

# Research Guidelines



A set of guidelines to help students carry out research as part of their projects for BTYSTE.

## 1. Choosing a Topic:

- Select a topic that aligns with your interests and curiosity.
- Consider the feasibility of the project based on available resources, time, and expertise.
- Ensure the topic is appropriate for your age group and aligns with the competition's guidelines.

## 2. Defining the Research Question:

- Clearly define a research question that outlines the problem you aim to address or investigate.
- Ensure the question is specific, measurable, achievable, relevant, and time-bound (SMART).

## 3. Background Research:

- Conduct thorough background research to understand the existing knowledge and previous work related to your topic.
- Consult reputable sources such as scientific journals, books, and reliable websites.
- Take detailed notes and cite your sources accurately.

## 4. Experimental Design:

- Plan and design your experiment carefully to address your research question.
- Identify the variables involved (independent, dependent, and controlled variables).
- Determine the materials, equipment, and procedures needed to conduct the experiment.

## 5. Data Collection:

- Collect data systematically and accurately using appropriate methods.
- Use reliable measurement techniques and tools.
- Record data carefully, ensuring clarity and organization.

## 6. Data Analysis:

- Analyse your data using appropriate statistical or analytical methods.
- Look for patterns, trends, and relationships within the data.
- Use graphs, charts, or tables to present your findings effectively.

## 7. Results and Conclusions:

- Summarize your findings based on the data analysis.
- Interpret the results and draw meaningful conclusions that directly address your research question.
- Discuss any limitations or uncertainties in your findings.

## 8. Documentation and Presentation:

- Maintain a detailed record of your research process, including procedures, observations, and results.
- Prepare a clear and concise project report or research paper, following appropriate formatting guidelines.
- Create a visually appealing presentation that highlights the key aspects of your research.



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## 9. Ethical Considerations:

- Adhere to ethical guidelines and consider any ethical implications of your research.
- Obtain necessary permissions or approvals if working with human subjects, animals, or sensitive materials.
- Ensure the safety of yourself and others throughout the research process.

## 10. Time Management:

- Plan your research timeline, considering the competition's deadlines and any other commitments.
- Break down your tasks into smaller, manageable steps.
- Allocate sufficient time for each phase of the research process, including data collection, analysis, and report writing.