



Rosary School – Marj Elhamam

EPQ Study sheet

Name: _____

Date: 1 /12 / 2025

Grade: 11 ()

Topic: EPQ

Choosing your EPQ topic

Your EPQ Title Should Be Argumentative, Not Descriptive

An argumentative EPQ question requires:

- a position or judgment,
- evidence-based reasoning,
- analysis of strengths/weaknesses,
- and a final conclusion.

It should invite debate and critical thinking.

- A descriptive title only asks the student to describe, explain, or summarize information. This leads to:
 - essays that repeat known facts,
 - little original analysis,
 - weaker marks in higher assessment bands.

Examples

Weak (Descriptive)

“The history of space exploration”

Strong (Argumentative)

“To what extent has private industry improved the progress of space exploration?”

“Artificial intelligence in medicine”

“How far can AI safely replace human decision-making in medical diagnosis?”

2. The Title Should Allow for Evaluation, Not Just Reporting Information.

- Compare/Contrast
- Cause/effect
- Significance
- Implication

3. The Title Should Not Be Too Broad or Too Narrow

Too broad

A topic like “Renewable energy” is too large for a 5,000-word project. Students struggle to stay focused and end up writing vague summaries.

Too narrow

A topic like “The effect of wind turbine blade angle on output in the town of Mafraq on 12 June 2020” is too specific and limits the project.

Examples of well-scoped titles

- “How effective are solar micro-grids in improving energy access in developing countries?”
- “To what extent does fast fashion contribute to global environmental damage?”
- “Should governments regulate social media algorithms more strictly?”

4. The Question Should Be Answerable Using Research Skills

A strong title requires:

- reliable sources,
- data that can be gathered,
- ethical feasibility,
- enough literature to analyze.

Avoid questions requiring:

- classified information
- experiments students cannot access
- unrealistic fieldwork
- medical interventions
- advanced labs or technology

7. The Question Should Naturally Lead to a Clear Conclusion

The EPQ must have a final, defended conclusion, so the question must allow a clear answer.

Strong conclusions come from questions like:

- “To what extent is...”
- “Is X more effective than Y?”
- “Should...?”

They allow the student to weigh evidence and reach a judgment.

8. The Title Should Hint at the Type of Project (Research or Artefact)

For research essays

Use evaluative question structures:

- “How far...”
- “To what extent...”
- “Is... effective?”

For artefacts

Use design or investigation prompts:

- “How can I design and produce...”
- “What is the most effective method to create...”

Research skills

1. Types of Research

A. Quantitative Research

Definition: Quantitative research collects and analyses numerical data to identify patterns, test hypotheses, and produce general results. It focuses on measurement, statistical analysis, and objectivity.

B. Qualitative Research

Definition: Qualitative research explores meanings, experiences, and motivations using non-numerical data. It is useful when the goal is to understand 'why' or 'how' rather than 'how many'.

C. Mixed Methods

Definition: Mixed methods combine quantitative and qualitative approaches to produce a fuller understanding. Example: use a survey to identify a trend (quantitative) and follow-up interviews to explain it (qualitative).

2. Primary vs. Secondary Research

- Primary research:

- Definition: Data collected first-hand by the researcher specifically for the project.

- Examples: interviews, questionnaires, experiments, observations, diaries/logbooks.

- Secondary research:

- Definition: Analysis of existing materials not collected by the researcher for this specific project.

- Examples: academic articles, books, government reports, archival records, reputable websites, datasets.

3. Research Methods & Tools

Method selection: link method to research question. If the question asks "how many" or "how often" use quantitative; if "why" or "how" use

- Sample size considerations: larger samples give more reliable estimates

4. Data Analysis and Presenting results

- Use text, tables, and graphs. Each figure/table needs a clear title and brief interpretation in text.
- Link results to research question explicitly: explain what the numbers/quotes mean for the research aim.

5. Reliability, Validity & Bias

- Reliability means consistency.

A reliable method or source gives the same results if repeated under the same conditions.

- Validity means **accuracy**

Whether the research is actually measuring what it claims to measure. A source or method can be reliable (consistent) but **not valid** (not measuring the right thing).

- Bias is any factor that unfairly influences the results, interpretation, or presentation of research.

Bias reduces accuracy and objectivity. Bias can come from the researcher, the participants, or the source itself.

6. Ethics in Research

Ethical planning checklist:

- Informed consent: provide clear participant information sheets and consent forms.
- Anonymity and confidentiality: store personal data separately and use ID codes.
- Minimising harm: avoid distressing topics and provide support information if needed.

7. Source Evaluation — CRAAP Test

For each source you should answer the following questions.

- **Currency**: when was it published/updated? Does the topic require the latest research?
- **Relevance**: who is the intended audience? How directly does it address the sub-question?
- **Authority**: what are author credentials, institutional affiliation, and potential conflicts of interest?
- **Accuracy**: is the information supported by evidence, references, peer review? Are methods described?
- **Purpose**: is the source intended to inform, persuade, sell, or entertain? Detect advertisement or opinion pieces.

8. Citation, Referencing, and Bibliographies

A citation is a short reference inside the text showing where a piece of information came from. It usually includes **Author name, Year of publishing, Title of reference**

Citations and references should be included anytime you use another individual's work in your own assignment. When including a quote, paraphrased information, images, or any other piece of information from another's work, you need to show where you found it by including a citation and a reference.

- **In-text (or in-line) citations**: included when you're adding information from another individual's work into your own project. When you add text word-for-word from another source into your project, or take information from another source and place it in your own words and writing style (known as paraphrasing), you create an in-text citation.
- **Bibliography (Reference List)**: found at the end of your research project, usually on the last page and it's more detailed.

Author(s) , Year, Title, Publisher / Journal / Institution, URL/DOI number

Example:

Jones, T. (2021). "Assessing the Environmental Impact of Lithium Batteries." *Energy Journal*, 44(2), pp. 112–130.

Example:

This is a narrative in-text citation. The author's name is in the text of the sentence. The page number (p. 42) is at the end of the sentence.

Stein (2018) studied whether the early onset of Alzheimer's disease affected individuals younger than 30. His findings revealed that individuals as young as 20 were affected by the disease (p. 42). Another study found similar data, showing that individuals as young as 18 displayed symptoms of the disease (Tang & Pierce, 2014, p. 231). Even though both studies involved individuals in different hemispheres, the results were similar.

This is a parenthetical citation. In parentheses are the last names of the authors, year published, and page number.

These are the references for the in-text citations in the project. These references, are listed on the final page, and contain the full information about each source.

References

Tang, F., & Pierce J. W. (2014). Alzheimer's disease in young adults. *Journal on Aging*, 14(3), 220-243.

Stein, J. (2018). Short-term memory now gone: The unfortunate circumstances related to Alzheimer's disease. *Science and Discovery*, 2(23), 35-57. doi:10.1076/S0068-3942%2801%8900678-6