Extended essay category 2: Research—finding what is already known

Extended essay subject: Biology AND Film(?)	

What kinds of knowledge, ideas, evidence, data etc. might students be looking for when writing an EE in this subject?
 	
• Knowledge from the IB Biology Programme
• Biological ideas students come across in their daily life (e.g. protein enriched food)
• Evidence can be found in published papers/journals/books
• Data usually come from experiments done at the school, in rare cases done at the university, because we do not have the necessary machines at the school
• Secondary data may be used, but it is very challenging to find published experiments where all controlled variables were identical, so the results are comparable
• Film theory
  ○ Representation
  ○ Genre
  ○ Famous directors
  ○ Film history, movements
  ○ Films
	Where can these be found, what source materials are useful, and what sites or search strategies might they use? (For online materials, please give the names and URLs when possible.)
	
	• Google scholar
	• ArXiv
	• Using their school account they
	• School library
	• University libraries
	• School labs
	• Sometimes labs at the university
	• Film
	  ○ School library or Subject library
	  ○ Youtube (good start), must be supported with other sources.

What tips and techniques do you teach and use for going beyond basic search engines? How might artificial intelligence (AI) tools ethically be used? • Use google scholar, type in the key words of your research interest • Use the papers you already found, check their bibliography for interesting papers	**How can students check or evaluate the accuracy and value of AI-provided information? How is this different to the use and evaluation of other kinds of source material?** • Find the original paper (many papers cited by AI do not exist in reality) • Read the abstract/paper to see whether the content corresponds to what AI is saying (even when the paper exists, AI might claim to have found info in that paper which is not actually there)

● It is not necessary to look for the same species, sometimes a similar experiment has been done using a different but closely related species, this is still helpful ● AI can be used to narrow down the field, find interesting ideas, … ● Different techniques with * and such in library search engines	● They must ask for sources, evaluate the sources and read the source to see if this will bring deeper into the subject matter than the AI did.

Add bullet-points if and as necessary!

Extended essay subject: English	
What kinds of knowledge, ideas, evidence, data etc. might students be looking for when writing an EE in this subject? ● Journal articles ● Books- academic books about texts ● History books ● Evidence from primary text(s) ● Book reviews	**Where can these be found, what source materials are useful, and what sites or search strategies might they use?** (For online materials, please give the names and URLs when possible.) ● JSTOR ● Bibliographies from journal articles or academic books ● Google scholar ● Project MUSE
What tips and techniques do you teach and use for going beyond basic search engines? How might artificial intelligence (AI) tools ethically be used? ● Use AI to find sources- research assisstant ● Use AI for very broad outlines/overview of an idea through time/historical period- then check against other sources or ask AI for its sources and bear in mind how legitimate they are ● Use AI effectively but sparingly, own hypotheses and conclusions are key	**How can students check or evaluate the accuracy and value of AI-provided information? How is this different to the use and evaluation of other kinds of source material?** ● Go to the original source that AI cites ● Be more skeptical of AI than would be of other sources ● Ensure you can find evidence yourself in the primary text to support an argument/idea generated by AI ● True value to the argumentation comes only from student's own analysis on what the reader understands better about a character, phenomenon etc through the author's use of any given technique.

Add bullet-points if and as necessary!

Extended essay subject: Physics	
What kinds of knowledge, ideas, evidence, data etc. might students be looking for when writing an EE in this subject? ● Raw data from experiment ● Secondary data from publications (published) ● Knowledge from physics in branches that are from the curriculum or beyond ●	**Where can these be found, what source materials are useful, and what sites or search strategies might they use?** (For online materials, please give the names and URLs when possible.) ● JSTOR ● Google scholar ● ArXiv (check for publications) ● Library for books ●
What tips and techniques do you teach and use for going beyond basic search engines? How might artificial intelligence (AI) tools ethically be used? ● AI can be good to some introduction for a topic student might not be familiar with:'' explain to me in simple words the theory behind transformers'' ●	**How can students check or evaluate the accuracy and value of AI-provided information? How is this different to the use and evaluation of other kinds of source material?** ● Can you find another source (not AI) that back up your research?

Add bullet-points if and as necessary!

Extended essay subject:	
What kinds of knowledge, ideas, evidence, data etc. might students be looking for when writing an EE in this subject? • • • •	**Where can these be found, what source materials are useful, and what sites or search strategies might they use?** (For online materials, please give the names and URLs when possible.) • •
What tips and techniques do you teach and use for going beyond basic search engines? How might artificial intelligence (AI) tools ethically be used? • •	**How can students check or evaluate the accuracy and value of AI-provided information? How is this different to the use and evaluation of other kinds of source material?** •

Add bullet-points if and as necessary!

Extended essay subject: Language B	
What kinds of knowledge, ideas, evidence, data etc. might students be looking for when writing an EE in this subject? ● It is challenging because a Language B EE can be basically anything as long as it is linked to the target culture ● So the answer largely depends on the specific topic that they are looking into ● Primary source can be a work of literature (unless it is a study of the culture itself) ●	**Where can these be found, what source materials are useful, and what sites or search strategies might they use?** (For online materials, please give the names and URLs when possible.) ● JSTOR ● Google scholar ● Granta publications ● News websites ●
What tips and techniques do you teach and use for going beyond basic search engines? How might artificial intelligence (AI) tools ethically be used? ● I teach them to use AI as they would use wikipedia earlier - to get general ideas and insights into where to start their research from ● Prompt AI to give secondary sources and alternative perspectives	**How can students check or evaluate the accuracy and value of AI-provided information? How is this different to the use and evaluation of other kinds of source material?** ● Once they get ideas on where to find resources, They will of course check those resources for reliability, accuracy, etc. I teach them not to rely on information given by the AI blindly - they are aware the AI can hallucinate

Add bullet-points if and as necessary!

Extended essay subject: Global Politics	
What kinds of knowledge, ideas, evidence, data etc. might students be looking for when writing an EE in this subject? • Basics of Power • Slant v. Bias • Connection to other Cat. 3 subjects • Thinktank / NGO / state / MNC reports • Quality, longform journalism • Secondary data (e.g conflict stats, trade information,) • Legislation (sub-national to international, including treaties, covenants etc.) • Theories within GP, critical and traditional	**Where can these be found, what source materials are useful, and what sites or search strategies might they use?** (For online materials, please give the names and URLs when possible.) • https://www.jstor.org/stable/41149419 • https://foreignpolicy.com/ • https://www.foreignaffairs.com/ • https://www.chathamhouse.org/ • https://www.rand.org/ • https://www.brookings.edu/ • https://www.csis.org/ • https://www.iiss.org/ • https://rusi.org/ • https://policycommons.net/ • https://www.proquest.com/ • www.economist.com • https://scholar.google.com/
What tips and techniques do you teach and use for going beyond basic search engines? How might artificial intelligence (AI) tools ethically be used? • Academia.edu • Backwards citation tracing (article → citation → bibliography → article) • Keyword searching based on articles read • Chronology building through media reports • Context specific searches (e.g. based on nation or political perspective etc.)	**How can students check or evaluate the accuracy and value of AI-provided information? How is this different to the use and evaluation of other kinds of source material?** • OPVL • Ground News • Look at multiple perspectives • Use AI as a research assistant; **always** go back to the original documents cited by the AI (Gemini does this well) • Author analysis • Critical Discourse Analysis (terrorist, special military operation, conflict, war, war crime, genocide, etc. etc.)

Add bullet-points if and as necessary!

Extended essay subject: Economics	
What kinds of knowledge, ideas, evidence, data etc. might students be looking for when writing an EE in this subject? ● Micro and Macro ● Government statistics ● Stakeholder impacts ● Long term vs short term effects	**Where can these be found, what source materials are useful, and what sites or search strategies might they use?** (For online materials, please give the names and URLs when possible.) ● https://www.jstor.org/stable/41149419 ● The Economist ● Financial Times
What tips and techniques do you teach and use for going beyond basic search engines? How might artificial intelligence (AI) tools ethically be used? ● Google scholar ● Jstore ● Library books!! ● Government reports	**How can students check or evaluate the accuracy and value of AI-provided information? How is this different to the use and evaluation of other kinds of source material?** ● Is the source recommended by AI actually relevant to their research question? ● Is it up to date? E.g. last 10 years ● Check Bias ● READ the original source rather than ‘copy and paste’.

• AI as a search engine (points in the right direction as to what sources are available and where to find them). Not to use AI to synthesise information	

Add bullet-points if and as necessary!

Extended essay subject: Math	
What kinds of knowledge, ideas, evidence, data etc. might students be looking for when writing an EE in this subject? • Sub topics of main math branches • Applications of math • Proofs of mathematical theorems and formulas •	**Where can these be found, what source materials are useful, and what sites or search strategies might they use?** (For online materials, please give the names and URLs when possible.) • Google scholar • Online libraries like Jstor, Eric… • University library • University level textbooks and research articles • Video explanations such as Khan Academy

What tips and techniques do you teach and use for going beyond basic search engines? How might artificial intelligence (AI) tools ethically be used?	**How can students check or evaluate the accuracy and value of AI-provided information? How is this different to the use and evaluation of other kinds of source material?**
● Searching for file type, for some specific writers ● Beginning the search from more formal sources like books or projects ● Students has to be able to own the essay both in writing and in line of argument, AI has to be used to polish or to get little steps when they are stuck	● Student needs to have an overall knowledge on the subject which will let them suspect/identify the uncommon or strange ideas/knowledge. In that case idea/knowledge has to be checked from formal sources ● In other kinds of sources, if the publication/writer is reliable, but in AI some things are totally reliable and some are imaginary

Add bullet-points if and as necessary!

Extended essay subject: FILM

What kinds of knowledge, ideas, evidence, data etc. might students be looking for when writing an EE in this subject?

- Film analysis from both scholarly and industry publications
- Close analysis of key scenes, shots and sequences
- Cinematography, editing, sound, mise-en-scène and performance
- Film theory and critical approaches
- Genre, movement and stylistic conventions
- Historical, cultural, social or political context
- Filmmaker intentions and production choices
- Interviews with directors and other filmmakers
- Scholarly interpretations and critical debate
- Reception, industry or audience information where relevant
- Comparative evidence between films

Where can these be found, what source materials are useful, and what sites or search strategies might they use? (For online materials, please give the names and URLs when possible.)

- Google scholar, online databases suh as JSTOR, EBSCO
- Online libraries from universities
- Reputable or recognised Film and Cinema YouTube channels, e.g. *Lessons from the Screenplay, Cinema Cartography, StudioBinder*
- Film Institution sites e.g. BFI, AFI etc.
- Distributors, e.g. Criterion Collection
- Media History digital libraries e.g. https://mediahistoryproject.org/
- **Filmmaker and craft sources** e.g. society for cinematographers, editors' guild, directors' guild etc.

What tips and techniques do you teach and use for going beyond basic search engines? How might artificial intelligence (AI) tools ethically be used?

- Search specific **concepts + techniques + film/director**, not just film titles
- Use quotation marks and academic terminology specific to film or the field of film or film theory etc.
- Follow bibliographies and Google Scholar **"Cited by"** links
- Search by director, cinematographer, editor or production designer etc. for the films or genres…
- Use specialist databases and film archives
- Search historical sources from the film's release period
- Use AI to generate **keywords, search terms and research questions**
- Use AI to clarify terminology or suggest theories to investigate
- Use AI to identify gaps, counterarguments or alternative perspectives
- Verify all AI-generated information independently

How can students check or evaluate the accuracy and value of AI-provided information? How is this different to the use and evaluation of other kinds of source material?

- Check that named sources actually exist
- Verify quotations and page numbers in the original source
- Cross-check factual claims with reliable sources
- Look for bias, simplification or unsupported interpretation
- Distinguish AI suggestions from scholarly evidence
- Cite the **original source**, not the AI summary, wherever possible
- Treat AI as a **research aid, not an authority**
- Apply the same source-evaluation questions used elsewhere: **authority, evidence, relevance, bias and purpose**
- Remember that AI differs because its information may not have a clearly traceable author or evidence base