BT YOUNG SCIENTIST & TECHNOLOGY Exhibition

EXHIBITION GUIDE
9 - 11 JANUARY 2020

BT – Celebrating 20 years as sponsor and organiser
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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 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...

Download on the App Store  GET IT ON Google Play
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 thought 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.

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:

An Roinn Oideachais agus Scileanna
Department of Education and Skills

RTE
Department of Education
www.deni.gov.uk
An Roinn Oideachais
Mannystrie O Lear
Perrigo
Quality, Affordable Self-Care Products™

abp
Food Group

*unque forskere

Lilly

Commission for Communications Regulation

An Roinn Talmhaíochta, Bia agus Mara
Department of Agriculture, Food and the Marine

An Roinn Talmhaíochta
Tithoicthe
The Housing Agency

HRB
An Íobadh Náisiúnta Sáiseachtare Sháileoga
HRB

HEAnet
Ireland’s National Education & Research Network

An Foras Talúntais
Irish Exports

An Foras Talúntais
Irish Exports

Greencore Renewables
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.

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.

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

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

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.
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.

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.

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.
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

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

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 Freeney
Dr Ciara Greene
Dr Jones Irwin
Dr Angela Leahy
Eoin MacCuiirc
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

Prof. Mary Shire
Julie Spillane
Bernard Stenson
Dr Peter Taylor *2001
Anna–Marie Turley

BT Chairperson

Ruth Murphy

Special Awards Chairperson

Professor Eoin O’Neill

* Young Scientist of the Year past winner
## 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

### Carlow
- Gaelcholáiste Cheatharlach: 3309

### Cavan
- Coláiste 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, 4312, 4400, 4406
- Meánscoil Na Mbráithre: 3308
- Scoil Mhuire: 3607
- St Anne’s Community College: 2607
- St John Bosco Community College: 3406
- St. Joseph’s Secondary School: 4504, 4540

### Cork
- Ardscoil 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

### Social and Behavioural Sciences
- 1100 - 1712

### Chemical, Physical and Mathematical Sciences
- 2100 - 2607

### Technology
- 3100 - 3607

### Biological and Ecological Sciences
- 4100 - 4605

### Carrigaline Community School: 3206
### Christ King Girls Secondary School: 1232, 1502
### Clonakilty Community College: 2521, 3508, 3526, 4507, 4539, 4568
### Coláiste 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 Toirbhríte: 1547, 1572, 3524, 4210, 4570
### Coláiste 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, 1540, 1550, 1560, 1570, 4537
### Regina Mundi College: 1542
### Sacred Heart Secondary School: 4560
### Schull Community College: 1555, 4602
### Scoil Mhuire: 1305, 1539, 1702, 4509
### School name/County

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## School name/County

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**PROJECT QUICK SEARCH IS ALSO AVAILABLE ON OUR APP...**

![Download from App Store](https://example.com/app-store-badge)  ![Download from Google Play](https://example.com/google-play-badge)
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: Coláiste 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
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

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 Greamey
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 Eochu

1205
Title: CBAL's Less Stress Or More Mess: A Statistical Investigation To Analyse How Effective The Junior Cycle CBALs 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 Smal Blarney
County: Cork
Teacher: Ms Margaret 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 Maqs 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 Niambient Breheny
Student(s): Lucia Waters Rowland

1209
Title: Do-re-mi or ABC: A statistical investigation on whether using song as 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 possibility of D.D.
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 if the Irish healthcare systemquickly 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 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 public’s 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 public’s 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)**: Ciainmhe 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 digital collection is reducing the amount of news that young people see.  
**School**: Meán Scol an Chlochar  
**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 Rí  
**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 School  
**County**: Wicklow  
**Teacher**: Ms Asling 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 Emnis  
**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 Eyers

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**: Castlesinland Community College  
**County**: Kerry  
**Teacher**: Mr Donncha Hickie  
**Student(s)**: Micheál O’Shea

1227  
**Title**: Fiosrú a dhéanamh I dtréithe compairadácha ar dhá chorp atátheanta uisce I d’Iobrach Arann  
**Overview**: Chun fiosró an bhfuil airionna anuas uisce sa Sandtrap Builros Uí Lúchó & abhainn Chlóideach Moyaliffe a leigheasann/thapalonn pianta & gortó matán in imeoirí 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 contúirí a bhaineann le m-bósaí antaibheachtaí i ndaonóide.  
**Overview**: Na contúirí i bhfeadhach a bhaineann le m-bósaí antaibheachthach agus an ró–ghearr a chur ar an eolais don tsocht.  
**School**: Scoil Chaitríona  
**County**: Dublin  
**Teacher**: Ms Muireann Ni Chonchuir  
**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**: Investigating the effects of mentality and effort on academic and sporting achievement.  
**School**: St Joseph’s Secondary School  
**County**: Dublin  
**Teacher**: Ms 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
Overview: An investigation into the possible correlation between socio-economic status and the level of awareness between boys and girls with regard to breast and testicular cancer.

Student(s): Cormac McMahon, Mr Simon Hill

Teacher: Ms Claire Sheehy

County: Cork

School: Kinsale Community College

Title: Does a dog’s sense of smell matter more than IQ?

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.

Student(s): Emily Bennis Cooney, Hazel Walsh

Teacher: Ms Claire Sheehy

County: Limerick

School: Dr. Harty’s Community College, Pallaskenry

Title: Our use of the internet.

Overview: This is a research project into the habits and lifestyle of people we know, possibly our family.

Student(s): Aoife Redmond

Teacher: Mrs Elaine Howlin

County: Limerick

School: St. Mary’s Community School

Title: In the pursuit of happiness.

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.

Student(s): Nichola O’Donnell, Shauna Tully

Teacher: Mr Simon Hill

County: Limerick

School: St. Mary’s Community School

Title: The effect of exercise on mental health.

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.

Student(s): Aoife Redmond

Teacher: Mrs Elaine Howlin

County: Limerick

School: Dr. Harty’s Community College, Pallaskenry

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

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.

Student(s): Sarah Ryan-Purcell

Teacher: Ms Shirley Breen

County: Cork

School: Coláiste na Syn브háin

1401

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).

Student(s): Lucy Teape, Lisa Nield

Teacher: Ms Laura O’Regan

County: Cork

School: St. Brogan’s College

Title: Is Climate Change Changing Me?

Overview: An investigation into teenagers’ attitudes and actions towards climate change.

Student(s): Robyn O’Donnell, Erin Tuke

Teacher: Ms Shauna O’Donnell

County: Cork

School: Coláiste Chluíomh Chnoc Fola

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

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

Student(s): Aoife Redmond

Teacher: Mr Simon Hill

County: Limerick

School: St. Mary’s Community School

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.

Student(s): Aoife Redmond

Teacher: Mr Simon Hill

County: Limerick

School: St. Mary’s Community School

1404

Title: How can dogs sense if their owner has an illness and how to tell if their dog is in danger?

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

Student(s): Emily Bennis Cooney, Hazel Walsh

Teacher: Ms Claire Sheehy

County: Limerick

School: Dr. Harty’s Community College, Pallaskenry

Title: A comparison of physical fitness for dancers and the general population.

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

Student(s): Shannon McClenaghan

Teacher: Mr Mark Smyth

County: Derry / Londonderry

School: Lumen Christi College

1309

Title: An investigation into the possible correlation between socio-economic status and the level of awareness between boys and girls with regard to breast and testicular cancer.

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.

Student(s): Nichola O’Donnell, Shauna Tully

Teacher: Mr Simon Hill

County: Limerick

School: St. Mary’s Community School

1315

Title: Is it possible to identify a dog’s intelligence through its ability to understand the human mind?

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

Student(s): Shannon McClenaghan

Teacher: Mr Mark Smyth

County: Derry / Londonderry

School: Lumen Christi College

1308

Title: The Effect Of Music On Focused Attention

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

Student(s): Shannon McClenaghan

Teacher: Mr Mark Smyth

County: Derry / Londonderry

School: Lumen Christi College

1307

Title: The benefits of walking soccer

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

Student(s): Matthew Smart

Teacher: Ms Elaine Nic Réamoinn

County: Kerry

School: Pobalscoil Inbhear Scéine

1310

Title: The Effect of exercise on mental health.

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.

Student(s): Aoife Redmond

Teacher: Mrs Elaine Howlin

County: Limerick

School: Dr. Harty’s Community College, Pallaskenry

Title: In the pursuit of happiness.

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.

Student(s): Nichola O’Donnell, Shauna Tully

Teacher: Mr Simon Hill

County: Limerick

School: St. Mary’s Community School

1311

Title: An investigation into the possible correlation between socio-economic status and the level of awareness between boys and girls with regard to breast and testicular cancer.

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.

Student(s): Nichola O’Donnell, Shauna Tully

Teacher: Mr Simon Hill

County: Limerick

School: St. Mary’s Community School

1312

Title: The effect of exercise on mental health.

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.

Student(s): Aoife Redmond

Teacher: Mrs Elaine Howlin

County: Limerick

School: Dr. Harty’s Community College, Pallaskenry

Title: In the pursuit of happiness.

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.

Student(s): Nichola O’Donnell, Shauna Tully

Teacher: Mr Simon Hill

County: Limerick

School: St. Mary’s Community School

1313

Title: Work Smart Not Hard

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

Student(s): Shannon McClenaghan

Teacher: Mr Mark Smyth

County: Derry / Londonderry

School: Lumen Christi College

1306

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

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

Student(s): Laois

Teacher: Mr Aodhagan O Suilleabain

County: Laois

School: Athlone Community College

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.

Student(s): Fatima Dogan

Teacher: Mrs Anthony Carolan

County: Sligo

School: Ursuline College

1303

Title: Dyslexia: An investigation of the link between dyslexia and the contralateral

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

Student(s): Kirsten Ni Ghadhra

Teacher: Mr Anthony Carolan

County: Sligo

School: Ursuline College

1302

Title: Are children s better than adults at perceptual judgement?

Overview: To biste in hÉirenn ag baint leis an inscne eile.

Student(s): Marie Maguire

Teacher: Ms Shirley Breen

County: Cork

School: Coláiste na Syn브háin

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.

Student(s): Evan Hogg

Teacher: Ms Aodhagan O Suilleabain

County: Laois

School: Athlone Community College

1300

Title: Fosúrach ar éifeacht thuismitheoirí agus oideachas agus slí bheadh a báispla!

Overview: Tá mé ag iarraidh fosúrach an dhéanamh ar éifeacht thuismitheoirí agus leibheal oideachas agus slí bheadh a báispla!

Student(s): Liam Hannigan

Teacher: Mr Shane Ó Breacáin

County: Donegal

School: Coláiste Aíligh

Social & Behavioural Sciences
Our project aims to investigate whether certain foods can improve your sleep, and why they do this. School: Coláiste na hInse Cork 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: Coláiste na hInse Cork County: Cork Teacher: Ms Shaun Holly Student(s): Fin Browne, Ruaridh Cunnigham

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, Ruaridh Cunnigham

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): Caomhín 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 Dún an Rí 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: Ms 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): Rian 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: St. Brogan’s College 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, Goidagh 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, Caomhín Byrne
Overview: To make farmers in our community aware of the damage that screen-time contributes to antibiotic resistance in county Roscommon and how it effects college students and local doctors prescribe antibiotics and whether they felt pressured to prescribe antibiotics by patients. School: Scoil Mhuire gan Smáil County: Roscommon Teacher: Ms C Ferguson Student(s): Isabelle Ni Siolfoin Leochain, Sioda Nic Aonghusá

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 students with ASD experience of transitioning from primary to secondary and develop an information booklet to help reduce anxiety. School: St. Brigid’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 retailer’s sponsorship of Ladies Gaelic Football has aided the growth of ladies football and changed people’s attitudes towards the sport. School: Scoil Mhuire gan Smáil County: Roscommon Teacher: Ms C Ferguson Student(s): Rachel Murray, Rosin 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 Mitcheltown 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: Coláiste An Spiorad Naomh County: Cork Teacher: Ms Aileen O Mahony Student(s): Robert Palmer, Michael Keohané,

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: Coláiste Cholm County: Cork Teacher: Mrs Karina Lynne 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: Coláiste Naomh Muire 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: Coláiste Nano Nagle County: Limerick Teacher: Ms Kelly Walsh Student(s): Rachell 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: Coláiste Cholm County: Cork Teacher: Mr Paulie Scanlon Student(s): Una Rainford, 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 Pearse, 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 County: Limerick Teacher: Ms Karen Kinnerker Student(s): Jane Burke, Rosin 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 Mitcheltown 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 Smáil County: Roscommon Teacher: Ms C Ferguson Student(s): Laoise Mahon, Ellice Garthy

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 Heare
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 Chormaic
**County:** Cork
**Teacher:** Ms 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 are people not fully confident in being the owners of an electric vehicle?

**School:** Presentation Secondary School Mitcheltown
**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):** Swthtn Paige, 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:** Meán scoil na mBráth tre Cristal
**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 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 McBrean

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 Banissadi

1537

**Title:** An Efeacht atá ag Ceol ar an Stáidéar

**Overview:** Is é spróic ár dtionscnamh ná chun fail amach an gcaiteolaí ceol le staidéar agus más é sin an chúis, cén seánra ab fhrearr.

**School:** Coláiste Islaagáin
**County:** Dublin
**Teacher:** Ms Cioladhna Ni Chroidheáin
**Student(s):** Aisling Ní Mhaolomnáighe, Róisín Ni 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 Rí
**County:** Cavan
**Teacher:** Ms Lorraine Hickey
**Student(s):** Corey O’Reilly, Holly Browne

1539

**Title:** Analíttar Stáisiúil ar an suíomh i gclánán agus an eifeacht atá aige ar iompair, rogánaí saoil agus tréithe pearsanta an duine sin

**Overview:** Támíd ag forsiú an eifeacht atá ag aíntsaí chlann ar do iompair, rogánaí saoil,treithe pearsanta,rogánaí saoil an duine sin.

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 Mitcheltown
**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 McCroghan
**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 Orla Sheehan
**Student(s):** Zoe Whelan, Meadhbh McCarthy
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 uniform codes 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): Caitlyn Fitzpatrick, Amanda Pogue

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. Annes’s Secondary School
County: Tipperary
Teacher: Ms Jeanne Dowling
Student(s): Kyra Duggan, Aine Milner

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 Conin
Student(s): Ella Donegan, Clódhna 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, Ainé 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 investigating 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
County: Cork
Teacher: Ms Julie Hanlon
Student(s): Caomhín 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, Meadbh 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: Boherbee 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 Feeley, 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 Crippin, Stéphane de Baird, Eimhín 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 Muire gan Smal 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 Spioral Naomh 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: Castlecomer Community School
County: Kilkenny
Teacher: Ms 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
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 Radam

1562
Title: Speed up 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 Cashin

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 the 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 Finnan, 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): Clodhna 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: Are we investigating if our generations different use of language (spelling etc.) is wrong or if it just evolving?
School: Presentation Secondary School
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: Meán scoil 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’Toogan, Orla Mellerick

1573
Title: SEAI Grants- A study into the awareness and uptake of SEAI government grants by region(s) in Ireland
Overview: We are investigating the breakdown of SEAI 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: Efiecatial drugul agus alól

1575
Title: What happened to Ireland’s school system?
Overview: An analysis of the Irish school system and all its of flaws, with comparisons to other countries and the stagnation of Ierlands education over time.
School: Colaistí 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 development and the views of citizens.
School: Comeragh College
County: Tipperary
Teacher: Ms Carrie Hogan
Student(s): Tadhg Sheehan, Eirin 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 Asigbeu, 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 Cholm
County: Cork
Teacher: Mrs Karina Lyne
Student(s): Faustina Sheehan, Abbie O’ Sullivan, Rhian Dawkins

1580
Title: Ha bacanna a chuirtear os comhair daaltaí i dtír Chonaill agus iad ag dul i mbun oideachas tríu leibhéal
Overview: Our project is about the barrier that students have to proceed to third level education in the north west
School: Pobal Scoil Ghaoth Dobhair
County: Donegal
Teacher: Ms Susan Ni 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 Buncloy
County: Westford
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 McEnaney, 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 hurling.
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 Whealan  
**Student(s):** Aisla 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, Deirdre Lynch, Aine Smith

1587 **Title:** Cleachtait Feirmoireachta Inbhuanaithe in Éirinn  
**Overview:** Tá sé mar aidhm ag tairiscint go háirithe feirmoireálach, a chur ar an eolas faoi chleachtait feirmoireachta inbhuanaithe.  
**School:** Coláiste Mhuire  
**County:** Mayo  
**Teacher:** Ms Annette Ni Chathain  
**Student(s):** Abigail Mckeeown, Melissa McGing, Daithí 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 Kodia, 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 Croíatáil

**Social & Behavioural Sciences**

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

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):** Aidling 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 GP’s 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 Kivelhan  
**Student(s):** Abigail Kivelhan, Leah Carew, Erika Ryan

1592 **Title:** How tinnitus affects 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 Wulstan's Community School  
**County:** Kildare  
**Teacher:** Ms Paula Kirrane  
**Student(s):** Eimear O'Neili, Aoife Ryder, Emma Russell

1594 **Title:** Fiosrúchán ar an Meán Díultach atá ag Daíne Faoi Vacsín HPV  
**Overview:** Beidh muid ag fiosrí na fáthanna atá ag baint leis an meán díultach atá ann faoi vácсыín agus do fhoirm fíorachtaí a bheith ar fáil sa tamhainn agus do cheartaí lárachtaí an meán seo a athrú.  
**School:** Geal Cholaiste Chill Dara  
**County:** Kildare  
**Teacher:** Mr Michael Moriarty  
**Student(s):** Órlaith Ni Dhubhshláine, Róisín Ni Chhillóir, Síofra Ni Raghallach

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 uasal mheán shaol ar feirminn i deagóir?  
**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 Polab Osraí  
**County:** Kilkenny  
**Teacher:** Ms Jessica Ni Dhrucháin  
**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:** Anscrol Na Phadraig  
**County:** Longford  
**Teacher:** Ms Alice Magon  
**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 Noon  
**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 Niam Mc Nally  
**Student(s):** Ella Walsh, Robyn Bagley, Elia Markey

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 Avoid: 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 Muire  
**County:** Westmeath  
**Teacher:** Ms Eva Acton  
**Student(s):** Cian Flaherty, Eoin Rhatigan

1702 **Title:** An féidir liain deireadh a chur le plaisiteach aon Úsáide inar scol laistigh de 3 míth?  
**Overview:** We would like to investigate our theory if we can turn our school single-use plastic free within 3 months.  
**School:** Scoil Muire  
**County:** Cork  
**Teacher:** Mrs Katie Uí Néill  
**Student(s):** Jessica Ni Chilleachair, 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 zs
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 Chlochar
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: Ms TJ Quinn
Student(s): Darragh English, Finbarr English, Kiril Cariof

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 McNeele, 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.
**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:** Syngery 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:** Dublin  
**Teacher:** Mrs Ann Blankling  
**Student(s):** Aimee Moore

**Intermediate Individual**

**2200**
**Title:** A quantitative analysis and comparison of the dissolution of both pharmacetical 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:** Castletroy College  
**County:** Limerick  
**Teacher:** Ms Shelleigh Galligan  
**Student(s):** Oma Collins

**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:** Pobal scoil Isolósde  
**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 Reedy  
**Student(s):** Evan Dargan Hayes

**2204**
**Title:** An investigation into the Tsilkovsky rocket equation  
**Overview:** In this project, I will predict the height that a water bottle rocket will reach using the Tsilkovsky rocket equation and verify it experimentally.  
**School:** Dominican College  
**County:** Galway  
**Teacher:** Mr 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 Rí  
**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:** Wicklow  
**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 Cholm  
**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:** Syngery 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 Katie O’Donovan  
**Student(s):** Andrea Marshall

**2212**
**Title:** Does the wattage of a light-bulb affect the heat generated as measured at a set distance?  
**Overview:** In order 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:** Colaiste Mhuire Community School  
**County:** Kildare  
**Teacher:** Ms Linda Ward  
**Student(s):** Yichang Wang

**2213**
**Title:** Heat Power  
**Overview:** I am going to use a thermoelectric generator to convert useless heat energy into useful electrical energy.
implementation to simulating atmospheric dynamics on a synoptic scale in the troposphere and the stratosphere, written in the programming language of Python.

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: Photovoltaic Water Purification: Novel Materials for Global Accessibility to Clean Water Overview: Design novel photocatalytic materials with optimum properties for water purification (Using TiO2, P3HT, Cu, Fe, Ni, etc.) and construct a prototype photoreactor to demonstrate practicability.

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 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: Coláiste Cholmáin
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 Caíth Thompson
Student(s): Camille Ni Shúilleabháin, Clodagh Lehane

2401 Title: Beroulí’s Principle from “Whooh – Haah” to Hurling Overview: ‘Whooh’ and ‘Haah’ sounds produce different temperatures when spoken, also exhibited in Beroulí’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 crops and analysing their structure as well as their physicochemical properties.

School: Coláiste Mhuire Ennis
County: Clare
Teacher: Mrs Colette Redington
Student(s): Jennifer Westton, Zoe 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. Brigid’s College
County: Cork
Teacher: Ms Laura O’Regan
Student(s): Muireann McCarthy, Maighread Kiely, 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 cosmetics? 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 Abolinsyte, Kate McGoldrick

2406 Title: An bifhul tuimar misneach mala scolaire ar lompar an chorp Overview: Our project is about using a dheànnamh ar tús ar bheannach na málta scoláire ar lompar an chorp sa dálta.

School: Coláiste Iosagain
County: Dublin
Teacher: Ms Gloidhna Ni Chroíbhdeáin
Student(s): Cara Ni Mhóráigh, Róisíona Ni Artagáin, Isabail Nic Ambrós

2407 Title: An Investigation into the Photolytic Degradation of the Nitrate Radical (NO3) 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 (NO3) in Cork City and County.

School: St Mary's Secondary School Mallow
County: Cork
Teacher: Mr Rory Coote
Student(s): Sophie Quinn, Rosin Grant

INTERMEDIATE GROUP

2500 Title: A study of how the structures of pyrite degrade using artificial conditions Overview: Our project aims to study how elements and the various
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 Sahalaithe?
Overview: Tá sé mar aithint ag an dtaosainn a rithilteachtaí saoil uachtar reoite agus na baile i measc an áthóra a d’fhéadfaí do dhachair dhéanamh do dhaoine a scrúdú.
School: Gaelcholáiste Phort Láirge
County: Waterford
Teacher: Ms Claire Joyce
Student(s): Kate Ni Scinne, 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 that 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 household of atypical fluctuations.
School: St Finian’s College
County: Westmeath
Teacher: Ms Martina Roache
Student(s): Maya Kambj, 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 Millerk, Abigail Cody

2514 Title: A Notion in Electric Motion
Overview: An investigation and analysis of the static electricity buildup on the outside of a conductor.
School: Coláiste Christí Rí
County: Cork
Teacher: Miss Aoife O Donovan
Student(s): Ben O’Connor, Sean Meskell

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-Nicoleau

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, Ellis 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 Aideen 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 deacarboxylic 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: 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 Fahive, Zuzanna Payls

2524 Title: Investigating the Feasibility of Converting Kinsainto 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

2525 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

2526 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

2527 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 Rosstone quarry and pit in Castlemene, Co. Roscommon.
School: C.B.S. Roscommon
County: Roscommon
Teacher: Ms Breege Grennan
Student(s): Sean Griffin, Korey Kedian, Sean McCormack

2528 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 Carrigtwohill
County: Cork
Teacher: Ms Angelina Carew
Student(s): April Devlin, Cioglah Murphy, Ciara Meaney

2529 Title: An fédhí Sreabhalth Naemh–Newtonach a úsáid chun cuid niad, leathadhtí tinte aiteann a chosc
Overview: Cruthaímid sreabháin agus tástán naemh–Newtonach chun a fhál amach an nbeadh siad ina gcuantar féin cathacht ar dhoiteáin aitn.
School: Pobalscoil Ghaeth Dobhair
County: Donegal
Teacher: Ms Susan Ni Loinsigh
Student(s): Emma NicPhaidin, Katelyn NicPhaidin, Aoibhe Ni Bhaoill

2530 Title: Modhanna chun daoine gan dídean a choinneal té i rith an phoilterbríodh
Overview: Our project investigates if simple scientific procedures can be used to help homeless people keep warm during the winter.
School: Pobalscoil Ghaeth Dobhair
County: Donegal
Teacher: Ms Susan Ni Loinsigh
Student(s): Emma NicPhaidin, Katelyn NicPhaidin, Aoibhe Ni Bhaoill

2531 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): Tiarnán Clarke, MacMahon, Owen Bagnall, Luke Seery

2532 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 Connellian, Osin O’Connor

2533 Title: Wait before Allowing Schoolchildren to Retrieve Items from a Car Boot
Overview: To develop a biodegradable and eco-friendly component to be a viable alternative to traditional plastic 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 Feeckir

2534 Title: Modhanna chun daoine gan dídean a choinneal té i rith an phoilterbríodh
Overview: Our project investigates if simple scientific procedures can be used to help homeless people keep warm during the winter.
School: Pobalscoil Ghaeth Dobhair
County: Donegal
Teacher: Ms Susan Ni Loinsigh
Student(s): Emma NicPhaidin, Katelyn NicPhaidin, Aoibhe Ni 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: Meán Scoil na mbRáthaire Cristoil
County: Kilkenny
Teacher: Ms Emma Manning
Student(s): Enda Mc Cabe, 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): Kaitlen Breereton, Emma Bannigan, Ryan George

2537 Title: Can essential oils be an effective disinfectant?
Overview: We would like to investigate if 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 Feeckir

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: Ms 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): Caoiné 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 Mahon

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 Mullane, 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
Chemical, physical & mathematical sciences

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, Olivia Pawlikowska

2602
Title: Using chitosan to create a biodegradable, antimicrobial plastic alternative to aid in the reduction of plastic waste from 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 ECO 200 Acute Immobilisation test according to OECD procedures.
School: Presentation College
County: Cork
Teacher: Mr Martin Garvey
Student(s): Qistina Syazulifah, Mutiat Adebayo

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, Pallaskenny
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 Piare
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 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[Te-Cognitive Behavioural Therapy] wearable device that uses evidence-based CBT practices to address unproductive thought patterns in a new way.
School: St Mary’s Secondarty School
County: Dublin
Teacher: Ms Bronwyn Mulvey
Student(s): Mony Aramalla

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

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 Athlone
County: Galway
Teacher: Mr Kenneth O’Dea
Student(s): Niah McCarthy

3202
Title: ScotSure – 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): Caomhin 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: Waterford
Teacher: Ms Julie-Anne Grealish
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 Arakali

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 how to make it more secure.
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 global problem of occupation-induced back pain and related conditions.
School: Gannon Community School
County: Offaly
Teacher: Mr. 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 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 Bhréáinín  
**County:** Kerry  
**Teacher:** Miss Coramarie Kellieher  
**Students:** 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-Dron  
**Overview:** Tá mé ag iarraidh seachadh drón a fheabhsú trí scítháin a chur ar quadcopter chun raon, luas agus páistá a mhéadhú.  
**School:** Gaelscoil Chorrha Chiarraí  
**County:** Leitirigh  
**Teacher:** Dr Pól Ó Drisceoil  
**Student(s):** Tomas O’Crónin

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:** Coláiste Choilim  
**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

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):** Oisin 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 Òiriall  
**County:** Monaghan

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 Slíabh Luachra  
**County:** Kerry  
**Teacher:** Ms Sinead O’Donoghue  
**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" Bunaithir ar GPS  
**Overview:** Aip a thugann eolas “on-the-fly” duit faoi “landmarks” a thabhairt do chomhdhain BNP, gan iomchur rialta a bheith a ghaightil.  
**School:** Gaelscoil Cheatharlach  
**County:** Carlow  
**Teacher:** Ms Julia O’Keffey  
**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 (VIAV)  
**Overview:** VIAV 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

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 Mhúirne gan Smál  
**County:** Cork  
**Teacher:** Ms Margarette ÓDonoghue  
**Student(s):** Ashling 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:** Gaelscoil Mhuire  
**County:** Westmeath  
**Teacher:** Ms Eva Acton  
**Student(s):** Orla Dunne, Oisín Smullen, Luke Raeside

3402
**Title:** Generating electricity form the water mains
Overview: Putting water turbines in the water mains so that we can generate electricity.

School: St John Bosco Community College
County: Cork
Teacher: Ms Jacqueline Farrell
Student(s): Taha Fareed, Jevin Joy

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): Luke Broderick, Jakub Orloowski

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 trains.

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): David Kelly, Ava Doherty, Sarah Raftery

3414
Title: The Eco Powered Dollhouse
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 McBrearty, Chloe Curran, Ronach 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: Ms Stephen McGroggan
Student(s): Joe O’Grady, Justin Ikou, 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: Pobal scoil 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 andCss.

School: Meánscoil ná bhFáthar Cristost
County: Kilkenny
Teacher: Ms Emma Manning
Student(s): Eavan O’Hara, David Bracken

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 Killmacrennan in Co Donegal in order to determine suitable sites for Astro-tourism.

School: Loreto Community School
County: Donegal
Teacher: Mrs Roisin Coyle
Student(s): Oisin 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 prevent their spines.

School: Ardscoil Ris
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 Doheny
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): Annamarie Asiruatham, 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

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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 Ogwudegwu, 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 scavange 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. Thurlsw  
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 Nedeucu, 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 that enhances visually impaired peoples’ reading and web surfing experience by converting text into Braille form.  
School: Patrician Secondary School  
County: Kildare  
Teacher: Mr Colin Doheny  
Student(s): Ruairi Mulally, 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, Alex McLoughlin

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, Wi Fi 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, Oisin O’ Sullivan

3520  Title: Periodot.  
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 Bondalo

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): Eila Doherty, Alabileceği 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 of 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, 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 DPF’s 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. Eoin O’Brien  
Student(s): Abbie Brennan, Eoin Loughney

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 Trainer  
Student(s): Bronagh Dempster, Daniel Montgomery, Liam Young
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. Garu Finnegan
Student(s): Abigail Cunningham, Emma Connolly, Kerrynann 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 Mognane

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: Handful
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 Seoeyon 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, Osian Brick

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
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
### Biological & Ecological Sciences

#### JUNIOR INDIVIDUAL

**4100**  
**Title:** An effeact at ag easp a  
**Overview:** Le leghduí na fuineose, an bhfuil adhamh ó chraoin dhúchasacha eile na hÉireann foireannach chun camain a dhiúlaimh in Éirinn.  
**School:** Coláiste Aligh  
**County:** Donegal  
**Teacher:** Mr Micheáil Ó Gobún  
**Student(s):** Cormac Breathnach  

**4101**  
**Title:** Are bioplastic commercial  
**Overview:** A study into the  
**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  
**School:** St David’s Secondary  
**County:** Wicklow  
**Teacher:** Ms Aisling Keaveney  
**Student(s):** Eliana Gallagher  

**4103**  
**Title:** Feel i goicín Quorn  
**Overview:** Táim ag iarraidh anáis a dhéanamh ar na microbeanna ar Quorn agus microbeoil chun comparáid a dhéanamh agus eolas bia-sábháilteach a fháil ar Quorn.  
**School:** Gaelcholáiste an Phiarasigh  
**County:** Dublin  
**Teacher:** Ms Emma De Búrca  
**Student(s):** Alex Ó hÉidéadán  

**4104**  
**Title:** Can Holly Make Your Farm Jolly?  
**Overview:** This project showed the  
**School:** Our Lady’s Bower  
**County:** Galway  
**Teacher:** Julie-Anne Greaney  
**Student(s):** Orla Cuffe, Ivana Devery  

**4105**  
**Title:** “Is our environment D’Eing?”  
**Overview:** I’m looking into pigments and  
**School:** Coláiste Naomh Mhuire  
**County:** Kildare  
**Teacher:** Ms Nadine Hennessy  
**Student(s):** Amelia Read  

**4106**  
**Title:** A Statistical Analysis Of  
**Overview:** I wish to investigate  
**School:** St Joseph’s Secondary School  
**County:** Dublin  
**Teacher:** Mr Daryl Dunne  
**Student(s):** Niall Rudden  

**4107**  
**Title:** Cén tionchar atá ag reo fad  
**Overview:** The objective of my project is to determine the effect of long  
**School:** Coláiste Aligh  
**County:** Donegal  
**Teacher:** Mr Micheáil Ó Gobún  
**Student(s):** Róisín Ní Dhúbhgháin  

**4200**  
**Title:** An evaluation of the results of isotope analysis conducted on human remains from Irish excavations to  
**Overview:** Results will be used to explore changes in diet over time and some patterns of human movement over time.  
**School:** Sacred Heart Secondary  
**County:** Louth  
**Teacher:** Ms Laura Dempsey  
**Student(s):** Clodhna 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,  
**School:** Gaelscoilte Thiar  
**County:** Cork  
**Teacher:** Ms Joanne Corkery  
**Student(s):** Isabel 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:** Coláiste Dun an Rí  
**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  
**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  
**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 Rí  
**County:** Cavan  
**Teacher:** Ms Lorraine Hickey  
**Student(s):** Shaneice 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):** Elaina 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):** Jeiden 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 Lehan 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: Ms 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 Abbeyleix 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

3400 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

3401 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 NO2. Overview: The aim of my project is to investigate the effect of high concentrations of NO2 on plant life in areas with high atmospheric NO2 levels. School: Pobalscoil Iosolde County: Dublin Teacher: Ms Lynda Jordan Student(s): Aisling Corcoran

4305 Title: Mealworm Gut Bacteria and their Plastic Degradation Capabilities Overview: Isolating and culturing 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: Usurline 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: Ms Ellen Maguire Student(s): Leah Shaw

4310 Title: Imoscuradur a tir nochta at ag ceimic in uachtar greine ar gráicheann Overview: Investigating the correlation between chemical sunscreens and acne School: Coláiste Aligh County: Donegal Teacher: Mr Michéel Ó Gobhúin 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

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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): Alice Davoren, Emily Cullinan

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): Greeta Whipple, Sarah Bossier

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 Olódhna 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 Aoibhinn Ferry Student(s): Eadaoin Murphy, Shane Harvey

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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
**Students:** Erin 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
**Students:** 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
**Students:** 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
**Students:** 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
**Students:** 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
**Students:** 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
**Students:** 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
**Students:** 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 Phiarasagain
**County:** Cork
**Teacher:** Ms Caoimhín Ó Buachalla
**Students:** Emily Hearne, Faye O Connell

4414
**Title:** Testing the effects of SO2, NO2 and particulate matter on the quality surrounding trees.
**Overview:** Our project aims to investigate whether the presence of trees in urban areas has an effect on the levels of SO2, NO2 and particulate matter.
**School:** Sandford Park School Ltd
**County:** Dublin
**Teacher:** Ms Katherine Gray
**Students:** 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 Sugre
**Students:** Jack O’ Crowley, Chuáinн 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
**Students:** 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
**Students:** 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
**Students:** Amy Noonan, Ellen Greenan

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
**Students:** 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 Dunn
**Students:** 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 Rí
**County:** Cavan
**Teacher:** Ms Linda Kelly
**Students:** 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
**Students:** Abigail O’Dowd, Dervala 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
**Students:** Honor Lynch, Amelia Trenaman, Beth Lynam

4424
**Title:** The Environmental Cost of Driving Secondary School Students to school (Galgaway City)
**Overview:** Our project aims to measure the average level of CO2 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
**Students:** 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 Gian O’Mahony
**Students:** Kaushik Akash Gomathi Kilarajnan, Jack Gleeson, Adrian 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 create a clear coating to put on glasses/goggles.
School: Scoil Mhúire agus Ide 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 Cahill, Coimhe 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 Phriaisigh County: Cork Teacher: Mr Caomhín Ó Buachalla Student(s): Asile Connolly, Sorca O’ Donovan, Liley-Sue Moloney

4430
Title: A Comparative Study of the Effect Cormapan (Phalacrocarbo Carbo) Populations have on the Botanical Composition of Three Islands on Lough Derg
Overview: Based on observations, when a corrnorant 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
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: Gaelscoil Lainiusigh County: Limerick Teacher: Mr Caoimhín Ó Buachalla Student(s): Sarah Maddren, Laura McMahon, Niamh Muldowney

4432
Title: Ag stopadh olghlaioiseachta
Overview: Ba mhaith liom staidear a dheanamh ar olghlaioiseachta agus cad e an rud is fearr chun iad a stopadh.
School: Coláiste Pobal Osraí County: Cork Teacher: Mrs Gemma Byrne Student(s): Jack Bowe, Lúcca Ó fadlán lá, 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 Aibhí Éagsúla ar do Phhráin Codlatach
Overview: Fiosróimid an tiónchar atá ag aibhí éagsúla ar an bhátrún codlatach, mar shampla roghnóimid meascán de bhia agus anad lánta tónchar éagsúla acu arainn.
School: Coláiste Iosaigáin County: Dublin Teacher: Ms Clodhna Cryan Student(s): Chloe Nic Fhearchair, Caír Eire, Tára Ní Fh娼Íain

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

INTERMEDIA GROUP

4500
Title: Siúta vs Native Broad-leaf: The Impact of Ireland’s Forestry Plan on Biodiversity
Overview: To compare the ecological impact of siúta 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: Coláiste 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, Aisling 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): Diarmuid 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 McArdle

4509
Title: Ná teigh chuig go leor beag folcadh beli
Overview: Teastaíonn uainn failt amach na toirtaí a fhaigheann tú le anáilíadán tar éis folcadh beil difriúla a uaidh.
School: Scoil Mhuire County: Cork Teacher: Mrs Katie UI Néill
Biological & Ecological Sciences

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, Milea Goddorw

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: Coláiste Tresas County: Cork Teacher: Ms Brid-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 Konziewieński

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 Ekpemando, 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 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): Cáomhie 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): Andrea 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, Óibha McLaughlin

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): Clodhna 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 Irelands climate crisis? Overview: Our project aims to investigate whether regenerative farming using minimal tillage sequeseters more carbon dioxide in soil than traditional farming methods. School: Ursuline Secondary School County: Tipperary Teacher: Ms Marian Ryan Student(s): Eva McBreearty, 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, Siomna 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

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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 Siewrwright

4537
**Title:** An mblión tionchar ag deochanna fuinmheach agus deochanna spóitrí at theilheadh aroibrach aclaíochta in deagoir idir 12-16 bliain d’aois?
**Overview:** Táimíd ag iarraidh fós an mblión tionchar ag deoch fuinmheach agus spóitrí at theilheadh aroibrach aclaíochta. Má tá, támid ag iarraidh compáirid a dhéanamh eatarthu.

**School:** Coláiste Pobal Osraí County: Kilkenny
**Teacher:** Mrs Jessica Ni Dhourcháin
**Student(s):** Aideen Edmondson, Seán Ó Máille, Tom Ruíséal

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, Fint O Connell

4540
**Title:** Kelp Help! An investigation to determine if kelp from Co. Clare’s west coast, to increase their own salt perception.
**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 Taity

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 likeness 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):** Sean 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 Calvin
**Student(s):** Cathal Malone, Pierce Mckevitt, 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, Connasw 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):** Viktoria Weinert, Alainn 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 Murlaigh County: Cork
**Teacher:** Dr Paul Boucher
**Student(s):** Paddy O’Halloran, Jack O’Donovan, John Mullan

4548
**Title:** Methods used to prevent hens from eating their own eggs.
**Overview:** Our project aims to find which 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 enter 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 metabolic 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 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.
Overview: Investigating the ecological conditions controlling the distribution, abundance and size of Brook and Lamprey in the Upper Blackwater SAC, Duhallow, Ireland.
School: Coláiste 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 Bríd Ó 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?
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 Cholmí
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
County: Cork
Teacher: Ms Julie Hanlon
Student(s): Julia Trojan, Emily O’Hanlon, Paulina Griciute

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, Foy 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: Ms Shauna Foley
Student(s): Kate Dromey, Foy Healy

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 if 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, Kaelin Lilly

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, Gráinne Nevin

4564
Title: Hall, 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 Marianoti, Tara Keating, Aine 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 nBráithre Cristiúil
County: Kilkenny
Teacher: Ms Emma Manning
Student(s): Niall Skehan, Luke Skehan, Darragh Morrow

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, Einne 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
County: Balbriggan
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

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County: Dublin
Teacher: Mr Daryl Dunne
**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 Naoimh
**County:** Cork
**Teacher:** Mr Tom Healy
**Student(s):** David Rasmussen, Sean O'Regan

**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

**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 parental 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, Natchanon Jutisooksan, Luke Daniels
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
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.

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 trial 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.
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 Ditoir 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 Mechatrons who created one of the most iconic combat robots, the flaming furball Ditoir, 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.

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.

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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 live 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 a trip or get 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

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 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 for more information.

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 2 in 5 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 years 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 tripped worth over €1000.
A sample 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.

W08: Intellectual Property Office of Ireland

The Intellectual Property Office of Ireland (IPOI) 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!
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

Conláistí Gaeltge

Is é CONCOS an scáth–a-earaíocht do formhór Choláistí Samhraidh na tíre.

Tá na Coláistí Samhraidh lonnaithe in na Gaeltacht. Chomh maith le roinnt Coláistí sa nGallacht, tá fior-thábhacht a baint le Coláistí Samhraidh chuin feabhas a chur i láthair, lóthacht agus abhartha ar na Gaeltge do dhéagóirí a bhíonn ag iarraidh na macnamara a mhi a bhaint amach san Ard Thistiméireacht. Tá 10% macnamara le fáil ar an Teagasc Labharthá, sé sin, 40% don bheáltaí agus 10% don chlúis tuiscint.

Bígí linn a Samhraidh 2020 chun spraoi, spóirt agus craic a bhíonn ag an Coláistí Samhraidh le chéile. Tá 50% macnamara le fáil ar an Teagasc Labharthá, sé sin, 40% don bheáltaí agus 10% don chlúis tuiscint.

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 1.7 million leading organisations. During the last school year more than 63,000 students participated in Junior Achievement (JAI) programmes focussing on STEM, entrepreneurship, employability and financial literacy.

JAI 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, test 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.

JAI STEM programmes, such as Energize aimed at 6th class students and supported by Gas Networks Ireland, and Futurewise 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 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.
BT Young Scientist & Technology Exhibition 2020

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 human kind which have led to many distinguished awards including 9 Nobel Prizes.

Central Statistics Office

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 your open data projects.

Cook Medical

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 follow us on Twitter, Facebook, Instagram and LinkedIn.

Johnson & Johnson

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.

Lilly

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.

ABP Food Group

W24: ABP Food Group

ABP is one of Europe’s leading privately owned agribusiness companies operating across 4 divisions: Beef, Pet Food (G&G Foods), Proteins and Renewables (Olleco). It has processing
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

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 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: Sight Savers

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 CoderDojos, 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.

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.

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 Cara! Lights, camera, action as you get to see live RTÉ Weather bulletins being broadcast. Plus insert into The Today Show with Maura and Dáithí 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 some of the demos we have on display today. 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 BTYSTE skills and interests to complete an academic qualification or, perhaps, encourage you
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 TII. 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 to learn more or to register.

W37: Institute of Physics Ireland

For physics, For physicists, For all

The Institute of Physics Ireland (IOP) 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

W38: F1 in Schools Ireland

The F1 in Schools competition challenges students to design, build, analyse and test miniature electric 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 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 pathways and the opportunity to take an Elective and Experiential Learning opportunities to enhance your degree.

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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. The Faculty is of national and international standing. The Faculty offers an internationally recognised centre of excellence in scientific innovation and health transformation.

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) 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) 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 (CTY) at DCU works with high ability children aged 6 to 16. CTY 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 CTY 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 CTY 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 485 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.

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 1.8 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 and 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 Facebook: @EUR Ireland Twitter: @eurireland EUirf

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 (apprentices, 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 Críoneál 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.

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 where 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 (e 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.

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.

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.

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.

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.

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 or visit www.dublinzoo.ie

E10: Petroleum Infrastructure Programme (PIP)
The Petroleum Infrastructure Programme (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.

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.

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.

Remember when calling 112 (or 999), ‘stay calm, stay focused and stay on the line’

E16: 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 INNOVATION

1965
John Monahan

1966
Maire Caiteorna Ni 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 O’Brien

1978
Donald P McDonnell

1979
Jervis Good

1980
Karen Ruddock

1981
Emma Donnellan, Henry Byrne

1982
Siobhan Lanigan O’Keeffe

1983
Grace O’Connor, Sinead Finn

1984
Anna Minchin-Dalton

1985
Barry O’Doherty, Daniel Dundas

1986
Elizabeth Dowling, Jean Byrne R.I.P.

1987
Sarah Flannery

1988
Thomas Gernon

1989
Shane Browne, Peter Taylor, Michael O’Toole

1990
David Michael O’Doherty

1991
Adnan Osmani

1992
John D. O’Callaghan, Liam McCarthy

1993
Richard O’Shea

1994
Alexander Amini

1995
Eric Doyle, Mark Kelly

1996
Ciara Judge, Emer Hickey, Sophie Healy-Thow

1997
Paul Clarke
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 BTYSTE 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 BTYSTE 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 Dru Shileabhin*  
Co. Chorcaí

GreenEire  
*Gaelscoil Mhichil 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

**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

Designer Waters: Are bottled waters worth it?  
*Rush and Lusk Educate Together*  
Co. Dublin

Fitness Trackers  
*Scoil Raifteiri*  
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. Brigid’s Primary School Kildare Town*  
Co. Kildare

The effect of Carbon Dioxide on our lakes/rivers and their inhabitants  
*St. Brigid’s 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 (CONTINUED)

Garu Bog - An interesting place!
Scoil Naisiunta Moin Ruadh
Co. Kilkenny

Why are plankton glowing in the dark?
Scoil Naomh Brid, 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

SCHOOL NAISSIUNA

SAINT MARY’S NATIONAL SCHOOL

SCHOOL NAOMH BRID, BALLYCONNELL

SCHOOL NAOMH FIONÁN NA REANNA

SCHOOL SAN TREASA, MOUNT MERRION

ST. BERNADETTE’S SENIOR SCHOOL

SCHOOL CHOIIM COMMUNITY

SCHOOL NAOMH BRID MILLTOWN

SCHOOL CHAOIMH

BUT ANY QUESTIONS OR COMMENTS PLEASE CONTACT:
B. T. Young Scientist & Technology Exhibition 2020
FOR FURTHER INFORMATION
please visit btyoungscientist.com/the-primary-science-fair-at-btyste
email primarysciencefair@bt.com
or telephone 1800 924 362

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 Bhride
Dublin 6

Permanent magnet motor possibilities
Scoil Bhride Milltown
Co. Kildare

Cé mheid rudai gur féidir a dhéanamh le hurbh?
Scoil Chaomhín
Co. Dublin

Does music help you study? The effect of listening to music on concentration levels
Scoil Cholm 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. Phort Láirge

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
email primarysciencefair@bt.com
or telephone 1800 924 362

60  BT Young Scientist & Technology Exhibition 2020
Perrigo Company plc is dedicated to making lives better by bringing high quality and affordable selfcare products that consumers trust everywhere they are sold. The Company is a leading provider of over-the-counter health and wellness solutions that enhance individual well-being by empowering consumers to proactively prevent or treat conditions that can be self-managed.

Visit us at www.perrigo.com
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).

Check out the videos from the BT YS Business Bootcamp 2019 participants
https://www.youtube.com/user/BTYoungScientists/videos

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

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**BT Young Scientist & Technology Exhibition 2020**
BT Ireland & the Young Scientist Exhibition – A 20 year journey

2001
Technology category introduced

2002
First year of The Primary Science Fair

2005
Patrick Collison from Castletroy College, Castletroy, Co. Limerick
He co-founded Stripe in 2009.

2007
Abdusalam Abubakar won the title in January 2007 and won the European Young Scientist in Valencia, Spain

2008
The 2008 winner Emer Jones from Tralee is the current youngest winner at 13 years old.

2010
First BT Business Bootcamp

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

2014
50th Anniversary of the Young Scientist & Technology Exhibition

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
BT celebrates 20th year as proud organiser and sponsor

2020
Adam Kelly is the 55th BTYSTE winner and Ireland’s 15th winner of EUCYS
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.

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 and btyoungscientist.com

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.