carbon Footprint on Food  
**Overview:** To investigate the carbon emissions in the production and transportation of food and if the displaying of same on food products affects consumer choices  
**School:** Sacred Heart Secondary School  
**County:** Cork  
**Teacher:** Mr Colm Kiely  
**Student(s):** Sinead O'Donovan, Ruth Shanley, Ruby Edmead

**4561**  
**Title:** An investigation into the potential medicinal properties of the Irish plantago herb.  
**Overview:** The project aims to investigate the antimicrobial biomedical potential of Irish plantago using different extraction methods and to highlight the importance of sustaining our biodiversity.

**School:** Athlone Community College  
**County:** Westmeath  
**Teacher:** Mr Ronan Mitchell  
**Student(s):** Corey Nugent, Liam Johnston, Curtis McGovern

**4562**  
**Title:** BMI testing, is it a thing of the past?  
**Overview:** We want to investigate is BMI testing the most accurate and way to indicate weight or should a combination approach be taken using other methods combined.  
**School:** St. Joseph's Secondary School  
**County:** Meath  
**Teacher:** Ms Fiona Leavy  
**Student(s):** Naomi Travers, Abbie Moyles, Aoibhin Lally

**4563**  
**Title:** Food Eco Rating  
**Overview:** Devise and display a "Food Eco Rating" on store shelf edge labels for fresh fruit and veg to assist shoppers in making environmentally-aware decisions.  
**School:** Eureka Secondary School  
**County:** Meath  
**Teacher:** Ms Caroline Shalvey  
**Student(s):** Aine Rooney, Katie Sheridan, Grainne Nevin

**4564**  
**Title:** Hail, Rain or Shine? How does this leave our beaches  
**Overview:** Survey our local beach, to find out how different factors affect the 3D structure and composition of the beach, (Material composition, stratification of layers, Movement of materials)  
**School:** Mount St Michael  
**County:** Cork  
**Teacher:** Mr Brendan Hogan  
**Student(s):** Katie Mariotti, Tara Keating, Áine O'Sullivan

**4565**  
**Title:** Stomatal distribution in Griselinia Hedging  
**Overview:** A study of the distribution and condition of stomata in diseased and healthy Griselinia Hedging  
**School:** Douglas Community School  
**County:** Cork  
**Teacher:** Mr Cian O'Mahony  
**Student(s):** Zack Daly, Fionn Crowley, Lucas Predha

**4566**  
**Title:** The correlation between memory and the senses  
**Overview:** We plan to show direct connection between the senses and memory.  
**School:** Meánscoil na mBráithre Criostaí  
**County:** Kilkenny  
**Teacher:** Ms Emma Manning  
**Student(s):** Niall Skehan, Luke Skehan, Darragh McMorro

**4567**  
**Title:** An investigation on the effects of Microplastics, Larger low-density Polyethylene Pellets and Biodegradable Plastic on the growth of Thale Cress [Arabidopsis Thaliana]  
**Overview:** We will investigate which material affects the rate of root and shoot growth of Thale Cress and if plastic embeds in the plant tissues.  
**School:** Coláiste Naomh Mhuire  
**County:** Kildare  
**Teacher:** Ms Naoise Gallagher  
**Student(s):** Grace Moloney, Eimear Freeley, Aisling Hughes

**4568**  
**Title:** Investigation into the effect's agriculture has on the quality of water and health of organisms in Irish rivers.  
**Overview:** Our project aims to examine local streams and rivers to see if agriculture is having an effect on the organisms in Irish streams/ rivers.  
**School:** Clonakilty Community College  
**County:** Cork  
**Teacher:** Mr Patrick O'Keeffe  
**Student(s):** Eamon Hodnett, Tadhg O'Neill, Gearóid O'Donovan

**4569**  
**Title:** Analysis on the effect natural skills and trash talk have on Esports performance  
**Overview:** The aim of our project is to see if natural characteristics and trash talk have a negative or positive impact on the performance of esports players.  
**School:** Loreto Secondary School, Balbriggan  
**County:** Dublin  
**Teacher:** Ms Chloe White  
**Student(s):** Muirne O'Connor, Katie Moroney, Leah Leonard

**4570**  
**Title:** Examination of Human and Bovine Hair as a Natural Composite Fibre.  
**Overview:** The aim of this project is to examine whether human or bovine hair is best for the production of keratin based composite materials.  
**School:** Coláiste Na Toirbhirte  
**County:** Cork  
**Teacher:** Mr Declan Cronin  
**Student(s):** Fiona O'Dell, Laura Kearney, Róisín Nolan Collins

**4571**  
**Title:** Bird super soaker-a water cannon for driving away birds  
**Overview:** Our project aims to create a new way to deter birds and rodents from a field using infrared technology  
**School:** St Joseph's Secondary School  
**County:** Dublin  
**Teacher:** Mr Daryl Dunne



**Student(s):** Dylan Murtagh Wilde,  
Killian Harford, Alex Boland

### SENIOR GROUP

**4600**

**Title:** The Cycle of Life; The use of heat produced by decaying plant materials and microorganisms to increase the rate of germination in plant life.

**Overview:** For our project we decided to investigate the use of heat produced by decomposing plant matter to aid the germination of new plant life

**School:** Coláiste An Spioraid Naomh

**County:** Cork

**Teacher:** Mr Tom Healy

**Student(s):** David Rasmussen,  
Sean O'Regan

**4601**

**Title:** Trachemys scripta and their detrimental impact on Irish freshwater habitats

**Overview:** Investigating the difference in predation consumption rates of juvenile and adult Trachemys scripta to determine if size impacts their invasiveness to our native ecosystems.

**School:** South Eastern Regional  
College - Bangor Campus

**County:** Down

**Teacher:** Mr Jonathan Cash

**Student(s):** Emma Zubin,  
Tyler Patten

**4602**

**Title:** Investigating Bracken (Pteridium aquilinum) as a Source of Phosphorus Fertiliser

**Overview:** We'll investigate bracken as a dynamic accumulator, and it's use as a fertilizer by comparing phosphorus levels in soils containing bracken with soils that don't.

**School:** Schull Community College

**County:** Cork

**Teacher:** Ms Larissa Kelly

**Student(s):** Daisy Seward,  
Cliona Riordan

**4603**

**Title:** The Effect of Cigarette Smoke Extract on the Inflammatory Response in Human Bronchial Epithelial Cells

**Overview:** We will study whether cigarette smoke extract will cause an increase in the inflammatory marker IL-8, caused by increased glucose within human bronchial epithelial cells.

**School:** South Eastern Regional  
College - Lisburn

**County:** Antrim

**Teacher:** Dr Susan Stokesberry

**Student(s):** Caoimhe Clugston,  
Benjamin Gibson,  
Jamel Donald

**4604**

**Title:** Herbal Leys; Milk Production for the future

**Overview:** Our project aims to investigate the differences between Herbal Leys and Perennial Ryegrass regarding milk production as well as biodiversity.

**School:** Millstreet Community School

**County:** Cork

**Teacher:** Ms Jennifer O'Donoghue

**Student(s):** Bevin Murphy,  
Omar Daly, Darren Kiely

**4605**

**Title:** There's a Cure in the Ground for Everything

**Overview:** Through parent questionnaire we identified 10 plants purported to have cures. We will test these for antimicrobial properties on E.coli and S. aureus

**School:** St Paul's Community College

**County:** Waterford

**Teacher:** Mr Gerard Lohan

**Student(s):** Oonagh Nwankwo,  
Nathanon Jutisooksan, Luke Daniels

## Looking for a specific project?

Check the **2020 PROJECTS - QUICK SEARCH**  
on pages 10 - 13 or download our app!

Social and Behavioural  
Sciences

1100 - 1712

Chemical, Physical and  
Mathematical Sciences

2100 - 2607

Technology

3100 - 3607

Biological and  
Ecological Sciences

4100 - 4605



# MORGAN & WEST: UNBELIEVABLE SCIENCE

Science and silliness abound for ages seven to 107!

**Morgan & West present captivating chemistry, phenomenal physics, and bonkers biology in this fun for all the family science extravaganza!**

Magicians, time travellers and all-round spiffing chaps Morgan & West have a secret past – they are genuine, bona fide, legitimately qualified scientists, and now are bring their love of enlightenment to the stage!

Expect explosive thrills, chemical spills and a risk assessment that gives their stage manager chills, all backed up by the daring duo's trademark wit, charm and detailed knowledge of the scientific method. Leave your lab coats at the door it's time for Unbelievable Science!

On TV Morgan & West have fooled Penn & Teller (Fool Us ITV 1), competed to be the Next Great Magician (ITV 1), and even attempted to escape The Slammer (CBBC).

## PLEASE NOTE:

Morgan & West take full responsibility for any horizons broadened, passions enflamed or minds blown during the course of the show.

★★★★★ “Put quite simply...  
great science with hilarious hosts!”

PRIMARY TIMES

★★★★★ “hugely talented”

DAILY MIRROR

★★★★★ “superbly crafted”

THE STAGE



# AIRMAZING ENGINEERING THE FUTURE

**We live submerged at the bottom of an ocean of air – but how much do you know about the air that surrounds us?**

This is a fast-paced, interactive spectacular exploring the existence, the composition and finally the “springiness” of the air. Join James Soper to learn about the groundbreaking work of Torricelli, Priestly and Boyle.

**Find out how the very air that surrounds us will become the basis for engineering technologies of the future.**



In association with  
**SFI Smart Futures**



# SPACE DEBRIS AND COSMIC CATASTROPHES 3D

**Humanity has learnt to travel beyond the confines of the Earth and into space. We face many challenges to soar above our world and out into the beyond.**

Leaving the planet involves defeating gravity and accelerating to tremendous speeds. Space itself is extremely hostile. Machines and humans are exposed to the vacuum of space, radiation, extreme temperature changes and fluctuations in Our Sun. Mankind has created its own problem by leaving a trail of rubbish and debris in orbit around our planet in its endeavor to reach for the sky. This debris is right where we now want to place satellites and humans for further study of our planet and communications, and future exploration of our solar neighborhood and planets requires us to travel through this space junk.

However, mankind now relies on space based infrastructure to communicate, navigate and observe our planet globally.

Our 3D adventure will explore space hazards and how we plan to overcome them. We will learn how space travel is changing our understanding of the space environment and how exploration of other worlds is helping us to understand how to better care for our own fragile Spaceship Earth.



Science and Dance collide in this high energy fusion of Physics and Breakdancing. Full of spontaneous dance offs, funky moves and the wonderful laws that govern our universe.



The show aims to help students visualise physics concepts including Newton's Laws of Motion, Friction, Gravity, Centripetal Force, Momentum, all through movement and examples from daily life. Understanding the basic principles behind what you do, can help you perform better, increase awareness, make better and more informed decisions both personally and globally. The aim is to show that science is fun, practical, and accessible for everyone, using performers of balanced genders.



In association with **IOP** Institute of Physics  
Ireland

**ROBO RIOTS**

**MECHATRONICS™**  
Ingenious Machines

Seated arena show  
Duration: Approx. 40 mins

[WWW.MECHATRONICS.COM](https://www.mechatronics.com)

## Robots go to War in Dublin

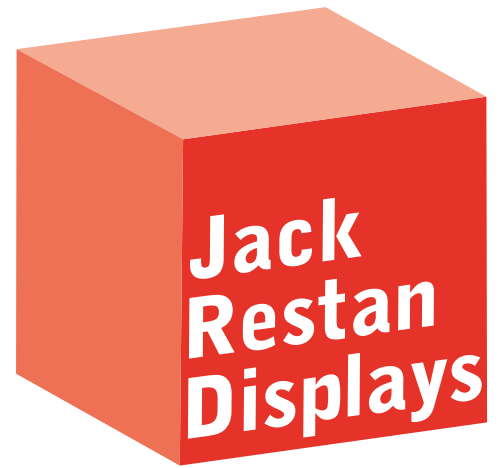
**Robo Riots brings famous robots from BBC's hit TV show Robot Wars, to battle it out live in Dublin.**

The biggest, baddest, strongest and fastest next-generation robots from BBC's hit TV show Robot Wars including; Thor and Diotoir fighting against veterans such as Ripper and KingB, will be flipping, smashing and bashing in mortal combat inside the bullet proof battle arena.

Their ultimate goal is to destroy or disable the opponent to reign supreme in Robot Combat Sports.

Robo Riots is organised by Mechatronics who created one of the most iconic combat robots, the flaming furball Diotoir, headed by Irish Roboticist Peter Redmond. Speaking about the event, Redmond said: "Robot battling is a true sport of the future. It has all the right elements: mad science, gladiatorial combat, plucky garage inventors, and hi-tech machinery. Brutally effective, utterly vicious machines have now evolved from one based on an engineering challenge, to that of hi-tech operational challenge with space age materials."

But it's not just combat robots! There will also be celebrity robots like R2-D2, a Dalek, a Minecraft creeper and AL-1X – Robo Riots' very own Z-list celebrity robot. How about boxing robots? Seven-foot rockem sockem boxing robots will be trading haymakers in a no holds barred one-on-one slugfest to literally knock each other's block off.



## DELIVERING SUSTAINABLE DISPLAY SOLUTIONS at BT Young Scientist & Technology Exhibition for over 50 Years

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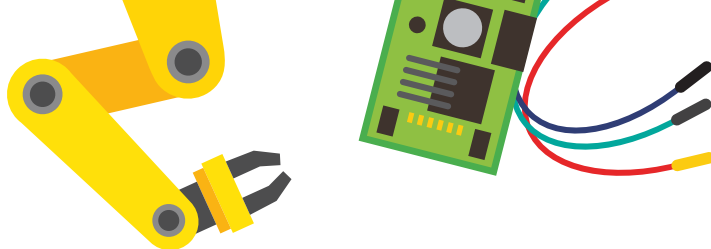
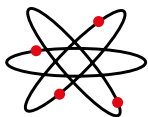
### Get the app

Get all the latest information about the exhibition, events and updates direct to your mobile, absolutely free!

**Features include** Interactive Exhibition Map, Getting Here, Search Student Projects, Schedule of Events, Social Network, Awards, History, Past Winners, Photo Gallery and more...



# THE WORLD OF SCIENCE & TECHNOLOGY



## Hewlett Packard Enterprise

### W01: Hewlett Packard Enterprise

Hewlett Packard Enterprise uniquely combines IT expertise with innovations in infrastructure, software, and services to create the IT solutions to accelerate your organisational goals. We bring the right internal expertise and a broad set of external partners to deliver best of breed infrastructure, services, and solutions designed to a roadmap that moves you to your desired state in a step-by-step manner which is consistent with your business model.

**We Are in the Acceleration Business;** We help customers use technology to reduce the time it takes to turn ideas into value. In turn, they transform industries, markets and lives. Some of our customers run traditional IT environments. Most are transitioning to a secure, cloud-enabled, mobile-friendly infrastructure. Many rely on a combination of both. Wherever they are in that journey, we provide the technology and solutions to help them succeed

**Technology That Fuels Transformation;** We make IT environments more efficient, productive and secure, enabling fast, flexible responses to a rapidly changing competitive landscape. We enable organizations to act quickly on ideas by delivering infrastructure that can be easily composed and recomposed to meet shifting demands so they can lead in today's marketplace of disruptive innovation.

**Solutions You Need to Succeed;** We deliver high-quality, high-value products, consulting and support services in a single package. That's one of our principal differentiators. We have industry-leading positions in servers, storage, wired and wireless networking, converged systems, software, services and cloud. And with customized financing solutions and strategy, we can provide the right tech solutions for your unique business goals. From global enterprises to local startups – transition from traditional technology platforms to the IT systems of the future. Visit [www.hpe.com/ie](http://www.hpe.com/ie) for more information.



### W02: Junior Cycle for Schools

Junior Cycle for Teachers (JCT) is a dedicated schools' support service of the Department of Education and Skills. Our aim is to inspire, support and empower school leaders and teachers in the transformation of junior cycle education in Ireland.

For further information please visit our website [www.jct.ie](http://www.jct.ie) where you will find everything you need in relation to CPD for the new Framework.



### W03: Gaisce The President's Award

Gaisce - The President's Award is a self-development programme that encourages you to get active, find your passion, be part of a team and make a difference in your community while having fun and making new friends! It is a direct challenge from the President of Ireland, Michael D. Higgins to all young people to dream big and realise your potential.

You can rise to the Gaisce challenge by identifying which award level you want to aim for (Bronze, Silver and Gold) and then achieving your goals across the following challenge areas:

**Community Involvement** - volunteer to help a charity, cause or community group.

**Personal Skill** - develop a skill you have or try something new.

**Physical Recreation** - become more active with a sport or exercise.

**Adventure Journey** - take to the great outdoors on a team challenge.

**Residential (for Gold participants only)** - meet different people and discover a new experience away from home.

For more information, please visit [www.gaisce.ie](http://www.gaisce.ie)



### W04: Henkel

Henkel is a global leader of brands and technologies organised into three Business Units Home Care, Beauty Care and Adhesive Technologies. Founded in 1876, Henkel holds leading market positions both in the consumer and industrial businesses, with brands such as Persil, Schwarzkopf and Loctite. Henkel employs 53,000 people globally with annual sales of more than 20 Billion in 2017. Henkel Ireland Operations & Research Ltd, located in Tallaght, Dublin is a centre of excellence for adhesive technologies. New Innovative products are developed in the Dublin R&D centre where there are currently 120 employees, the majority of whom are science & engineering graduates. The technology centre is a primary location for Global Acrylics Technology development, with fundamental & applied research. The technology centre collaborates with academic research institutes in many areas and as a materials science company it invests in adjacency technologies such as Additive Manufacturing.



### W05: Fingal County Council

Fingal has a population of almost 300,000, making it the third largest and fastest growing population of any county in Ireland. Fingal has the youngest population in the country with more than one in four under the age of 15. It also is one of the most diverse counties in Ireland, with 1 in 6 people living in Fingal are non-Irish nationals.

Fingal County Council provides a range of services to the citizens of Fingal - community & leisure facilities, housing, planning, environmental services, water and business support to name a few. At this year's BT Young Scientist exhibition, the Digital Fingal team will be showcasing some of their digital initiatives that look to improve the way we live and work in Fingal - from using drones to prevent illegal dumping, rolling out smart street furniture that can charge your phone and give you free WiFi and developing interactive maker spaces to enhance creativity and innovation.



### W06: Met Éireann

Met Éireann, is the leading provider of weather information and related services for Ireland. Our mission is to monitor, analyse and predict Ireland's weather and climate, and to provide a range of high quality meteorological and related information to our customers. Our vision is; making Ireland Weather and Climate Prepared.

#### Our Goals:

- Enhance support for impact-based decision making for weather events
- Provide climate information services which promote the safety of citizens and supports economic and environmental resilience
- Deliver a high quality national flood forecasting service
- Continue to provide an effective authoritative voice on meteorology in Ireland
- Maintain and support an expert, professional workforce
- Lead a modern, integrated meteorological infrastructure and support an enterprise environment for weather and climate services

#### Schools Competition - WIN AN AUTOMATIC WEATHER STATION

Visit Met Éireann here at Stand W6, and enter our competition to Win an Automatic Weather Station for your school.

The prize consists of a Davis Vantage Pro2 Weather Station with console, WeatherLink software and tripod worth over €1000

A example of one of these weather stations will be on display at our stand.

The winner will be able to upload their schools data to the WOW database following installation, where it can be viewed on our New WOW-IE website.



### W07: The Irish Centre for High-End Computing (ICHEC)

The Irish Centre for High-End Computing (ICHEC) is a national technology centre that manages Ireland's largest supercomputer for scientific research, Fionn. Through high performance computing (HPC), we enable scientists and industry to carry out large-scale simulations and data analysis in a wide range of areas from nanotechnology, climate and weather, engineering, geology, astronomy to genetics. ICHEC also collaborates with many other HPC centres around Europe as a member of PRACE (Partnership for Advanced Computing in Europe), which offers some of the most powerful supercomputers in the world for research. This year the ICHEC stand will provide a variety of exhibits related to HPC and its applications.



Oifig Maoine  
Intleachtúla na hÉireann  
Intellectual Property  
Office of Ireland

### W08: Intellectual Property Office of Ireland

The Intellectual Property Office of Ireland, IPOI (formerly Patents Office) is a statutory office and operates under the aegis of the Department of Business, Enterprise and Innovation. The role of IPOI is to provide an efficient and effective system of industrial property protection. This is to be achieved through the protection of industrial property rights in the fields of patents (for inventions, function), trade marks (name, logo, slogans) and designs (appearance, shape & configuration) and the dissemination of relevant information in conjunction with each of these activities. Come along and visit us at our stand to find out more about patents, trade marks, designs or copyright. Test your knowledge by taking part in our quiz and you could be the lucky



winner of one of our daily prizes! We look forward to meeting you! For further information on intellectual property you can check out [www.ipoi.gov.ie](http://www.ipoi.gov.ie) or follow us on Facebook.



## W09: Teagasc

Teagasc "the Agriculture and Food Development Authority" is the national body providing integrated research, advisory and education services to the agriculture and food industry and rural communities.

Teagasc undertakes innovative research in: Animal and Grassland Research and Innovation; Crops, Environment and Land Use; Food; and Rural Economy and Development. Teagasc is a large supporter of post-graduate research, with some 225 pursuing PhDs on its Walsh Fellowship Scholarship Programme at any one time. These are funded by Teagasc's own resources and various national and international research funders, mainly DAFM and SFI.

Teagasc colleges deliver a wide range of Level 5 and Level 6 courses in agriculture, horticulture, equine and forestry. The colleges also collaborate with a number of third level institutions in the delivery of Higher Level courses in agriculture, horticulture and the bioeconomy.

The Teagasc Advisory Service, through a nationwide regional office network, provides a local service to farmers.



## W10: CONCOS

### Coláistí Gaeilge

Is é CONCOS an scáth-eagraíocht do formhór Choláistí Samhraidh na tíre.

Tá na Coláistí Samhraidh lonnaithe i ngach Gaeltacht, chomh maith le roinnt Coláistí sa nGalltacht. Tá fíor-thábhacht ag baint le Coláistí Samhraidh chun feabhas a chur ar labhairt, líofacht agus saibhreas na Gaeilge do dhéagóirí a bheas ag iarraidh na marcanna is mó a bhaint amach san Ard Teistiméireacht. Tá 50% marcanna le fáil ar an Teanga Labhartha, sé sin, 40% don béaltíre agus 10% don cluas tuiscint.

Bígi linn i Samhraidh 2020 chun spraoi, spórt agus craic a bheith agaibh agus sibh ag cur feabhas ar bhuir chuid Gaeilge!

### Irish Language Colleges

Concos is the umbrella organisation for most of the country's Irish Language Colleges.

Irish Language Colleges are located in all Gaeltacht regions as well as some in non-Gaeltacht regions. Irish language Colleges have a very important role to play in improving fluency and enriching the spoken Irish language for teenagers who want to get the highest marks possible from the Leaving Certificate.

There is 50% of marks given on the spoken language, 40% for the Oral exam and 10% for the Aural exam.

Join us this Summer (2020) for fun, sport and craic while improving your Irish!



## W11: Junior Achievement Ireland (JAI)

Junior Achievement Ireland (JAI) inspires and motivates young people to realise their potential by valuing their education and understanding how to succeed in the world of work. JAI is part of a worldwide organisation reaching 10 million young people each year.

Established in Ireland in 1996 JAI has built up a strong demand from schools throughout the country and created successful partnerships with over 170 leading organisations. During the last school year more than 63,000 students participated in Junior Achievement (JA) programmes focusing on STEM, entrepreneurship, employability and financial literacy.

JA STEM programmes focus on equipping students with a range of key skills that are essential for their future. JAI's industry-education partnerships allow us to recruit, equip, train, vet and support volunteers to serve as role models, sharing their own real-life experiences while working on specially-designed modules aligned with the curriculum, helping students to see the importance and relevance of STEM-related subjects.

JA STEM programmes, such as Energize aimed at 6th class students and supported by Gas Networks Ireland, and Futurewize for junior cycle students, supported by Science Foundation Ireland, are fully complementary to the formal curriculum and provide opportunities for

acquiring and practising key skills which are in demand by employers. More than 28,000 students participated in STEM programmes facilitated by JAI-supporting organisations in the last school year alone.



## W12: Cumann na bhFiann

Coláiste na bhFiann is a non-profit organisation comprising of the following three elements:

### 1. Coláiste na bhFiann

Coláiste na bhFiann has over 50 years' experience running Irish language Summer Courses in both Gaeltacht areas and residential colleges. The main purpose of the organisation is to teach young people to speak Irish in a welcoming environment that encourages a positive attitude towards the language. Building on the basics of Irish learned within the traditional schools' structure, Coláiste na bhFiann has developed a formula that has successfully helped generations of young people to enjoy using and improving their Irish language skills.

### 2. Cumann na bhFiann

Cumann na bhFiann provide opportunities for young people to speak Irish outside of the school system in a social setting. Cumann na bhFiann organise weekly Irish language youth clubs giving young people the opportunity to use and improve their spoken Irish. By attending Cumann na bhFiann regularly, fluency in Irish is maintained and improved, thus normalising the use of Irish in everyday life. It is vital that young people are given the opportunity to recognise the advantages of speaking Irish and also enjoy it. There are currently 60 Irish language weekly Youth Clubs affiliated to Cumann na bhFiann nationwide.

### 3. Ionad Óige na hÉireann (Droim Rí)

Ionad Óige na hÉireann is the only all Irish language youth centre in Ireland. The objective of the centre is to create a space for young people to integrate Irish into their lives in a natural way outside the school system. This is achieved through providing a wide range of activities to a high standard in the centre, thus promoting confidence in speaking the language through everyday activities of the young person's choice. Activities include Music, Art, Dance, Drama and Sport. Many schools avail of the opportunity to have school activity tours to the centre which are run through the medium of Irish.



## W13: BT

We use the power of communications to make a better world. We're passionate about technology. Come find us and hear all about the innovative history of BT, from when we started in 1896, right up to our merger with EE! We'll show you where the internet comes from; from the network to your home, and what the future holds. Our section shows the amazingly clever ways that internet can be used, where we will showcase Virtual Reality, using BT Sport, IoT, Healthcare and Security demos. Come see how Ulster University is working with the BT Ireland Innovation Centre in areas such as Pervasive Computing and to take part in our competitions, with a chance to win an Amazon Echo Dot.



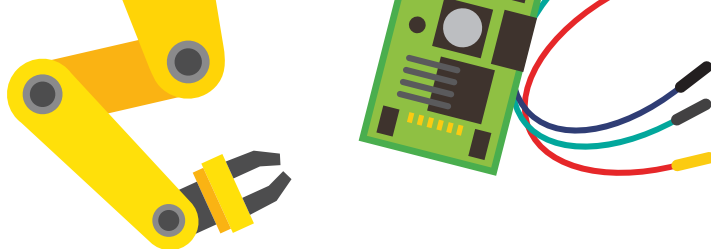
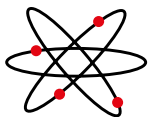
## W14: CISCO

Cisco helps seize the opportunities of tomorrow by proving that amazing things can happen when you connect the unconnected. Solving business challenges has been Cisco's focus since our founding in 1984. If you can imagine it, Cisco will build a bridge to get you there. Cisco is short for San Francisco, our logo represents the Golden Gate Bridge, being emblematic of what the company would do. Just as the bridge spans a body of water, Cisco's promise was to securely connect people, places, ideas, and things across a network. Today, over 80% of the world's traffic travels securely across Cisco connections.

Globally the 74,000+ Cisco team are busy listening, innovating, and building bridges to the possible. Each individual a bridge unto themselves, committed to customers, communities, and the future preservation of our planet. Cisco believes environmental sustainability is critical for economies and all global citizens. We seek opportunities to minimize our impact on the environment and for ways technology can reduce energy use and protect Earth's biodiversity. Our networking, datacentre, collaboration and security solutions helps our customers reduce their carbon footprints too.

Our 400+ strong Irish team write software that powers team collaboration across the globe and serves customers across Europe, the Middle East, Africa and Russia. Locally we work with government, industry and the education sector to help digitise Ireland. We are proud to sponsor the BT Young Scientist and Technology Exhibition. A fantastic event which develops tomorrow's technology and science leaders, who will, like Cisco, put technology and resources to work in the service of an inclusive future, where technology gives everyone the tools to thrive.

# THE WORLD OF SCIENCE & TECHNOLOGY



## NOKIA Bell Labs

### W15: Nokia Bell Labs

Nokia Bell Labs, Nokia's research and innovation arm, creates the disruptive technologies that are shaping the way the world communicates and connects. With expertise in analytics, cloud, fixed, optics and wireless and by collaborating openly with the global research and innovation community, Nokia Bell Labs is inventing the technology solutions that will transform the connected world, enhancing the speed, capacity, efficiency and reliability of data, and the increasing automation and digitization of our lives and entire industries. For 90 years, scientific breakthroughs at Nokia Bell Labs have fundamentally transformed the Information Communications Technology (ICT) industry and its effect on humankind which have led to many distinguished awards including 9 Nobel Prizes.



### W16: Central Statistics Office

The Central Statistics Office is delighted to sponsor an award that will encourage young people to use open data. Exploring the potential value of growing access to open data is one of the challenges of our information society. This award is for the most innovative use, or potential use, of CSO data. The application of open data may be varied: Statistical analyses, statistical processes or statistical outputs, be they scientific or mathematical, a piece of research, a visualisation or a data map, the development of a device, a software application or the use of CSO data in any other innovative way. Whatever way students use our data, the CSO is excited to see you open data projects.



### W17: Cook Medical

Since 1963 Cook Medical has worked closely with physicians to develop technologies that eliminate the need for open surgery. Today we are combining medical devices, biologic materials, and cellular therapies to help the world's healthcare systems deliver better outcomes more efficiently. We have always remained family owned so that we have the freedom to focus on what we care about: patients, our employees, and our communities. Find out more at <http://www.cookmedical.eu> and for the latest news follow us on Twitter, Facebook, Instagram and LinkedIn.



### W18: Johnson & Johnson

Johnson & Johnson has been manufacturing bulk active pharmaceutical ingredients in Cork since 1981. Products are sold throughout the world to other Johnson & Johnson and third party companies, where they are further processed into tablets, creams, or injectable dosage forms. These finished products are used in treatment of a range of disorders.

Johnson & Johnson established its operation in Ringaskiddy in 2005 on a 100 acre site with an investment of €500 million. For more than 25 years we have been a global leader in the field of biomedicines, in particular pioneering monoclonal antibody technology, a cutting-edge approach to producing medicines that launched a new generation of products to treat immune related diseases.

The facility in Ringaskiddy is producing biomedicines for both the treatment of immune related diseases and new and innovative cancer treatments. In 2017, Johnson & Johnson announced that it is to invest more than €300 million in the expansion of its manufacturing plant that will create more than 200 new jobs.



### W19: Explorium National Sport & Science Centre

Explorium is Ireland's largest national science and sport centre. This incredible facility is a truly unique experience designed to encourage visitors to discover the wonders of science and sport.

Experience over 300 interactive science exhibits, see what it feels like to lie on a bed of nails, get within 10 feet of half a million volts of lightning with the Tesla Coil in our truly unique indoor Lightning Shows, have a go on the G-Force anti-gravity loop track where visitors are harnessed into a bicycle and rotate 360 degrees on a circular track.

Launch rockets in our Maker's Lab, explore the natural world in our Senses gallery, electrify your senses with our Forces exhibits and ignite your curiosity as your mind plays tricks on you in our Illusion world.

We aim to create a world-class hub of ideas, innovation and education that stimulates young minds to create the Ireland of tomorrow, by igniting their curiosity and motivating them to think, ask and discover.

## Alcon A Novartis Division

### W20: Alcon

Cork, Ireland is home to Alcon's European manufacturing centre for intraocular lenses.

The Cork facility was established in 1991 and acquired by Alcon in 2000 with the acquisition of Summit Autonomous Inc. In 2006, the Cork plant began manufacturing Alcon's intraocular lenses (IOLs), which replace the eye's natural lens in cataract surgery.

A cataract occurs when the eye's lens becomes cloudy over time, impairing vision. Cataracts are the leading cause of treatable blindness worldwide. Cataract surgery is the most frequently performed surgery in the world and Alcon's IOLs are the most frequently implanted lenses worldwide.

Alcon's Cork facility employs over 450 associates. Alcon employs professionals with the skills and passion to meet the expectations of our customers, as well as the regulatory bodies. At Alcon quality and precision are critical.

Patients are at the centre of everything we do and at the heart of our commitment to quality. The Alcon facility in Cork is certified to ISO 13485, is MDD compliant and is an FDA approved manufacturing site.



### W21: Portwest

Portwest is a global manufacturer and distributor of workwear, safety wear and PPE. Established in 1904, Portwest is the fastest growing workwear company in the world with a global distribution network and customer service staff in over 130 countries. Employing over 4500 people worldwide, Portwest has a team of world class designers who specialise in flame-resistant and high-visibility, workwear, hand and foot protection, personal protective equipment and wearable technology. Market leaders in safety, Portwest's award winning team is constantly researching the latest trends and innovations which influence new collections and products.



### W22: National Teacher Awards

The National Teacher Awards by CJ Fallon celebrate the outstanding contribution that teachers make as role models in the school environment.

We are looking for submissions for the teachers who have inspired you! Whether it be organising school activities or running the sports teams, or as simple as being an open ear when you're having a hard day! We want to hear from you why your teacher deserves to be acknowledged for their work!

Teachers who inspire their students can change lives and deserve to be recognised! CJ Fallon, one of Ireland's longest established and most respected educational publishers, has been leading the way in Primary and Post Primary publishing since 1927.



### W23: Eli Lilly

Lilly has been in Ireland since 1978 and today employs around 1,600 people across a range of business activities.

At our manufacturing campus in Kinsale, Lilly employs over 800 people, and uses chemical synthesis & biotechnology manufacturing processes to make active ingredients for medicines. The mission of the Kinsale facility is to support the and supply of many of the newest medicines in Lilly's portfolio.

Lilly's Global Business Solutions centre in Little Island currently employs around 800 employees in functions such as finance, medical information and clinical trial capabilities.

To learn more about Lilly, please visit us at [www.lilly.com](http://www.lilly.com) / [www.lilly.ie](http://www.lilly.ie)



### Food Group

### W24: ABP Food Group

ABP is one of Europe's leading privately owned agribusiness companies operating across 4 divisions: Beef, Pet Food (C&D Foods), Proteins and Renewables (Oileco). It has processing



facilities in Ireland, UK, Spain, France, Holland, Denmark, Austria and Poland and employs over 10,000 colleagues. ABP has sponsored a farm safety prize at the BTYST since 2014 and has also been involved in a number of other on-farm and educational farm safety initiatives. Further information is available at <https://www.abpsustainabilitystory.com>



## W25: Trinity College Dublin

We live in a scientific world, where science and technology have a growing impact in all aspects of our lives. A scientific education is your passport to that world. Our science courses span four broad domains:

- TR060 Biological and Biomedical Sciences
- TR061 Chemical Sciences
- TR062 Geography and Geoscience
- TR063 Physical Sciences

Each has a customised curriculum for the first two years, leading to diverse degree subject options in third and fourth year, from Astrophysics to Zoology, and from Neuroscience to Nanoscience. To ensure a broad learning experience, students can take elective modules in languages and the arts and humanities, and also have the opportunity to study modules in Science Education and Communication and the History, Philosophy and Ethics of Science.

Students will learn from scientists at the very forefront of their fields, and in their final year will carry out an individual capstone research project in the laboratory of one of our faculty members. The result is a rigorous and internationally recognised training in your chosen field, along with demonstrated transferable skills and graduate attributes sought after in all careers.

Future-proof yourself at Trinity! See more at: [www.tcd.ie/Science](http://www.tcd.ie/Science)



## W26: Science and Technology in Action

Have you ever wondered how the science taught at school links to the real world of work?

**Science & Technology in Action (STA)** is an innovative teaching and learning resource which brings industry and education together. For use by second level teachers and students, all the resource materials across the editions are available on [www.sta.ie](http://www.sta.ie) and the **latest 15th edition** of the hard copy pack was delivered in November '19 to each school nationally free of charge.

Each lesson in the pack relates to the activities of one of the participating organisations. In this way, the lessons help to enhance the relevance of science to our everyday life. This grounding in reality is designed to raise awareness and engage students in the real world of science and technology.



## W27: SightSavers

Sightsavers Ireland work in more than 30 countries across Africa and South-East Asia to eliminate avoidable blindness and promote the rights of people with disabilities.

Come and visit us in the World of Science and Technology and speak to a team member about our new schools engagement programme, supported by Irish Aid.

We can facilitate school visits with our Put Us in the Picture workshop, which aims to engage students about disability inclusion, the Sustainable Development Goals and our work in low and middle-income countries.

You can also find out everything you need to know to support Sightsavers' work from the classroom, including information on our Junior Painter competition and resources for lesson planning.



## W28: Code Club / The Raspberry Pi Foundation

Code Club is a global network of volunteers and educators who run coding clubs for young people aged 9–13. Their mission is to put a Code Club in every community in the world, and to give every child the skills, confidence, and opportunity to change their world.

A core belief of the Code Club movement is that all children should have the opportunity to learn to code, no matter who they are or where they come from. Like CoderDojo, Code Club is part of the Raspberry Pi Foundation. There are currently over 13,000 clubs in over 160 countries, supporting over 180,000 young people learning to code each week.

## SAMSUNG

### W29: Samsung

About Samsung Electronics Co., Ltd.

Samsung inspires the world and shapes the future with transformative ideas and technologies. The company is redefining the worlds of TVs, smartphones, wearable devices, tablets, digital appliances, network systems, and memory, system LSI, foundry and LED solutions.

## RTÉ

### W30: RTÉ

Come visit the RTÉ set for an exciting lineup of activity across television, radio and digital services.

All your favourite RTÉ 2FM shows will be live from our custom radio studio including Jennifer Zamparelli, Tracy Clifford and Chris and Ciara! Lights, camera, action as you get to see live RTÉ Weather bulletins being broadcast. Plus inserts into The Today Show with Maura and Daithi and News2Day from our set.

Why not try your hand, as you Present the Weather! in a real life studio with autocue, blue screen, cameras, the works. Or step into our RTÉ News set, the perfect spot for a selfie. Take a seat in the RTÉ | Samsung VR area as you take a 360 trip behind the scenes in RTÉ.

Don't miss magician Joe Daly as he keeps people entertained. Keep up-to-date with RTÉ on Twitter, Facebook and Instagram.



### W31: Analog Devices

At Analog Devices, we create unmatched technologies and solutions to solve our customers' problems in industrial, communications, automotive, healthcare, consumer, and numerous other industries. Analog Devices converts real-world phenomena into actionable insight, fundamentally impacting how leading companies will change the future. Our solutions play a key role in translating real-world phenomena like motion, sound, light and electromagnetic forces into electronic signals and back again. Innovation has always been a hallmark of Analog Devices, since our inception in 1965. Headquartered in Boston, USA, with 15,000 employees across 23 countries, Analog Devices' has over 42 years presence in Ireland; with our European Research and Development Centre in Limerick and development site in Cork employing over 1,300 people addressing our customers' toughest problems and enabling important new discoveries. Discoveries that help solve some of the most complex and impactful challenges of our time: from detecting gravitational ripples in the fabric of space-time to enabling next-generation autonomous and electric vehicles. Innovations that stem from engineers with a passion and vision to stay ahead of what's possible.

Analog Devices is proud to support the BT Young Scientist & Technology Exhibition and view our support as added encouragement to students in 2nd level education to consider areas in Science and Technology in their future career choices. Irish Engineers working with Analog Devices hold the largest number of US patents in Ireland because we just love to invent and innovate! Our engineering team would like to welcome you to our stand in the Technology Hall where they will open your mind to some fun, interesting and downright weird applications of science and technology in everyday life. Come and test your skills and scientific understanding with some of the demos we have on display this year. Can you escape from the Laser Vault and avoid breaking the laser beams? What's new in our technology corner? Create your own worlds with an interactive topographical map. Don't fall down our infinity well! Experience innovation in action with a trip from Joysticks of the 1980's, to accelerometers in the noughties and the emergence of time of flight cameras today, but most of all visit our stand to stimulate your interest in the amazing world of Science and Technology.



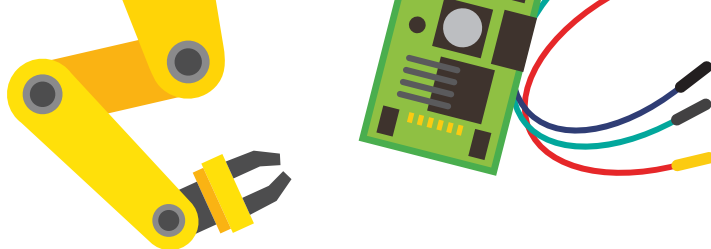
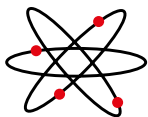
### W32: National College of Ireland

National College of Ireland specialises in computing, business, accountancy, finance, human resources, learning & teaching and psychology. Smaller class sizes and focus on well-being mean that students have a more direct relationship with lecturers. Clubs & Socs make it easy to make friends. First Year students are guaranteed accommodation on-campus in the heart of Dublin's International Financial Services Centre, with its own Luas stop: Mayor Square - NCI.

For 70 years, NCI has been a leading provider of graduates with the skills and knowledge to meet the emerging needs of the Irish economy. The college has strong links with employers and consistently achieves a graduate employment rate of 98%.

Visit our stand now to meet lecturers and students. Learn how NCI can help you build on your BTYST skills and interests to complete an academic qualification or, perhaps, encourage you

# THE WORLD OF SCIENCE & TECHNOLOGY



to commercialise your idea while studying marketing or business in a supportive environment.  
[www.ncirl.ie](http://www.ncirl.ie)



**An Roinn Oideachais  
agus Scileanna**  
Department of  
Education and Skills

## W33: Department of Education and skills

The Department of Education and Skills is a department of the Irish State with responsibility for education and training. The mission of the Department is to facilitate individuals through learning, to achieve their full potential and contribute to Ireland's social, cultural and economic development.



## W34: Alexion

Alexion, founded in 1992 by Steven Squinto and Leonard Bell, is a global biopharmaceutical company focused on serving patients and families affected by rare diseases through the discovery, development and commercialization of life-changing therapies. Alexion employs 2,500 people and serves patients in 50 countries worldwide. The company has pioneered the complex field of complement biology and delivered solutions for patients with devastating complement-mediated and metabolic disorders. As well as their expertise in complement biology and metabolic disorders, they have also made progress in the treatment of diseases within the fields of haematology, nephrology and neurology.



## W35: Engineers Ireland

Engineers are people who design, create, explore and innovate, working to solve some of the world's greatest challenges. Engineers Ireland is a community of creative professionals who deliver solutions for society. We are the progressive and trusted voice of the engineering profession here in Ireland and represent 25,000 members from every discipline of engineering. We support our members' career progression at all stages, from students to senior engineers and CEOs. We have an extensive network of dedicated Regional branches, Engineering divisions and Societies both in Ireland and overseas.

Engineers Ireland ensures that the competence and ethical standards of our profession are world class. We set the standards of engineering education here in Ireland and provide continuing professional development.

Engineers Ireland inspires and encourages future generations of engineers from an early age through our exciting STEPS programme which is funded by Science Foundation Ireland, Dept of Education and Skills and industry sponsors Arup, ESB, Intel and TIL. In particular we would like to see more young women become engineers.



## W36: Irish Science Teachers' Association (ISTA)

The Irish Science Teachers' Association (ISTA), which was founded in 1961, is the subject association for teachers of science in the Republic of Ireland. The Association has branches in Cork, Donegal, Dublin, Galway, Kerry, Kildare, Kilkenny/Carlow, Limerick/Clare, Louth, North Midlands, Sligo, Tipperary, Waterford and Wexford and has a membership of 1200.

The ISTA is dedicated to the professional development of members and to the advancement of science education. The Association works to keep members up to date with subject changes and innovative teaching, learning and assessment methods. ISTA aims to enhance public understanding of science and promotes positive attitudes to science and technology in society.

Each year members receive three issues of 'SCIENCE', the official journal of the association. The journal contains articles of interest to science teachers and helps to keep members informed of developments in science education.

Go to [www.ista.ie](http://www.ista.ie) to learn more or to register.

## IOP Institute of Physics Ireland

### W37: Institute of Physics Ireland

For physics, For physicists, For all

The Institute of Physics Ireland (IOPi) is part of the Institute of Physics, which is a leading scientific society promoting physics and bringing physicists together for the benefit of all.

Join us at the Institute of Physics Ireland stand as we put the fun into fundamental physics! Our enthusiastic volunteers come from sectors such as education, industry and medicine, and they are all eager to share their passion for physics!

Along with exhibits and demos, you won't leave empty-handed as you pick up plenty of physics, study & career resources.

Teachers can also learn more about professional supports and resources available through IOP.

Follow us on twitter @IOP\_Ireland for updates on the latest IOP Ireland events & activities.

[www.iopireland.org](http://www.iopireland.org)



## W38: F1 in Schools Ireland

The F1 in Schools competition challenges students to design, build, analyse and test miniature CO<sub>2</sub> gas powered Formula 1 style cars. The competition encompasses both engineering and enterprise, and encourages students to think outside of the box!

Spanning age ranges of 11 to 19 our main objective is to help change the perceptions of science, technology, engineering and maths by creating a fun and exciting learning environment for young people to develop an informed view about careers in engineering, Formula 1, science, marketing and technology.

F1 in Schools Ltd is a social enterprise working with committed industry partners to provide an exciting yet challenging educational experience through the magnetic appeal of Formula 1. F1 in Schools is the only truly global educational programme that raises awareness of STEM and Formula 1 among students and school children in every region, in every country, on every continent.

See [F1inSchools.ie](http://F1inSchools.ie) for more information.



## W39: Studyclix

StudyClix is Ireland's largest study website and is used by over 150,000 students and more than 90% of teachers. StudyClix breaks all the junior and leaving cert subjects into topics and for each topic gives you past exam questions, marking schemes and videos and sample answers. Come visit us at the StudyClix stand to get discount vouchers and loads of other free stuff. Teachers should also come see us to find out how you can get set up for free and get StudyClix for your class.



## W40: University College Cork

Join UCC Physiology and explore the discipline of physiology! Examine how your cardio-respiratory system responds to exercise. Measure the grip strength of your hand and see if you can join our leader board! Discover how nerves in our body control our muscles by stimulating the ulnar nerve and measuring the force of muscle contraction. Learn how our bodies react to visual and auditory stimuli and measure how fast your reaction times are. Learn of our exciting high altitude expeditions to Everest Base Camp! Interested in fossils and forensics? Become a Fossil Detective and check out our Fossil Crime Scene' interactive games. These showcase the amazing diversity of Irish fossils, immerse you in how they lived, and introduce you to the more gruesome mysteries of how they met their doom. Our hands-on activities link maths, biology, chemistry and physics through the themes of 3D spatial skills, climate change, and biochemistry plus you can see our real X-ray analyser in action!



## W41: Maynooth University

Maynooth University has provided generations of students with an excellent university education, which has touched and changed the lives of each one and has enabled and empowered remarkable achievements. Building on our proud past, we are constantly adapting what and how we teach to better equip you for the many opportunities and challenges you will encounter in your life and in your career.

By studying Science or Engineering at Maynooth, you are joining a research tradition that can trace its roots to the first professors of the Royal College of St Patrick, founded in 1795. The Faculty of Science and Engineering at Maynooth University comprises the Departments of Biology, Chemistry, Computer Science, Electronic Engineering, Experimental Physics, Theoretical Physics, Mathematics and Statistics, and Psychology.



The Maynooth University curriculum, offers you many opportunities to personalise your degree programme throughout your time with us; we have introduced more subject choice than ever before including a dedicated first year Critical Skills subject, flexible programme pathways and the opportunity to take an Elective and Experiential Learning opportunities to enhance your degree.



#### W42: DCU Faculty of Science and Health

The DCU Faculty of Science and Health is a large and diverse faculty with a mission to foster and deliver education, research and professional and practice development in science and health that is of national and international significance. The Faculty is an internationally recognised centre of excellence in scientific innovation and health transformation.

E: [science@dcu.ie](mailto:science@dcu.ie) W: [www.dcu.ie](http://www.dcu.ie)



#### W43: National University of Galway

Celebrating 175 years of excellence, the National University of Ireland Galway exhibition will feature demonstrations by our world-leading researchers in the areas of Brain Science and Neuroscience, Animal Ecology, Chemistry and Data Informatics. Our Cell Explorers team will lead visitors in live DNA extraction demonstrations. We will have ambassadors on hand to chat with you on how you can train as a scientist by studying for a Bachelor of Science at NUI Galway. And, we'll have a virtual reality tour of our labs – you can sit in our VIP chair, don our special VR goggles and headset, and be transported to our cancer biology, marine biodiversity, and laser physics labs.



#### W44: University of Limerick

UL's ([www.ul.ie](http://www.ul.ie)) stand provides you the opportunity to experience interactive activities in Biology, Chemistry, Physics, Mathematics, Engineering, Electronics, Equine Science, Architecture, Design, Computer Science, Gaming and much more. The Faculty of Science and Engineering ([www.scieng.ul.ie](http://www.scieng.ul.ie)) offers teaching and research programmes in a wide range of industry relevant scientific and engineering disciplines. All UG programmes include periods of co-operative, industrial or teaching experiences. Its world-leading research translates into practice and the academic programmes offer unique & sustainable careers. If you are interested in studying artificial intelligence, the pursuit of renewable energy technologies or the development of innovative company solutions find out more about the opportunities available at our stand.



#### W45: Centre for Talented Youth Ireland

CTY Ireland (CTYI) at DCU works with high ability children aged 6 to 16. CTYI offers fast paced university style courses for academically talented students from all over Ireland and overseas. Since its establishment in 1993 some 50,000 students have participated in classes run by CTYI including over 6,500 students in 2019. The aim is to allow all talented students to reach their potential both academically and socially by providing relevant and interesting courses based on ability and interest rather than age. High ability students can have problems at school as the curriculum is often not challenging enough for them. This can lead to frustration and underachievement. At CTYI the courses are more geared to their needs and are based on a university curriculum. Staple courses include Medicine, Law, Forensic Science, Imaginative Writing, Exploring Engineering, and App Design, while more specialised courses include Board Game Design, Aeronautical Engineering, Japanese Language & Culture, Nanoscience, Neuroscience, and Model UN.



#### W46: The Marie Keating Foundation

Following the death of their mother, Marie, in 1998, the Keating family promised that they would do everything they could to bring an end to cancer. They are committed to provide families with the necessary information to prevent cancer or detect it at its earliest stages. Through its community information service, the Foundation's dedicated nurses have spoken to over 235,000 people about the causes and risk factors of cancer. The Foundation also raises awareness of the most common cancers affecting both men and women in Ireland through

national campaigns. Through its Comfort Fund, the Marie Keating Foundation provides financial assistance to people who are receiving treatment for any kind of cancer and who find themselves in financial difficulty as a result. In 2017 to date over 486 families received assistance from the Comfort Fund. The Foundation also supports cancer survivors through its free Survive & Thrive programmes which are held for men and women nationwide.

#### connecting women in technology

##### W47: CWIT

Connecting Women in Technology (CWIT) is a voluntary network for women with the vision to harness the power of the collective voice of the technology industry in Ireland to raise the profile of the women in technology sector in order to attract more females into careers in technology and provide opportunities to retain and promote those already working in technology sector. CWIT was founded by Accenture, Dell and Microsoft in 2011, and has now grown to 18 member companies, including; BT, Dropbox, Eir, Ericsson, EY, Facebook, Google, Hewlett Packard Enterprise, IBM, Intel, LinkedIn, Twitter, Virgin Media, Vodafone and Xilinx.



##### W48: Coláiste Uisce

Colaiste UISCE is a unique activity based Irish Language College and Adventure Centre situated in the heart of Gaeltacht Iorras, where the teaching adventure and water sports. Learning Irish is Fun is our motto at Colaiste UISCE. We now have over 24 years experience in providing safe, educational and enjoyable Irish and Adventure courses. The teaching of Irish through the thrilling medium of adventure sports helps students develop a positive attitude towards learning Irish. We believe that creating a positive environment to learn the language is the most important step towards learning the language. Students from Colaiste UISCE not only return from the Gaeltacht speaking Irish with increased ease but they will also have a greater understanding of the language as a result of our practical approach to teaching the language of Irish is intertwined with the enjoyable experience of modern exhilarating.



##### W49: EU Commission

There's so much to see and do at the European Union stand this year!

Explore our giant interactive wall to learn about the UN Sustainable Development Goals. We want to hear your ideas on how Europe can tackle climate change and help protect our environment.

Sustainable #EUandME promotional items will be available for all visitors to the Wall.

What do you know about Europe? Can you identify the rivers, mountains, and cities of Europe? At the EU stand you can test your knowledge about the EU with the "Discovering Europe" interactive game and meet our expert in science.

Learn about the new European Parliament and its elected Irish Members. Maybe your face will be on a European Parliament poster one day soon.

Free resources about the European Union will be available for visitors and we are on hand to answer any queries you may have about Europe.

So why not join us at the European Union Stand for lots of fun, you won't regret it.

**Contact us: The European Commission Representation in Ireland Tel: 01 6341 111**

**Website: [www.eurireland.ie](http://www.eurireland.ie) Facebook: @EUIreland Twitter: @eurireland #EUIrl**



##### W50: Limerick for Engineering

The **Limerick for Engineering** group is an industry led initiative which has support of the education and training providers in the region.

The primary goal of **Limerick for Engineering** is to increase the quality and quantity of engineering talent (apprentice, technicians and engineers) available in the region.

Our primary method to deliver this goal is our annual engineering showcase on **Thursday March 5th, 2020 @ 5.30pm - 8.30pm, Shannon Airport Departures Hall (Free Parking).**



## E01: Geological Survey Ireland

**What's underneath Ireland's sea bed? How do I know if I've struck gold? What makes the ground shake during an earthquake? Where is the oil and gas offshore Ireland?**

The Geological Survey Ireland stand is here to help you discover the world beneath our feet. Let us show you the tools and techniques that Ireland's geoscientists use to investigate the secrets that lie under the earth's surface and how they affect our daily lives! Our stand is brought to you by the Geological Survey Ireland and the Petroleum Affairs Division, both divisions of the Department of Communications, Climate Action and Environment. We are proudly joined by our partners from the Dublin Institute for Advanced Studies and the National Museum of Ireland.



## E02: An Garda Síochána

### The Garda Road Safety Unit

The Road Safety Unit's overall aim is the reduction of road deaths and serious injuries and the improvement of road safety generally. The Unit, based in the Garda National Roads Policing Bureau and established in 2001, delivers presentations on Road Safety to a number of groups in the community including:-

- Schools and colleges
- Youth Clubs
- Local organisations
- Industry groups

The Unit's presentation, It won't happen to me, is mainly delivered to Transition Year students but can be adapted to cater for all audiences. It is a standalone road safety presentation covering all the road safety ingredients including speed, alcohol, seatbelts, fatigue, distractions and consequences. It is delivered in a shock/humorous manner and is designed to change attitudes and behaviour.

The Unit also provides Road safety information in the "Traffic Watch" segment of the Crimercall programme and at major public exhibitions such as The Young Scientist Exhibition, The National Ploughing Championships, The Tullamore Show and a variety of car and motorcycle shows.



Rialtas na hÉireann  
Government of Ireland

## E03: ObSERVE

ObSERVE is a marine scientific programme established by the Government of Ireland which aims to greatly improve our knowledge and understanding of protected offshore species and sensitive habitats through high quality, state-of-the-art data collection across Irish Waters.

Phase 1 of the ObSERVE Programme used two different research methods: one of which was by using an aerial method where a group of trained observers recorded sightings of aquatic species and seabirds over Irish waters from a specially modified aircraft. The second was an acoustic method, where bespoke underwater listening devices were placed deep in the ocean to record noises from marine species such as whales dolphins and porpoises, some rarely seen above the ocean surface. These methodologies have provided new insights regarding the occurrence, distribution, abundance and migration habits of important species in Irish Waters, including the recording of 20 different species of cetacean (ie Whales, Dolphins & porpoises), as well as sightings of 24 different species of seabirds.

Planning for Phase 2 is underway and will build on this body of research, while incorporating new innovative technologies to further expand our knowledge of areas of higher ecological importance, for vulnerable species.



An Roinn Cultúir,  
Oidhreacht agus Gaeltachta  
Department of Culture,  
Heritage and the Gaeltacht

## E04: The National Parks & Wildlife Service

The National Parks and Wildlife Service is part of the Dept. of Culture, Heritage and the Gaeltacht, and has responsibility for the protection and conservation of Ireland's natural heritage and biodiversity at national government level. Our stand in the EcoZone will have exhibits, information and other materials available, plus a chance to meet our staff to discuss activities and school programmes available within the NPWS.

### Education & visitor centres

The NPWS Education & Visitor Centres around the country offer various activities and learning opportunities for teachers and students alike. Our Education Officers have designed school programmes aimed at promoting awareness of, knowledge and an appreciation of our biodiversity.

## NBAP

Our recently published National Biodiversity Action Plan 2017-2021 is to bring biodiversity concerns into the mainstream and to foster an increased awareness of biodiversity across all sectors of society.

Further information on all of the above is available on [www.npws.ie](http://www.npws.ie)



## E05: Environmental Protection Agency

The Environmental Protection Agency is at the front line of environmental protection and policing. We ensure that Ireland's environment is protected from the harmful effects of radiation and pollution. We also monitor changes in environmental trends to detect early warning signs of neglect or deterioration.

We have a wide range of functions to protect the environment, and our primary responsibilities include:

- Environmental licensing
- Enforcement of environmental law
- Environmental planning, education and guidance
- Monitoring, analysing and reporting on the environment
- Regulating Ireland's greenhouse gas emissions
- Environmental research development
- Strategic environmental assessment
- Waste management
- Radiological protection

Part of our role is to monitor water quality of rivers and lakes in Ireland. Visit our stand to find out more about our hovercraft helps us to complete this role. Find out more about 'The Story of Your Stuff' competition, and our citizen science Globe air quality initiative.



Self Help  
Africa

## E06: Self Help Africa

Self Help Africa is a leading international development charity with an expertise in small-scale farming and growing family-farm businesses. Self Help Africa currently works in eight core African countries, tackling poverty and improving the lives of local communities. The organisation works both with its own African staff, and through local partners to undertake a range of integrated development programmes amongst rural communities.

Irish Aid is the Irish Government's programme for overseas development. The programme is managed by the Development Co-operation Division of the Department of Foreign Affairs and Trade. The aim of their aid programme is to reduce poverty, hunger and humanitarian need, with a particular focus on sub-Saharan Africa and Vietnam. By supporting long term development and providing humanitarian assistance in over eighty countries, on behalf of the Irish people, they are helping to build better futures for some of the world's poorest communities.



YOUNG SCIENTISTS  
TANZANIA



YOUNG SCIENTISTS  
KENYA



## E07: Young Scientists Tanzania, Young Scientists Kenya, YS UAE

The BT Young Scientist and Technology Exhibition is the main activity of a charitable trust, Young Scientist & Technology of the Year Limited. The trust has worked with some important entities outside and has granted licensing arrangements to stakeholders in Tanzania, Kenya and the United Arab Emirates to allow them to operate the Young Scientist model in these countries. The first Young Scientist Tanzania took place in 2012, in 2018 Kenya held their first Young Scientist and in a few short weeks the United Arab Emirates version of the exhibition takes place. Please see page 43 for more details.



An Roinn Talmhaíochta,  
Bia agus Mara  
Department of Agriculture,  
Food and the Marine

## E08: Department of Agriculture, Food and the Marine

The mission of the Department of Agriculture, Food and the Marine is to serve the government and people of Ireland by leading, developing and regulating the agri-food sector, protecting public health and optimising social, economic and environmental benefits. The work of the Department's Laboratories Service is a key component of the organisation with regard to the provision of scientific advice, ensuring the safety of Irish food and safeguarding public, animal and plant health.

Science plays a vital role in underpinning policy making within DAFM and we are delighted to sponsor an award to encourage and recognise the contribution of young scientists.



### E09: Dublin Zoo

#### Dublin Zoo.... Learn something new!

Dublin Zoo, home to some 400 animals, is an environment where education and conservation combine for an exciting and unforgettable visitor experience. Dublin Zoo's new state-of-the-art Discovery and Learning Centre offers a range of exciting, interactive and structured educational programmes, workshops and resources, tailored to meet the specific needs of all groups.

Our school programmes and primary outreach sessions are designed to support the curriculum while capturing the curiosity of your students in a stimulating environment.

Meet our Discovery and Learning Team for lots of fun and learning including biofacts, details about careers with animals and the chance to enter an exciting competition to win a class trip to Dublin Zoo!

For more information on our education programmes call (01) 474 8932, email [education@dublinzoo.ie](mailto:education@dublinzoo.ie) or visit [www.dublinzoo.ie](http://www.dublinzoo.ie)



### E10: Petroleum Infrastructure Programme (PIP)

The Petroleum Infrastructure Programme ([www.pip.ie](http://www.pip.ie)) funds applied, and demand led, research to facilitate Ireland's energy transition. A key objective of the programme is to strengthen Irish research capacity.

The objective of our participation in the BT Young Scientist and Technology Exhibition is to demonstrate how indigenous natural gas will support the integration of renewables into a near-zero carbon energy system.

We will be promoting the exciting activities and career opportunities in earth science, in particular in earth science research, that are essential to achieving the target set in the Climate Action Plan 2019 of 70% electricity generation from renewable sources by 2030.

At our stand you will find rock samples, teaching notes and student exercises, plate tectonic animations and inspiration for student projects.

Young earth science graduates will be on the stand to explain why they studied geology and how indigenous natural gas is part of the solution to Ireland's transition to a near-zero carbon renewable energy system.



### E11: Order of Malta

The Order of Malta Ambulance Corps is a voluntary ambulance and first aid organisation with over 4,000 volunteers involved in over 80 units across the Island of Ireland. We are a major provider of excellence in first aid training, ambulance cover at large events, patient transport, community care, nursing services and assistance to other charities in most of the major cities and towns across the island of Ireland. Caring for the community The Ambulance Corps is committed to providing caring services in a Christian, caring and non-discriminatory manner, to 'Our Lords, the Poor and the Sick'. Order of Malta Ambulance Corps, providing excellent standards of first aid training, community care facilities and services, delivered by people who care, with quality assured standards of training. We operate over 165 ambulances, rapid response 4's, mobile accident and emergency suites, support vehicles, medical bikes and command centres. Our headquarters also houses a command and control centre to coordinate vehicles and personnel in the event of a major incident. We are an entirely voluntary organisation and we receive no state funding. Should you have any queries or would be interested in joining us, come along and visit us at our stand.



### E12: Greencoat Renewables PLC

Greencoat Renewables PLC is an investor in euro-denominated renewable energy infrastructure assets. Governed by a strong and experienced independent board, it is focused on the acquisition and management of operating wind farms in Ireland and other targeted European jurisdictions. It is managed by an experienced team at Greencoat Capital LLP, a leading European renewable investment manager with over €5 billion of assets under management across a number of funds in wind, solar and bioenergy infrastructure.



### Irish Aid

Rialtas na hÉireann  
Government of Ireland

### E13: Irish Aid, Government of Ireland

Irish Aid, at the Department of Foreign Affairs and Trade, is the official development assistance programme of the Irish Government, and a leader in the fight against world hunger and poverty. Ireland makes a difference in around 130 countries each year, changing people's lives for the better by focusing on gender equality, climate resilience, reducing humanitarian need and strengthening governance. Come and visit us in the Ecozone to learn about our focus countries and find out more about the Sustainable Development Goals – the world's vision for a better future. At the Irish Aid stand you can win prizes by taking part in our quiz and learn about entering the Science for Development Award and the Our World Irish Aid Awards. Regular workshops featuring the Go Goals game and regional drumming will take place. There will be information for teachers on how school groups can follow up on what they learn and get involved with Irish Aid.



Irish Coast Guard  
GARDA COSTA na hÉIREANN

### E14: Irish Coast Guard

The Irish Coast Guard provides a nationwide maritime emergency organisation as well as a variety of services to shipping and other government agencies.



### E15: 112 ECAS

Imagine you are visiting an EU country or even at home and you need to contact, the police, ambulance, the fire brigade or the coastguard. Would you know which emergency number to call?

By being prepared for calling the emergency services, you can get the help you need much more quickly. This can often make a big difference. Parents should also teach their children about when and how to call for help. In Ireland we have two emergency numbers, 999 and 112. Regardless of which number you call in Ireland, there will be no difference and the call will be handled in the same manner.

As Europeans are increasingly travelling for business or leisure, millions of people could find themselves needing help from an Emergency Service. Fortunately, there is no need to look up and remember the emergency numbers for each EU country you are visiting. Just remember 112!

112 is your pan-European number to access the Emergency Services whilst travelling within the EU. 112 works in all EU countries and from any phone, free of charge. If a family member or friend is travelling within the EU soon, check that they know what number to call in case of any emergency. During the stress of an accident, it could prove vital. Further information regarding the background to the 112 number can be found at [112.ie](http://112.ie).

**Remember when calling 112 (or 999), 'stay calm, stay focused and stay on the line'**



### The Road Safety Authority

#### Our mission

The aim of the Road Safety Authority is to save lives and prevent injuries by reducing the number and severity of collisions on the road.

#### Objectives

Providing a safe environment for all road users and promoting the efficient use of our road network are our twin aims.

#### Key functions

The RSA works to improve road safety in Ireland by:

- Developing and implementing information and education campaigns to increase awareness of road safety and promote safer driving
- Improving vehicle standards
- Establishing and monitoring a standard for driver instruction
- Overseeing the system of driver licensing and undertaking certain enforcement activities
- Working with stakeholders to ensure a coordinated response and ensure our collective resources are used wisely and efficiently
- Undertaking accident and road safety research in order to develop measures and recommendations to improve road safety
- Advising the Minister.



# DRIVEN BY I



**1965**

John Monahan



**1966**

Máire Caitríona Ní Dhomhnaill / Mary Finn



**1967**

Walter Hayes R.I.P.



**1968**

George Andrew Reynolds



**1969**

Luke Drury



**1975**

Noel Boyle



**1976**

Mary Kelly-Quinn



**1977**

Micheal Og O'Briain



**1978**

Donald P McDonnell



**1979**

Jervis Good



**1980**

Karen Ruddock



**1987**

Emma Donnellan,  
Henry Byrne



**1988**

Siobhan Lanigan  
O'Keeffe



**1989**

Grace O'Connor,  
Sinead Finn



**1990**

Anna Minchin-Dalton



**1991**

Barry O'Doherty,  
Daniel Dundas



**1992**

Elizabeth Dowling,  
Jean Byrne R.I.P.



**1999**

Sarah Flannery



**2000**

Thomas Gernon



**2001**

Shane Browne,  
Peter Taylor,  
Michael O'Toole



**2002**

David Michael  
O'Doherty



**2003**

Adnan Osmani



**2009**

John D. O'Callaghan,  
Liam McCarthy



**2010**

Richard O'Shea



**2011**

Alexander Amini



**2012**

Eric Doyle,  
Mark Kelly



**2013**

Ciara Judge,  
Emer Hickey,  
Sophie Healy-Thow



**2014**

Paul Clarke

# INNOVATION



**1970**

Maria Edgeworth



**1971**

Peter Short



**1972**

Seán Mac Fheorais



**1973**

Tadgh Begley



**1974**

Richard Elliott



**1981**

Catherine Conlon



**1982**

Martynn Sheehan



**1983**

William Murphy,  
Gareth Clarke,  
Turan Mirza



**1984**

Eoin Walsh



**1985**

Ronan McNulty



**1986**

Breda Maguire,  
Niamh Mulvaney



**1993**

Donal Keane,  
Rodger Toner



**1994**

Jane Feehan



**1995**

Brian Fitzpatrick,  
Shane Markey



**1996**

Elsie O'Sullivan,  
Rowena Mooney,  
Patricia Lyle



**1997**

Ciara McGoldrick,  
Emma McQuillan,  
Fiona Fraser



**1998**

Raphael Hurley



**2004**

Ronan Larkin



**2005**

Patrick Collison



**2006**

Aisling Judge



**2007**

Abdusalam Abubakar



**2008**

Emer Jones



**2015**

Ian O'Sullivan,  
Eimear Murphy



**2016**

Diana Bura,  
Maria Louise Fufezan



**2017**

Shane Curran



**2018**

Simon Meehan



**2019**

Adam Kelly



**2020**

Winner announced  
Friday 10th January

# THE PRIMARY SCIENCE FAIR AT THE BT YOUNG SCIENTIST & TECHNOLOGY EXHIBITION



## ABOUT THE FAIR

The Primary Science Fair has been an integral part of the BT Young Scientist and Technology Exhibition since it was developed in conjunction with the Department of Education and Skills in the early 2000's. Primary school pupils study science as part of the Primary School Curriculum as one of three subjects in the area of Social, Environmental and Scientific Education (SESE) and it is students in 3rd – 6th class that are taking part in The Primary Science Fair 2020. The curriculum provides excellent opportunities for primary school pupils to explore, investigate and develop an understanding of the natural, human, social and cultural dimensions of local and wider environments; to learn and practice a wide range of skills; and to acquire open, critical and responsible attitudes and these are what these projects are about. We see The Primary Science Fair as a starting point for pupils to get involved in science and hopefully become the participants

of the future in the BT Young Scientist and Technology Exhibition.

The BT Young Scientist and Technology Exhibition is the main activity of a charitable trust Young Scientist & Technology of the Year Limited and The Primary Science Fair is run alongside the BTYTE by BT on behalf of this trust. The trust also works by way of licensing arrangements with stakeholders in Tanzania, Kenya and the United Arab Emirates to allow them to operate the Young Scientist model in these countries.

We would like to thank our judges for The Primary Science Fair who are all previous winners of the BT Young Scientist & Technology Exhibition.

**The Primary Science Fair 2021 will be launched alongside the BTYTE in the next few months and entries will be submitted in September.**



## THURSDAY 9TH OF JANUARY

What's the story Bull Island?

**Bayside SNS**

Co. Dublin

A natural way to beat bad breath

**Brannoxtown Community National School**

Co. Kildare

Our Energy Efficient School of the Future!

**Castleblakeney National School**

Co. Galway

Plastic in our local environment

**Gaelscoil Dr Uí Shilleabháin**

Co. Chorcaí

GreenEire

**Gaelscoil Mhichíl Ó Choileáin**

Co. Chorcaí

Which cup keeps my teachers coffee warmer for longer?

**Knockrooskey National School**

Co. Mayo

Do you see what I see?

**Moyderwell Mercy Primary**

Co. Kerry

Which fruit is the best battery source?

**Ravenswell Primary School**

Co. Wicklow

That's just Granny: Primary school 5th and 6th class pupils experience of, knowledge and attitudes to persons with dementia.

**Réalt na Mara**

Co. Sligo

Does practice make perfect?

**Rush and Lusk Educate Together**

Co. Dublin

Designer Waters: Are bottled waters worth it?

**Rush and Lusk Educate Together**

Co. Dublin

Fitness Trackers

**Scoil Raifteirí**

Co. Mayo

Green Electricity

**Scoil Treasa**

Co. Dublin

Understanding and improving Energy Efficiency

**St Brigid's Primary School**

Co. Kildare

Feed the Birds

**St Colman's National School, Ballindaggin**

Co. Wexford

Keeping the heat in & the noise out.

**St. Senan's National School**

Co. Waterford

What do seeds need to grow?

**St. Brigids Primary School Kildare Town**

Co. Kildare

The effect of Carbon Dioxide on our lakes/rivers and their inhabitants

**St. Brigids Primary School Kildare Town**

Co. Kildare

Growing smelly grass

**Timoleague National School**

Co. Cork

Does gender, eye shape or colour affect m'eye peripheral vision?

**Tubber National School**

Co. Westmeath

## FRIDAY 10TH OF JANUARY

Mindfulness in the Classroom - Can it Improve our Focus?

**Bunscoil Loreto Gorey**

Co. Wexford

Water and Fruit v Sugary Drinks and Snacks. Who will win?

**Bunscoil Loreto Gorey**

Co. Wexford

Exercise and its effect on children's memory

**Bunscoil Loreto Gorey**

Co. Wexford

Is Ferris Wheel-y Physics?

**Kill O' The Grange N.S.**

Co. Dublin

Sticky stuff - Can we produce a glue to rival commercial products?

**Kilcommon National School**

Co. Wicklow

Do Colours affect your mood?

**Loreto Primary School Dalkey**

Co. Dublin

Why is Lyme Disease increasing in Ireland and could better education in Primary Schools help to prevent it?

**Rathcormac National School**

Co. Sligo

Why is the sky blue?

**Saint Francis Xavier**

Dublin 15

Bug Business

**Scoil Cnoc na Manach**

Co. Cork

Can plants grow in polluted soil?

**Scoil Naisiunta Colmcill Naofa**

Co. Kildare

## FRIDAY 10TH OF JANUARY (CONTINUED)

Garu Bog –An interesting place!

**Scoil Naisiunta Moin Ruadh**

Co. Kilkenny

Why are plankton glowing in the dark?

**Scoil Naomh Bríd, Ballyconnell**

Co. Cavan

Fuel From Waste

**Scoil Naomh Fionán na Reanna**

Co. Cork

What does carbon footprint mean?

**Scoil San Treasa, Mount Merrion**

Co. Dublin

STEM to Stories: A Journey to Mars

**St. Bernadette's Senior School**

Dublin 22

How does heart rate change with exercise and does wearing a fitness tracker actually make us fitter?

**St. Mary's National School**

Co. Westmeath

It's Not Fact It's Friction.

**St. Michael's College Junior School**

Dublin 4

How can you slow down the speed of a falling object?

**St. Michael's College Junior School**

Dublin 4

Float my Boat

**St. Brigid's National School Castleknock**

Dublin 15

The No Wire Dryer

**Willow Park School**

Co. Dublin

## SATURDAY 11TH OF JANUARY

Text on Screen or Text on Paper: Which is Easier to Remember?

**Clooneyquinn National School**

Co. Roscommon

Know your Fruits

**Holy Trinity National School**

Dublin 18

How healthy are our Healthy Food Snacks?

**Nurtures Best Afterschool Service**

Co. Roscommon

Can the Colour of Food Affect How We Think It Tastes?

**Primrose Hill National School**

Co. Kildare

Gravity

**Scoil Bhríde**

Dublin 6

Permanent magnet motor possibilities

**Scoil Bhríde Milltown**

Co. Kildare

Cé mhéad rudaí gur féidir a dhéanamh le hubh?

**Scoil Chaoimhín**

Co. Dublin

Does music help you study? The effect of listening to music on concentration levels

**Scoil Choilm Community National School**

Dublin 15

Áirí feasach ar an tslí a chothaíonn bia sinn d'fhonn roghanna níos folláine a dhéanamh

**Scoil na Leanaí**

Co. Phortláirge

What a waste?

**Scoil San Treasa, Mount Merrion**

Co. Dublin

Is paper maché as strong as concrete?

**St Fintan's National School**

Dublin 13

Yellow Submarine

**St Saviour's National School**

Co. Wicklow

Is there such thing as a Sweet Tooth?

**Willow Park School**

Co. Dublin

## FOR FURTHER INFORMATION

please visit

[btyoungscientist.com/the-primary-science-fair-at-btyste](http://btyoungscientist.com/the-primary-science-fair-at-btyste)

email

[primarysciencefair@bt.com](mailto:primarysciencefair@bt.com)

or telephone

1800 924 362





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Visit us at [www.perrigo.com](http://www.perrigo.com)

# BT YS Business Bootcamp

## Programme for students



in association  
with UCD Innovate



**Check out the videos from the  
BT YS Business Bootcamp 2019  
participants**

<https://www.youtube.com/user/BTYoungScientists/videos>

A number of the exhibiting intermediate and senior students from the 2020 BT Young Scientist & Technology Exhibition will be invited to take part in a BT Young Scientist Business Bootcamp in February/ March next year where they will experience the world of technology commercialisation and entrepreneurship.

We have created this programme to encourage further innovation by our young scientists and provide them with commercialisation skills to carry forward into their careers and lives. The bootcamp will be held at University College Dublin (UCD).



### **Best Individual 2019**

Anna O'Connor with Shay Walsh, MD BT



## Expanding Business Leadership

As an extension of the BT Young Scientist & Technology Exhibition, the BT Young Scientist Business Bootcamp has enabled BT to take a national leadership role in economic development. BT is collaborating with key private and public sector organisations to create an opportunity to mentor the next generation of Irish innovators and entrepreneurs.

## Igniting Entrepreneurial Spirit

We at BT believe that the BT Young Scientist Business Bootcamp helps to bridge the gap between the worlds of education and business and mentor the next generation of young innovators and entrepreneurs.

”

The Bootcamp experience has been life changing. I feel it has really opened up doors for me in regards to career options, developing my project and communicating better with people. I have met and heard from some amazing and inspiring people and I feel I have become more creative and innovative in the way I think.



### Winners of the Best Group Award

**Danila Fedotov, Jennifer McCarthy, Michael Kirby, Roisin O'Connor, Jack O'Connor**

“Helping Hemp Heal: The Design of a Nano-Formulation to increase the absorption of Cannabidiol in the Gastro-intestinal Tract”

# Events schedule

Thursday 9th January



	BT ARENA	WORLD OF ROBOTS	CONCERT HALL	CLYDE ROOM FOYER
08:45	Physics of breakdancing			
09:00				
09:45				
10:00			Space debris and cosmic catastrophes 3D	Drumming Workshop
10:15	Airmazing: engineering the future			
10:30		Robo Riots by Mechatrons		
10:45				
11:00			Space debris and cosmic catastrophes 3D	Drumming Workshop
11:15	Morgan & West: Unbelievable Science			
11:30		Robo Riots by Mechatrons		
11:45				
12:00				Drumming Workshop
12:15	Physics of breakdancing		Space debris and cosmic catastrophes 3D	
12:30		Robo Riots by Mechatrons		
12:45				
13:00	Airmazing: engineering the future			
13:15		Robo Riots by Mechatrons	Space debris and cosmic catastrophes 3D	
13:30				
13:45	Morgan & West: Unbelievable Science			
14:00		Robo Riots by Mechatrons		Drumming Workshop
14:15				
14:30	Physics of breakdancing		Space debris and cosmic catastrophes 3D	
14:45		Robo Riots by Mechatrons		
15:00				Drumming Workshop
15:15				
15:30	Morgan & West: Unbelievable Science			
15:45				
16:00		Robo Riots by Mechatrons	RTÉ Climate	Drumming Workshop
16:15	Airmazing: engineering the future			
16:30				

# Events schedule

Friday 10th January



	BT ARENA	WORLD OF ROBOTS	CONCERT HALL	CLYDE ROOM FOYER
08:45	Physics of breakdancing			
09:00				
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15:00	Morgan & West: Unbelievable Science			Drumming Workshop
15:15				
15:30			Space debris and cosmic catastrophes 3D	
15:45				
16:00	Airmazing: engineering the future			Drumming Workshop
16:15		Robo Riots by Mechatrons		
16:30				

# Events schedule

Saturday 11th January



	BT ARENA	WORLD OF ROBOTS	CONCERT HALL	CLYDE ROOM FOYER
08:45				
<b>09:00</b>	Physics of breakdancing			
09:45				
<b>10:00</b>			Space debris and cosmic catastrophes 3D	Drumming Workshop
10:15	Airmazing: engineering the future			
10:30		Robo Riots by Mechatrons		
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12:45				
<b>13:00</b>	Airmazing: engineering the future			
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15:15				
15:30				
15:45	Morgan & West: Unbelievable Science			
<b>16:00</b>		Robo Riots by Mechatrons		Drumming Workshop
16:15				
16:30	Airmazing: engineering the future			

# BT Ireland & the Young Scientist Exhibition – A 20 year journey



2001

BT became the sponsor and organiser

Technology category introduced

2005

**Patrick Collison** from Castletroy College, Castletroy, Co. Limerick

He co-founded Stripe in 2009.

2002

First year of The Primary Science Fair

2008

The 2008 winner **Emer Jones** from Tralee is the current youngest winner at 13 years old.

2007

**Abdusalam Abubakar** won the title in January 2007 and won the European Young Scientist in Valencia, Spain

2010

First BT Business Bootcamp

2014

50th Anniversary of the Young Scientist & Technology Exhibition

2012

The first Young Scientist Tanzania

2013

The 2013 winners, **Emer Hickey, Sophie Healy-Thow & Ciara Judge** went on to win EUCYS and Google science Fair

2015

Commemorative stamp is issued by An Post

2018

The first Young Scientist Kenya.  
2018 EUCYS in Dublin

2019

The National Science Technology & Innovation Festival UAE

2019

Adam Kelly is the 55th BTYSTE winner and Ireland's 15th winner of EUCYS

2020

BT celebrates 20th year as proud organiser and sponsor



BT is one of the **world's leading providers of communications services and solutions**, serving customers in 180 countries. Every day, we touch the lives of thousands of people on the island of Ireland, helping them communicate, collaborate, and be entertained and informed.

## Innovation

At BT, we can trace our roots back to the very first communications company, the Electric Telegraph Company, founded in 1846.

For more than 170 years, technologies pioneered by BT have truly built the modern world, and in that time, we've never stopped innovating.

In 1984 our research team perfected the use of single mode optical fibre. Today this technology plays a role at the heart of all global networks, including our own – a network that reaches customers in more than 180 countries. Now, we've over 14,000 scientists and technologists working for us around the world, and have invested €2.8 million in research and development in the past five years.

BT's global presence means that we innovate globally too. Our worldwide scouting network, combined with strong relationships with leading universities, allows us to find the best innovations from across the globe, blend them with our own capabilities and in-house research, and create new possibilities for our customers.

That's why we are so proud to organise the BT Young Scientist & Technology, for 20 years, to increase youth engagement in science and technology, and give them a platform to showcase their innovative ideas nationally and internationally.

## BT in Ireland

BT Ireland is the trusted provider to some of the world's biggest multi-national corporations and indigenous exporters. Our job is to help them solve and manage their complex communication needs using our global network. Every day, we process millions of transactions through our state-of-the-art data centres, develop agile contact centres, pre-empt and solve emerging cyber threats, build networks for other communications companies and more. We also serve major public sector organisations, operating the 999/112 emergency call answering service on behalf of the Irish state.

## Sustainability in BT

Our purpose is to use the power of communications to make a better world, by connecting people and society, protecting the environment, maintaining a healthy, progressive workplace and by using our skills and resources to benefit good causes throughout our communities.

Last year, BT Ireland employees spent more than 12,700 hours volunteering across the island of Ireland. Our annual BT Shop for Change campaign has raised over €610,000 for the Irish Cancer Society in the last six years. In November 2018, BT Ireland was awarded the Business Working Responsibly Mark, the official standard of excellence for sustainability and corporate social responsibility. We have also been recognised as one of Ireland's Healthiest Places to Work.

We are committed to supporting the local communities in which we live and work through education, digital inclusion, charity fundraising and volunteering.

## Northern Ireland

BT is one of the largest private sector employers in the province. We are leading the way in delivering exciting new services to our customers – everything from TV to high speed fibre broadband to IT services for some of the largest organisations in the market.

Find out more at:

**[btireland.com](http://btireland.com)** and **[btyoungscientist.com](http://btyoungscientist.com)**



**Be There**