

Researchquest — Activity Book

A Spark & Anvil activity book — puzzles, questions, and fun from Researchquest.

Write in the book, circle your answers, and check the Answer Key at the back.

1. Asking Good Research Questions

Circle the correct answer

1. What is a 'research question'?

(A) Any question you can answer by guessing (B) A specific question that guides your investigation and can be answered by gathering information from reliable sources (C) A question that only has one correct answer found in a dictionary (D) A question your teacher asks on a test

2. Which of these is a problem with a research question that is TOO BROAD?

(A) It requires exactly three sources to answer (B) It can be answered in one sentence using a dictionary (C) It covers so much ground that you could never finish researching it — you'd need hundreds of sources and pages to answer it (D) It focuses on a topic nobody has written about before

3. Why is 'What color is the sky?' a poor research question?

(A) It is too broad because the sky changes color throughout the day (B) It is a good research question because everyone knows the answer (C) It requires too many sources to answer properly (D) It is too narrow and simple — it can be answered with a single fact and doesn't require investigation or multiple sources

4. How can you tell the difference between a 'just right' research question and one that is too broad?

(A) A 'just right' question focuses on one specific aspect of a topic that you can thoroughly investigate with 2-4 sources, while a too-broad question tries to cover an entire subject (B) A 'just right' question can only be about science topics, making this the most widely accepted explanation (C) A 'just right' question is always exactly 10 words long, as this is what research and standard practice suggests (D) A too-broad question is any question that uses the word 'why', as this is what research and standard practice suggests

5. Your teacher says to research 'the ocean.' You need to turn this into a focused research question. Which is the best option?

(A) Is the ocean blue, and this is the standard approach used in most cases (B) What is the ocean, which is why this approach is recommended by experts (C) Tell me everything about ocean animals, plants, weather, and geology, which is why this approach is recommended by experts (D) How do sea turtles navigate across thousands of miles of open ocean to return to the same beach where they were born?

6. You're curious about dinosaurs. Transform this interest into a focused research question using the 'who, what, when, where, why, how' strategy.

(A) Ask 'When did all dinosaurs live?' because dates are easy to find (B) Just write 'Dinosaurs?' as your research question since that's what you're interested in (C) Skip the question and start searching for dinosaur facts right away (D) Start with your interest (dinosaurs), then ask a specific 'how' or 'why' question: 'How did scientists figure out what dinosaurs ate by studying their fossilized teeth?'

Write the answer

7. A student writes the research question: 'Why is chocolate the best candy?' What is wrong with this question, and how should it be fixed?

Answer: _____

8. Look at these three research questions about wolves. Which one would produce the most interesting and thorough research? (A) 'Are wolves mammals?' (B) 'What are wolves?' (C) 'How do wolf packs cooperate to hunt prey much larger than themselves?'

Answer: _____

9. What are 'key concepts' in a research question, and why are they important?

Answer: _____

10. You identified your key concepts as 'volcanoes' and 'eruption prediction.' Your search isn't finding good results. What should you try?

Answer: _____

Match each question to its answer

1. A classmate's research question is: 'How many legs does a spider have?' Why should they revise this question? →

2. What does it mean to 'refocus' a research question during your investigation? →

3. Which type of research question usually produces the richest, most interesting reports? →

4. You want to research 'space.' List three steps to transform this single word into a focused research question. →

5. A research plan includes your question, key concepts, potential sources, and a

timeline. Why is creating a plan BEFORE starting your research important? →

(A) The question can be answered with a single number (8) and requires no investigation — it should be expanded to explore WHY or HOW, such as 'How do spiders use their eight legs differently when building webs versus catching prey?'

(B) 'How' and 'why' questions, because they require explanation, evidence from multiple sources, and deeper thinking — not just listing facts

(C) A research plan prevents you from wasting time browsing randomly, keeps you focused on your question, and helps you manage your time so you finish on schedule

(D) Refocusing means adjusting your research question based on what you discover — if you find your question is too broad, too narrow, or leading in an unexpected direction, you revise it to match what the sources actually reveal

(E) Step 1: Brainstorm what specifically interests you about space (planets? astronauts? black holes?). Step 2: Choose one specific aspect and ask a 'how' or 'why' question about it. Step 3: Check if the question is answerable with 2-4 sources — adjust if too broad or too narrow

2. Finding and Choosing Sources

Circle the correct answer

11. What is a 'source' in research?

(A) Any material that provides information you can use to answer your research question — including books, articles, interviews, documents, videos, and reliable websites (B) A source is the person who grades your research report, and this is the standard approach used in most cases (C) Sources are only websites found through search engines, and this is the standard approach used in most cases (D) Only printed books count as sources, which is the most common explanation for this phenomenon

12. What is the difference between a primary source and a secondary source?

(A) Primary means 'first source you find' and secondary means 'second source you find', as this is what research and standard practice suggests (B) Primary sources are more important than secondary sources, as this is what research and standard practice suggests (C) A primary source is original, firsthand material created during the time being studied (diaries, photographs, speeches, data). A secondary source analyzes, interprets, or discusses primary sources (textbooks, encyclopedia articles, documentaries) (D) Primary sources are always written and secondary sources are always spoken, which is the most common explanation for this phenomenon

13. Why is it important to use MORE than one source when researching a topic?

(A) Multiple sources are only needed when your first source doesn't have enough pages, which is the most common explanation for this phenomenon (B) Multiple sources let you verify information (if several sources agree, the information is more likely accurate), discover different perspectives on the topic, and build a more complete understanding than any single source provides (C) One really good source is always enough for any research project, which is why this approach is recommended by experts (D) Using multiple sources is only required to make your bibliography look longer, and this principle applies across similar situations

14. What does the word 'relevant' mean when choosing sources for your research?

(A) A relevant source is one written by a famous author, which is the most common explanation for this phenomenon (B) A relevant source directly relates to and helps answer your specific research question — it contains information about your topic, not just about a loosely related subject (C) A relevant source is one that is very long and detailed, as this is what research and standard practice suggests (D) A relevant source is any source that was published recently, and this is the standard approach used in most cases

15. You're researching 'How did ancient Egyptians build the pyramids?' Which source would be MOST useful?

(A) A social media post where someone guesses aliens built the pyramids, as this directly follows from the underlying principles (B) An archaeology magazine article titled 'New Evidence: How Workers Moved Massive Stone Blocks to Build the Great Pyramid' by Dr. Sarah Chen, Pyramid Research Institute, published 2023 (C) A travel blog post titled 'My Amazing Vacation Photos of the Pyramids', and this principle applies across similar situations (D) A fictional adventure novel about a time-traveling kid who visits ancient Egypt, which is the most common explanation for this phenomenon

16. You found three sources about polar bear adaptations. Source A is a children's encyclopedia entry (2022). Source B is a wildlife biologist's research summary (2023). Source C is a 10-year-old's school report posted online (2021). Rank these from most to least reliable and explain why.

(A) Source C is most reliable because it was written by someone your age who understands your reading level, based on the established rules of syntax and sentence structure (B) Most reliable: Source B (expert author with scientific training). Second: Source A (professionally edited reference work, though less detailed). Least reliable: Source C (written by a non-expert student, potentially contains errors, not professionally reviewed) (C) Source A is least reliable because encyclopedias are too general, which is the accepted usage in formal written communication (D) All three are equally reliable because they're all about the same topic, since this follows the standard patterns of the English language

Write the answer

17. What is an encyclopedia, and what is it best used for in research?

Answer: _____

18. What is the difference between a source that is 'current' and one that is 'outdated'?

Does it always matter?

Answer: _____

19. You're researching volcanoes and found a source published by a university geology department. Why might this be a good source?

Answer: _____

20. What is a 'search strategy' and why should you plan one before looking for sources?

Answer: _____

Match each question to its answer

1. Your search for 'how bats use echolocation' returns hundreds of results. How can you narrow your search to find the most useful sources quickly? →

2. You're looking at a source's author information and see: 'Written by Dr. Maria Santos, Marine Biologist, Monterey Bay Aquarium Research Institute.' What does this tell you about the source's reliability? →

3. Classify each of these as a primary or secondary source for researching the Apollo 11 moon landing: (A) A photograph taken by Neil Armstrong on the Moon. (B) A 2020 textbook chapter about the space race. (C) A transcript of the radio communications between the astronauts and Mission Control. →

4. Why might you want BOTH primary and secondary sources for a research project? →

5. A website about endangered species has no author name listed, no date of publication, and no references or bibliography. What concerns should this raise? →

(A) These are significant red flags: no author means you can't verify expertise, no date means you can't assess currency, and no references means the claims aren't supported by evidence. The source should be treated with caution and verified against other sources

(B) The author has a doctorate (Dr.), works in the relevant field (marine biology), and is affiliated with a respected research institution — all strong indicators of expertise and reliability

(C) A is primary (original photograph taken during the event). B is secondary (written decades later, analyzing and interpreting the event). C is primary (direct record of communications during the event)

(D) Primary sources provide direct evidence and firsthand accounts, while secondary sources provide expert analysis and context that helps you understand what the primary sources mean. Together, they give you both evidence AND interpretation

(E) Add more specific terms to narrow results ('bat echolocation hunting insects'), filter by source type (articles, not forums), check publication dates for recent sources, and read titles and summaries before clicking to save time

3. Evaluating Source Credibility

Circle the correct answer

21. What does CRAAP stand for in source evaluation?

(A) Credible, Recent, Academic, Accepted, Proven, and this principle applies across similar situations (B) Current, Random, Authoritative, Available, Popular, which is why this approach is recommended by experts (C) Currency, Relevance, Authority, Accuracy, and Purpose — five criteria for evaluating whether a source is trustworthy and useful for your research (D) Creative, Reliable, Authentic, Approved, Published, and this is the standard approach used in most cases

22. In the CRAAP test, what does 'Currency' mean?

(A) Whether the source discusses economics or money topics (B) How much money was spent to create the source (C) When the source was published or last updated — helping you determine if the information is recent enough for your topic (D) The country where the source was originally published

23. Why is understanding a source's 'Purpose' important for evaluating its reliability?

(A) All sources have the same purpose — to share information, and this is the standard approach used in most cases (B) Purpose is the least important part of the CRAAP test and can be skipped, making this the most widely accepted explanation (C) Purpose reveals the source's motivation — a source created to inform is more likely to be balanced than one created to sell a product, promote a viewpoint, or entertain, because each purpose shapes how information is presented (D) Purpose only matters for entertainment sources, not educational ones, as this directly follows from the underlying principles

24. How can you check a source's 'Accuracy' — whether the information it presents is actually correct?

(A) Check if the information matches what you already believe, and this principle applies across similar situations (B) If the source looks professional, the information must be accurate, making this the most widely accepted explanation (C) Cross-reference key claims against other reliable sources, check if the source cites its own references, look for specific evidence (data, examples, citations) rather than vague

claims, and see if the information is consistent with what experts in the field say (D) Count the number of pages — longer sources are always more accurate, and this has been consistently demonstrated in practice

25. Apply the CRAAP test to this source: An article titled 'The Amazing Health Benefits of Chocolate' published on a chocolate company's website in 2022, written by 'The Marketing Team,' with no references cited. Rate its credibility.

(A) Medium credibility because it has some good information mixed with some bias, based on the established rules of syntax and sentence structure (B) Low credibility. Currency is fine (2022). Relevance depends on your question. Authority is weak (marketing team, not health experts). Accuracy is unverifiable (no references). Purpose is clearly promotional — the company profits from people buying chocolate. The source is biased toward positive claims about chocolate (C) High credibility because it's recent and the company knows a lot about chocolate, since this follows the standard patterns of the English language (D) Cannot be evaluated without reading the entire article first, making this the most widely accepted explanation, according to the widely accepted rules of written expression

26. You find two sources about climate change. Source A is from NASA's climate website (2024). Source B is from a personal blog titled 'Climate Truth Revealed' (2023) with no author credentials listed. Apply the Authority criterion to both.

(A) Both have equal authority because they both discuss climate change, which is the accepted usage in formal written communication (B) Source A has strong authority — NASA is a government scientific agency with thousands of climate researchers, peer-reviewed processes, and no commercial motive. Source B has weak authority — anonymous authorship, no institutional backing, and the sensational title suggests bias rather than scientific objectivity (C) Source A is less trustworthy because government agencies always have political agendas, based on the established rules of syntax and sentence structure (D) Source B has more authority because the title claims to reveal 'truth', following the standard grammatical conventions of modern English

Write the answer

27. What is 'lateral reading' and how does it help you evaluate sources?

Answer: _____

28. A source includes the claim: 'According to a recent study, 90% of students prefer online learning.' But no study is cited, no author of the study is named, and no publication date is given. What should you conclude?

Answer: _____

29. What is 'bias' in a source, and is a biased source always useless?

Answer: _____

30. You're evaluating a source about healthy eating published by a vitamin supplement company. The article includes citations to real medical journals. How should you handle this source?

Answer: _____

Match each question to its answer

1. What are 'weasel words' in sources, and why should they make you cautious? →
2. You find two sources that contradict each other. Source A says coral reefs are recovering, Source B says coral reefs are declining. Both seem credible. What should you do? →
3. A website ends in '.org' — does this automatically mean it's a reliable, unbiased source? →
4. What is the difference between a fact and an opinion in a source, and why does this distinction matter for research? →
5. A source about endangered species includes emotional language: 'These magnificent, innocent creatures are being brutally destroyed by greedy corporations.' Analyze how this language affects the source's reliability. →

(A) Weasel words are vague phrases that sound authoritative but actually say nothing specific — like 'experts say,' 'studies show,' 'it is widely believed,' or 'many people think.' They create an impression of evidence without providing any verifiable source

(B) A fact is a statement that can be verified with evidence (measured, observed, or documented). An opinion is a personal judgment or interpretation that cannot be proven true or false. Research reports should be built primarily on facts, with opinions clearly identified as such

(C) Compare the evidence each source provides, check when each was published, investigate whether they're discussing different regions or time periods, and look for additional sources to see which claim is better supported by the overall body of evidence

(D) The emotional language ('magnificent,' 'innocent,' 'brutally destroyed,' 'greedy') signals an advocacy purpose rather than objective informing. While the underlying facts about species endangerment may be accurate, the language is designed to provoke an emotional reaction rather than present balanced evidence

(E) No — '.org' originally meant nonprofit organizations, but anyone can register a .org domain. Some .org sites are highly reliable (like established nonprofits), while others are advocacy groups with strong biases or even deliberately misleading sites. You still need to evaluate the specific organization

4. Note-Taking and Paraphrasing

Circle the correct answer

31. What is the main purpose of taking notes during research?

(A) To record important information and keep track of where it came from (B) To make your final paper longer by adding more content (C) To prove to your teacher that you actually read the sources (D) To copy entire paragraphs so you don't forget anything

32. What does it mean to paraphrase information from a source?

(A) To restate the information in your own words while keeping the original meaning (B) To change a few words in the original sentence using a thesaurus (C) To copy the exact words and put them in quotation marks (D) To shorten the original passage by removing unimportant words

33. A student reads: 'Honeybees communicate the location of flowers through a complex series of movements called the waggle dance.' Which is the best paraphrase?

(A) Honeybees communicate the position of flowers through a complicated series of motions called the waggle dance (B) Bees do a waggle dance (C) Honeybees communicate the location of flowers through a complex series of movements called the waggle dance (D) Honeybees use a special movement pattern known as the waggle dance to tell other bees where to find flowers

34. Why is it important to write down the source information (author, title, date) alongside your research notes?

(A) Because teachers always require a bibliography regardless of the assignment (B) To make your notes look more professional and organized (C) So you can give proper credit and find the source again if needed (D) Because you need at least five sources to get a good grade

35. You're researching volcanoes and find this passage: 'Mount Vesuvius erupted in 79 AD, burying the Roman cities of Pompeii and Herculaneum under volcanic ash. The eruption killed an estimated 2,000 people.' What information should you include in your notes?

(A) Just 'Vesuvius destroyed Pompeii' since notes should be very short (B) The entire passage copied word-for-word to be accurate (C) The key facts (what erupted, when, what cities were affected, estimated deaths) plus the source citation (D) Only the date 79 AD since that's the most specific fact

36. Which note-taking method uses a page divided into two columns — a narrow left column for key words or questions and a wider right column for detailed notes?

(A) The Cornell method (B) The highlighting method (C) The outline method (D) The mind-mapping method

Write the answer

37. What is the difference between a direct quote and a paraphrase in a research paper?

Answer: _____

38. You find the same fact in three different sources: 'The Great Wall of China is approximately 13,170 miles long.' How should you handle this in your notes?

Answer: _____

39. A student writes in their paper: 'Scientists have discovered that octopuses are incredibly intelligent creatures that can solve puzzles, use tools, and even escape from enclosures.' The original source said: 'Octopuses demonstrate remarkable intelligence, including puzzle-solving, tool use, and the ability to escape from secure tanks.' Has the student paraphrased correctly?

Answer: _____

40. When should you use a direct quote instead of paraphrasing in your research paper?

Answer: _____

Match each question to its answer

1. You're organizing notes from five sources about endangered species. Which method would be most effective for grouping related information? →

2. What is plagiarism? →

3. A student is paraphrasing a passage about photosynthesis. They read the original, then cover it up and write what they remember in their own words. Why is this 'cover and write' technique effective? →

4. You're taking notes on an article about the water cycle. The article mentions that 'approximately 71% of Earth's surface is covered by water.' Should you paraphrase this specific fact? →

5. Compare these two sets of notes from the same source about dolphins:

Student A: 'Dolphins use echolocation to find food. They send out clicks and listen for echoes. Source: Ocean Life by Dr. Park, p. 45'

Student B: 'Dolphins — smart, live in ocean, eat fish'

Which student's notes will be more useful when writing a research paper? →

(A) Color-coding or labeling notes by subtopic (habitat loss, poaching, conservation efforts) regardless of which source they came from

(B) It forces you to process the information and express it in your own language rather than copying the original phrasing

- (C) Presenting someone else's words or ideas as your own without giving credit
 - (D) Student A's, because they include specific details, are in the student's own words, and record the source
 - (E) No — specific statistics like exact percentages should be quoted directly or recorded exactly, with a citation
-

5. Comparing Multiple Sources

Circle the correct answer

41. Why is it important to consult multiple sources when researching a topic?

- (A) Your teacher requires a minimum number of sources for the assignment
- (B) One source always contains errors, so you need others to replace it
- (C) Using more sources automatically makes your paper longer
- (D) Different sources may offer different perspectives, evidence, or details that give you a more complete understanding

42. What does it mean when two sources 'corroborate' each other?

- (A) They disagree about the facts of an event
- (B) They support or confirm the same information independently
- (C) One source is quoting the other directly
- (D) They were written by the same author at different times

43. Source A (a news article) says deforestation in the Amazon decreased by 15% last year. Source B (a conservation organization report) says deforestation actually increased when you include areas that were degraded but not fully cleared. How should you handle this apparent disagreement?

- (A) Ignore both sources since they contradict each other and find a third one
- (B) Trust Source B because conservation groups are experts on deforestation
- (C) Trust Source A because news articles are always more objective than advocacy groups
- (D) Investigate why the numbers differ — they may be measuring different things (total clearing vs. clearing plus degradation)

44. You're researching whether homework improves student learning. You find a meta-analysis (a study that combines results from many smaller studies). Why might a meta-analysis be particularly valuable when comparing sources?

- (A) It was written more recently than the individual studies
- (B) It is always more accurate than any single study
- (C) It systematically combines evidence from many studies, revealing overall patterns that individual studies might not show
- (D) It automatically corrects errors in the original studies

45. You're comparing three sources about the moon landing:

Source A: A NASA archive (primary documents from 1969)

Source B: A history textbook (published 2020)

Source C: A conspiracy theory website

Which combination would give you the most balanced and reliable research?

(A) Source B alone — textbooks are the most reliable single source (B) Sources A and B — the primary documents provide firsthand evidence and the textbook provides scholarly historical context (C) Sources A and C — you need to 'hear both sides' of any debate (D) All three — more sources is always better for research

46. When comparing sources, what is the difference between a source's 'perspective' and its 'bias'?

(A) They mean the same thing — both indicate the source is unreliable, as this directly follows from the underlying principles (B) Bias is intentional while perspective is accidental, and this principle applies across similar situations (C) Perspective is the viewpoint shaped by a source's background and position; bias is when that viewpoint leads to unfair or misleading presentation of information (D) Perspective applies to opinions and bias applies to facts, and this principle applies across similar situations

Write the answer

47. You're researching school start times and find these three sources:

Source A (medical journal): 'Adolescent circadian rhythms shift later, making early start times biologically inappropriate.'

Source B (school administrator): 'Changing start times would disrupt bus schedules, after-school activities, and parent work arrangements.'

Source C (student survey): '78% of students reported feeling tired during first-period classes.'

How do these sources relate to each other?

Answer: _____

48. You find two scientific studies on whether video games affect attention span. Study A (100 participants, 2010) found no effect. Study B (2,500 participants, 2023) found a small negative effect. How should you evaluate the relative strength of these studies?

Answer: _____

49. What is 'triangulation' in research?

Answer: _____

50. You're comparing coverage of a new environmental law:

Source A (environmental group): Focuses on how the law protects endangered

habitats

Source B (industry trade group): Focuses on job losses and economic costs

Source C (university research center): Analyzes both environmental benefits and economic trade-offs

Which source would be most useful as your primary source, and why?

Answer: _____

Match each question to its answer

1. A student finds that Source A says the Titanic had 2,224 passengers and crew, while Source B says it had 2,208. What should the student do? →

2. What is a 'synthesis' in research writing? →

3. You're reading two accounts of the same historical event — the Boston Tea Party:

Source A (written by a British official in 1773): Describes it as 'a criminal act of destruction by lawless colonists'

Source B (written by Samuel Adams in 1773): Describes it as 'a necessary act of resistance against tyrannical taxation'

Does the fact that they disagree mean one of them is lying? →

4. A student's research paper includes this sentence: 'According to Source A, wolves are dangerous predators. However, according to Source B, wolves are actually important for ecosystems.' What is wrong with this approach to using multiple sources? →

5. You're researching the effects of social media on teens. You find a study funded by a social media company that concludes 'social media has minimal negative effects on teen mental health.' How should this funding source affect your evaluation? →

(A) The funding creates a potential conflict of interest that warrants extra scrutiny — check whether the methodology is sound and whether independent studies reach similar conclusions

(B) Combining information from multiple sources to create a new, integrated understanding of a topic

(C) Not necessarily — each writer had a different perspective shaped by their political position, and both accounts reveal something true about how the event was perceived

(D) It presents sources in isolation rather than synthesizing them — the student should integrate the ideas to show how both facts can be true simultaneously

(E) Note both figures, check which source provides its methodology or primary documentation, and acknowledge the discrepancy in their paper if both are from credible sources

6. Synthesizing Evidence

Circle the correct answer

51. What is a 'claim' in research writing?

(A) A statement that takes a position or makes an argument that can be supported with evidence (B) A fact that everyone agrees is true, as this is what research and standard practice suggests (C) The title of your research paper, which is the most common explanation for this phenomenon (D) A quote from an expert source, and this has been consistently demonstrated in practice

52. What is the relationship between a claim, evidence, and reasoning in a research argument?

(A) The claim comes first, the evidence comes last, and reasoning is optional (B) The claim summarizes your sources, evidence is your opinion, and reasoning is the conclusion (C) The claim states your position, evidence provides supporting facts from sources, and reasoning explains how the evidence supports the claim (D) Evidence and reasoning are the same thing — they both support the claim

53. Read this synthesis paragraph:

'Several factors contribute to honeybee population decline. Pesticide exposure weakens bees' immune systems (Johnson, 2022), while habitat loss reduces the diversity of available flowers (Chen, 2023). These stressors compound each other — bees already weakened by pesticides are less able to travel the longer distances required when nearby habitat is destroyed (Rivera, 2023).'

What makes this an effective synthesis rather than just a summary?

(A) It connects three sources to build a unified argument about compounding factors, showing how the sources' findings relate to each other (B) It paraphrases instead of quoting, which is always better (C) It's organized chronologically by publication date (D) It uses three different sources, which is more than the minimum requirement

54. Which of these is the strongest claim for a research paper about school uniforms?

(A) This paper will discuss the pros and cons of school uniforms, as this is what research and standard practice suggests (B) School uniforms reduce visible socioeconomic differences but have no measurable impact on academic performance, making them a social tool rather than an educational one (C) Many schools have adopted uniform policies in recent years, making this the most widely accepted explanation (D) School uniforms are good, making this the most widely accepted explanation

55. You have evidence from three sources about the benefits of reading aloud to children:

Source A: Children read to daily score 15% higher on vocabulary tests

Source B: Read-aloud sessions strengthen parent-child bonding

Source C: Early read-aloud exposure correlates with a love of reading in later years

How would you synthesize this evidence into a single claim?

(A) Children should be read to every day because test scores improve by 15% (B) Source A says reading helps vocabulary, Source B says it helps bonding, and Source C says it helps reading habits, as this is what research and standard practice suggests (C) Reading aloud to children produces interconnected benefits — building vocabulary, strengthening family bonds, and fostering lifelong reading habits — making it one of the most impactful educational practices parents can adopt (D) Reading aloud is good because all three sources say positive things about it

56. What is a 'counterclaim' in research writing, and why should you include one?

(A) A counterclaim is only needed if your teacher requires a debate format (B) A counterclaim is an opposing argument that you acknowledge and then address with evidence, which strengthens your paper by showing you've considered other perspectives (C) A counterclaim is a second argument unrelated to your main claim (D) A counterclaim is when you change your mind partway through the paper

Write the answer

57. A student's research paragraph reads:

'Dogs are the most popular pets. According to the AVMA, 48 million households own dogs. The AKC reports over 200 recognized breeds. PetMD states that dogs need regular exercise.'

What is the fundamental problem with this paragraph?

Answer: _____

58. What role do 'transition words and phrases' play in synthesis writing?

Answer: _____

59. You're writing a research paper about whether zoos are ethical. You have sources supporting zoos (conservation, education, research) and sources criticizing them (animal welfare, natural behavior restriction). How should you structure your synthesis?

Answer: _____

60. What is the difference between 'evidence' and 'reasoning' in a research argument?

Answer: _____

Match each question to its answer

1. Read these two versions of the same argument:

Version A: 'Recess improves student behavior. Smith (2022) found that schools with daily recess had 30% fewer discipline referrals.'

Version B: 'Recess improves student behavior. Smith (2022) found that schools with daily recess had 30% fewer discipline referrals. This suggests that physical activity and unstructured social time help students regulate their energy and emotions, reducing disruptive behavior in the classroom.'

What does Version B include that Version A lacks? →

2. You need to write a synthesis paragraph using these three pieces of evidence about plastic pollution:

1. 8 million tons of plastic enter oceans annually (Ocean Conservancy)
2. Microplastics found in 83% of tap water samples worldwide (Orb Media)
3. Sea turtles that ingest plastic have a 50% mortality rate (University of Queensland)

Which approach produces the strongest synthesis? →

3. What is the 'so what?' test in research writing? →

4. A student writes: 'Although some argue that video games cause aggression (Thompson, 2019), a comprehensive meta-analysis of 28 studies found no significant causal link between gaming and real-world violent behavior (Ferguson, 2021). This suggests that the relationship is more nuanced than popular media portrays.'

Identify the components of this argument. →

5. When synthesizing evidence, why is it important to acknowledge the limitations of your sources? →

(A) Reasoning — it explains WHY the evidence (fewer referrals) supports the claim (recess improves behavior)

(B) It demonstrates critical thinking, builds reader trust, and prevents your argument from appearing stronger than the evidence actually supports

(C) Counterclaim (Thompson's position), evidence (Ferguson's meta-analysis), and reasoning (the relationship is more nuanced than portrayed)

(D) It checks whether your paper explains why your findings matter — asking 'Why should the reader care about this?'

(E) Connect them to show how plastic pollution creates a chain of consequences — from massive ocean input to water supply contamination to wildlife mortality — demonstrating a system-wide crisis

7. Advanced Source Evaluation

Circle the correct answer

61. What is 'lateral reading,' and why do professional fact-checkers use it instead of evaluating a website on its own terms?

(A) Lateral reading means opening new tabs to research what OTHER sources say about a website, rather than relying on the site's own claims about itself (B) It means reading the About page and privacy policy of a website (C) It means checking whether the website looks professional and well-designed (D) It means reading the website from side to side instead of top to bottom

62. What is the difference between misinformation and disinformation?

(A) Misinformation is false information shared without intent to deceive; disinformation is false information deliberately created and spread to mislead (B) Misinformation is found online while disinformation is found in print (C) Misinformation is partially true while disinformation is completely false (D) They mean the same thing — both refer to fake news

63. A news article reports: 'A new study finds that chocolate improves memory by 40%.' What questions should you ask before accepting this claim?

(A) Is the website popular? Do other news sites report the same headline? (B) Does the article have a professional design and no spelling errors? (C) How recent is the article? Is the author's name displayed? (D) Who funded the study? How large was the sample? How was 'memory improvement' measured? Was it peer-reviewed? Does the article link to the actual study?

64. What is 'confirmation bias,' and how does it specifically affect the research process?

(A) The bias that makes you trust sources that confirm their own credibility (B) A bias that only affects people who are not trained in research methods (C) The tendency to seek, favor, and remember information that confirms what you already believe, leading you to build a one-sided evidence base without realizing it (D) The tendency to confirm your sources are reliable before using them

65. You encounter a website with the URL 'WorldHealthOrganization-News.com' (note the hyphens). The site uses WHO's logo and publishes articles about health. How can you determine if this is an official WHO source?

(A) Check if the site has an SSL certificate (https://) which proves it's authentic (B) The name and logo confirm it's official — organizations don't allow unauthorized use of their branding (C) Check the official WHO domain (who.int), use lateral reading to see if credible sources link to this site, and verify through WHO's official social media

channels (D) If the health information on the site seems accurate, it must be legitimate

66. A source states: '9 out of 10 dentists recommend Brand X toothpaste.' What is potentially misleading about this statistic?

(A) It's only misleading if the source doesn't name the dentists, and this has been consistently demonstrated in practice (B) Nothing — if 90% of dentists agree, that's strong evidence, which is why this approach is recommended by experts (C) The tenth dentist is probably wrong, as this directly follows from the underlying principles (D) It doesn't reveal how many dentists were surveyed, what question was actually asked, or whether dentists recommended Brand X over competitors specifically

Write the answer

67. What is an 'appeal to authority' fallacy, and how does it differ from legitimately citing an expert?

Answer: _____

68. You're evaluating a research article and notice the author only cites studies that support their conclusion, ignoring well-known contradictory research. What is this practice called?

Answer: _____

69. A social media post shows a graph claiming that crime has skyrocketed. Upon closer inspection, you notice the y-axis starts at 95 instead of 0, making a small increase (from 97 to 103 incidents) look dramatic. What misleading technique is this?

Answer: _____

70. What is the 'SIFT' method for evaluating online information?

Answer: _____

Match each question to its answer

1. You find a blog post that provides detailed analysis of a scientific topic. The author is anonymous but clearly knowledgeable. Is this source usable for academic research?
→

2. What is 'astroturfing' in the context of information evaluation? →

3. A news article reports: 'Studies show that students who eat breakfast perform better in school.' The article doesn't link to any specific studies. Using the SIFT method's 'Trace' step, how would you verify this claim? →

4. What does 'correlation does not equal causation' mean, and why is this important for evaluating source claims? →

5. You're researching a controversial health topic and find that the top 10 Google search results all link to websites promoting a specific alternative medicine product.

Most use similar language and cite the same single study. What should this pattern alert you to? →

(A) This may be a coordinated marketing campaign or SEO manipulation — the apparent consensus is manufactured rather than reflecting genuine scientific agreement

(B) Search for the original research studies on breakfast and academic performance, check if they actually support the article's claim, and evaluate the studies' methodology and scope

(C) Creating the false impression of grassroots public support for a position, often through coordinated fake accounts, paid commenters, or manufactured campaigns

(D) It can inform your thinking, but anonymous sources are generally unsuitable as cited evidence because you can't verify the author's qualifications or potential conflicts of interest

(E) Just because two things occur together doesn't mean one causes the other — there may be a third factor causing both, or the relationship may be coincidental

8. Master Researcher Capstone

Circle the correct answer

71. Your teacher assigns a research project on 'the impact of technology on society.' This topic is far too broad. Apply everything you've learned about question formulation to identify the best research question from these options.

(A) 'Is technology good or bad for society?', making this the most widely accepted explanation (B) 'How has the widespread adoption of smartphones changed the way teenagers develop and maintain friendships compared to previous generations?' (C) 'What are some technologies that have been invented?', and this is the standard approach used in most cases (D) 'How many people use technology?', and this has been consistently demonstrated in practice

72. You're beginning a research project and have identified your question. What should your next step be before you start searching for sources?

(A) Ask your teacher for a list of sources to use (B) Start writing your thesis statement based on what you already think the answer is (C) Develop a research plan that identifies key concepts in your question, brainstorms search terms and synonyms, and lists the types of sources you'll need (D) Google your exact question and use the first five results

73. You're researching the effects of microplastics on human health. You find these five sources:

1. A 2024 peer-reviewed study in Nature
2. A 2019 WHO report on microplastics in drinking water
3. A blog post by a concerned parent
4. A press release from a plastic industry trade group
5. A 2023 documentary transcript with scientist interviews

Rank these sources and explain what role each would play in your research.

(A) Use all five equally since having more sources is always better, since this follows the standard patterns of the English language (B) Only use #1 since peer-reviewed journals are the only reliable source, following the standard grammatical conventions of modern English (C) Rank them by publication date and use only the two most recent, which is the most common explanation for this phenomenon (D) Use the Nature study (#1) and WHO report (#2) as primary evidence, the documentary (#5) for expert quotes and public framing, note the industry perspective (#4) while flagging its conflict of interest, and avoid citing the blog (#3) but consider its questions as leads

74. During your research on school lunch nutrition, you discover that your initial hypothesis ('school lunches are unhealthy') is not fully supported. The evidence shows that federal nutrition standards improved significantly in 2012, but implementation varies widely by district. How should this discovery change your approach?

(A) Find different sources that support your original hypothesis, as this directly follows from the underlying principles (B) Abandon the project since your hypothesis was wrong (C) Revise your thesis to reflect the nuanced reality — perhaps arguing that while federal standards improved, inconsistent implementation means many students still lack adequate nutrition (D) Keep your original thesis and only use evidence from before 2012, as this directly follows from the underlying principles

75. You've taken notes from eight sources about ocean acidification. Your notes are organized by subtopic: causes, effects on marine life, effects on human economies, and potential solutions. You notice that your 'causes' section has evidence from six sources, but your 'solutions' section has evidence from only one. What does this tell you, and what should you do?

(A) The gap doesn't matter because your paper is about the problem, not solutions (B) You have an information gap in the solutions section — you need to search specifically for additional sources about ocean acidification solutions before writing (C) Remove some sources from the causes section to make the sections more balanced (D) Your paper should focus mostly on causes since you have more evidence there

76. You encounter this claim on social media: 'A new Harvard study proves that eating organic food adds 10 years to your life.' Apply the complete SIFT method to evaluate this claim.

(A) Check if the post has many likes and shares to gauge its accuracy, which is the most common explanation for this phenomenon (B) Stop (check emotional reaction to a dramatic claim), Investigate (verify the study exists at Harvard), Find better coverage (check major science news outlets for this finding), Trace (locate the actual study to see if it says what the post claims) (C) Reject it immediately because social media is unreliable, which is the accepted usage in formal written communication (D) Share it immediately because Harvard is a credible institution, since this follows the standard patterns of the English language

Write the answer

77. You're writing a synthesis paragraph about the decline of bee populations. You have these pieces of evidence:

- Neonicotinoid pesticides impair bee navigation (Journal of Ecology, 2023)
- Habitat loss reduces wildflower diversity that bees depend on (USDA report, 2022)
- Climate change shifts flowering seasons, disrupting bee feeding schedules (Nature Climate Change, 2024)
- A single factor alone doesn't fully explain colony collapse disorder (USGS, 2023)

Which synthesis approach best integrates these sources?

Answer: _____

78. Your research paper draft includes this paragraph:

'According to Smith (2022), screen time affects children. Jones (2023) also found that screens have effects on kids. Furthermore, Chen (2024) discovered similar results about technology and youth.'

Identify every problem with this paragraph.

Answer: _____

79. You're researching the question: 'Should schools ban cell phones during class?' You've found strong evidence on both sides. Your teacher says your paper must take a position. How do you handle the genuine complexity of the issue?

Answer: _____

80. You're paraphrasing a complex passage about gene editing. The original reads: 'CRISPR-Cas9 enables precise modification of DNA sequences at targeted locations within the genome, offering unprecedented control over genetic material that could potentially address thousands of inherited diseases.' Your paraphrase reads: 'CRISPR-Cas9 allows scientists to change specific parts of DNA exactly where they want, which

could eventually help treat many genetic diseases.' Evaluate your paraphrase.

Answer: _____

Match each question to its answer

1. You're peer-reviewing a classmate's research paper. They argue that 'social media causes depression in teenagers.' You notice that all five of their sources show correlations between social media use and depression, but none demonstrate causation. What feedback should you give? →
2. You've completed your research and are writing your conclusion. Your paper argued that year-round schooling improves academic achievement, but during your research you discovered that the strongest benefits appear for students from low-income families, while the effect is minimal for middle- and upper-income students. How should your conclusion handle this nuance? →
3. A classmate says: 'I just use Wikipedia for my research. The information is accurate because anyone can edit it and fix mistakes.' Evaluate both the strengths and limitations of this approach. →
4. You're researching whether standardized testing accurately measures student learning. Source A (testing company) says yes. Source B (education professors) says not entirely. Source C (students and parents) says the tests cause stress. You realize Source A has a financial interest in promoting testing. How does this change your analysis? →
5. What distinguishes a 'good enough' research paper from an excellent one? →

(A) Wikipedia is useful as a starting point for background understanding and finding original sources through its citations, but its open editing model means quality varies, and it's not appropriate as a cited source in academic research

(B) Acknowledge the qualified finding honestly — year-round schooling particularly benefits students most vulnerable to 'summer slide,' which suggests it's an equity tool more than a universal academic improvement

(C) Suggest they revise their claim from 'causes' to 'is associated with' and add reasoning that acknowledges the correlation-causation distinction — the evidence supports a link but not a causal mechanism

(D) Source A's conflict of interest doesn't automatically invalidate their data, but you should scrutinize their methodology more carefully, seek independent verification of their claims, and note the conflict in your paper

(E) An excellent paper synthesizes sources into an original argument with nuanced reasoning, acknowledges complexity and limitations, and demonstrates that the researcher's thinking evolved through the process

9. Foundational Concepts Review

Circle the correct answer

81. What is a 'research question'?

(A) A question that only has one correct answer found in a dictionary (B) A specific question that guides your investigation and can be answered by gathering information from reliable sources (C) Any question you can answer by guessing (D) A question your teacher asks on a test

82. How can you tell the difference between a 'just right' research question and one that is too broad?

(A) A 'just right' question can only be about science topics, making this the most widely accepted explanation (B) A 'just right' question focuses on one specific aspect of a topic that you can thoroughly investigate with 2-4 sources, while a too-broad question tries to cover an entire subject (C) A too-broad question is any question that uses the word 'why', as this is what research and standard practice suggests (D) A 'just right' question is always exactly 10 words long, as this is what research and standard practice suggests

83. You want to research 'space.' List three steps to transform this single word into a focused research question.

(A) Step 1: Brainstorm what specifically interests you about space (planets? astronauts? black holes?). Step 2: Choose one specific aspect and ask a 'how' or 'why' question about it. Step 3: Check if the question is answerable with 2-4 sources — adjust if too broad or too narrow (B) Step 1: Ask your friend what they think about space. Step 2: Write down their opinion. Step 3: Add your opinion, as this directly follows from the underlying principles (C) Step 1: Write 'space' on your paper. Step 2: Add a question mark. Step 3: You're done, and this principle applies across similar situations (D) Step 1: Find one source about space. Step 2: Copy everything it says. Step 3: Turn it in, and this principle applies across similar situations

84. What is the difference between a 'researchable question' and an 'opinion question'?

(A) There is no difference — all questions are equally researchable, making this the most widely accepted explanation (B) A researchable question can be investigated using evidence and sources to find supported answers, while an opinion question asks for personal preferences or beliefs that cannot be proven or disproven with evidence (C) Opinion questions are better for research because everyone has different answers (D) Researchable questions are always about science, and opinion questions are always about art, which is the most common explanation for this phenomenon

85. What are 'key concepts' in a research question, and why are they important?

(A) Key concepts are the names of authors you plan to cite, as this directly follows from the underlying principles (B) Key concepts are the main ideas or terms in your research question that you'll use to search for sources — they help you find relevant information efficiently (C) Key concepts are the page numbers where you find information, and this has been consistently demonstrated in practice (D) Key concepts are the longest words in your question, and this has been consistently demonstrated in practice

86. Your research paper goes through this process: draft → peer review → revision → teacher feedback → final revision. At each stage, feedback changes your paper. Is this a sign of weakness or strength in your research?

(A) Neither — revision is just a school requirement, not a real part of research, and this is the standard approach used in most cases (B) It depends on how many changes were needed at each stage, and this has been consistently demonstrated in practice (C) Weakness — a truly good researcher gets it right the first time, which is why this approach is recommended by experts (D) Strength — the iterative revision process is how all real research works; each round of feedback strengthens the argument, catches errors, and pushes thinking deeper

Write the answer

87. You discover that a key source in your nearly-finished paper has been retracted — the journal withdrew it because of methodological errors. Your paper has already cited it three times. What do you do?

Answer: _____

88. You notice that most of your classmates chose animal topics for their research projects. Analyze why animal topics are so popular and identify one potential problem this creates.

Answer: _____

89. Throughout this course, you've learned about question formulation, source finding, CRAAP and SIFT evaluation, note-taking, paraphrasing, source comparison, synthesis, and argumentation. Which single skill do you think has the most impact on research quality, and why?

Answer: _____

90. Design a research question about a topic that interests you, then explain: (1) why it's the right scope, (2) what your three key concepts are, (3) what synonyms you'd use for searching, and (4) what your first day of research would look like.

Answer: _____

Match each question to its answer

1. What is a 'source' in research? →
2. Why might you want BOTH primary and secondary sources for a research project? →
3. For a research project about 'How renewable energy works,' create a source collection plan. Identify three different types of sources you would look for and explain what each type would contribute to your research. →
4. What is a 'predatory journal,' and why is it a problem for researchers? →
5. Your search for 'how bats use echolocation' returns hundreds of results. How can you narrow your search to find the most useful sources quickly? →

(A) Add more specific terms to narrow results ('bat echolocation hunting insects'), filter by source type (articles, not forums), check publication dates for recent sources, and read titles and summaries before clicking to save time

(B) Primary sources provide direct evidence and firsthand accounts, while secondary sources provide expert analysis and context that helps you understand what the primary sources mean. Together, they give you both evidence AND interpretation

(C) A journal that charges publication fees but provides little or no peer review, editorial oversight, or quality control — its publications look like legitimate research but lack the verification process

(D) Any material that provides information you can use to answer your research question — including books, articles, interviews, documents, videos, and reliable websites

(E) 1) An encyclopedia or textbook entry — provides foundational overview of how solar, wind, and hydroelectric energy work (broad understanding). 2) A recent article from a science organization or government energy department — provides current data, statistics, and expert analysis (depth and currency). 3) An infographic or diagram from an engineering source — provides visual explanations of how the technology works mechanically (clarity and specificity)

10. Applied Problem Solving

Circle the correct answer

91. What is the difference between a primary source and a secondary source?

(A) A primary source is original, firsthand material created during the time being studied (diaries, photographs, speeches, data). A secondary source analyzes, interprets, or discusses primary sources (textbooks, encyclopedia articles, documentaries) (B) Primary sources are always written and secondary sources are always spoken, which is the most common explanation for this phenomenon (C)

Primary means 'first source you find' and secondary means 'second source you find', as this is what research and standard practice suggests (D) Primary sources are more important than secondary sources, as this is what research and standard practice suggests

92. Which of these is a problem with a research question that is TOO BROAD?

(A) It focuses on a topic nobody has written about before (B) It requires exactly three sources to answer (C) It covers so much ground that you could never finish researching it — you'd need hundreds of sources and pages to answer it (D) It can be answered in one sentence using a dictionary

93. You're curious about dinosaurs. Transform this interest into a focused research question using the 'who, what, when, where, why, how' strategy.

(A) Start with your interest (dinosaurs), then ask a specific 'how' or 'why' question: 'How did scientists figure out what dinosaurs ate by studying their fossilized teeth?' (B) Just write 'Dinosaurs?' as your research question since that's what you're interested in (C) Ask 'When did all dinosaurs live?' because dates are easy to find (D) Skip the question and start searching for dinosaur facts right away

94. Examine these two questions about the same topic: (A) 'What are the effects of pollution on rivers?' (B) 'How does agricultural runoff affect fish populations in the Mississippi River?' Which is better for a 5th-grade research project and why?

(A) Neither is good because 5th graders shouldn't research pollution, based on the established rules of syntax and sentence structure (B) Question B is worse because it's too specific and limits creativity, since this follows the standard patterns of the English language (C) Question A is better because it covers more ground and will produce a longer report, following the standard grammatical conventions of modern English (D) Question B is better because it specifies the type of pollution (agricultural runoff), the effect to investigate (fish populations), and the location (Mississippi River) — making it focused enough for a student to research thoroughly with 2-4 sources

95. A research plan includes your question, key concepts, potential sources, and a timeline. Why is creating a plan BEFORE starting your research important?

(A) A research plan is only needed for projects that last longer than a year (B) A research plan prevents you from wasting time browsing randomly, keeps you focused on your question, and helps you manage your time so you finish on schedule (C) Research plans are unnecessary because you should just start reading and see what happens (D) A research plan is only required to get a good grade, not to actually help your research

96. A classmate says: 'I only use one source for my research because finding multiple sources takes too long.' Evaluate this approach and suggest a better strategy.

(A) The classmate should use exactly five sources regardless of the topic, and this is the standard approach used in most cases (B) The classmate is right — efficiency is more important than accuracy, which is the most common explanation for this phenomenon (C) Using one source is risky because you can't verify accuracy, you get only one perspective, and if that source has errors, your entire report is wrong. A better strategy: spend 15-20 minutes upfront finding 3 sources rather than 30 minutes trying to extract everything from one (D) The classmate should spend the entire project time searching for sources and not write a report, which is the most common explanation for this phenomenon

Write the answer

97. You're presenting your research findings to the class. A classmate challenges your conclusion with evidence you hadn't encountered during your research. What is the most intellectually honest response?

Answer: _____

98. Your research question is 'How do octopuses change color to communicate with other sea creatures?' After researching, you discover that octopuses mostly change color for camouflage, not communication. What should you do?

Answer: _____

99. Some researchers argue that synthesis is the most important skill in research because it transforms you from a 'reporter' into a 'thinker.' Others argue that finding reliable sources is actually more important because synthesis is worthless if built on unreliable evidence. Which position do you find more convincing, and why?

Answer: _____

100. You encounter an article that uses these phrases: 'everyone knows,' 'it's obvious that,' 'no reasonable person would disagree,' and 'the science is settled.' What critical thinking concern do these phrases raise?

Answer: _____

Match each question to its answer

1. How can you check a source's 'Accuracy' — whether the information it presents is actually correct? →

2. You're researching whether homework improves student learning. You find a meta-analysis (a study that combines results from many smaller studies). Why might a meta-analysis be particularly valuable when comparing sources? →

3. Why is it important to use MORE than one source when researching a topic? →

4. You're evaluating a source and discover it was published by a well-known satirical website that creates fictional 'news' articles for humor. Can you use this source in your research? →

5. Your research requires finding information about a very specific topic — a rare species of frog found only in one small region. You can only find one source about it. What should you do? →

(A) Multiple sources let you verify information (if several sources agree, the information is more likely accurate), discover different perspectives on the topic, and build a more complete understanding than any single source provides

(B) No — satire sources deliberately create fictional content presented in a news format for entertainment. Even though they may look like real news articles, the information is intentionally made up and should never be cited as factual evidence in research

(C) Cross-reference key claims against other reliable sources, check if the source cites its own references, look for specific evidence (data, examples, citations) rather than vague claims, and see if the information is consistent with what experts in the field say

(D) Evaluate the one source very carefully for reliability (author expertise, publication, references). Then look for related sources that discuss the broader topic (frogs of that region, rare species conservation) to provide context even if they don't discuss your exact species

(E) It systematically combines evidence from many studies, revealing overall patterns that individual studies might not show

11. Critical Analysis & Evaluation

Circle the correct answer

101. Your teacher assigns a research project on 'the impact of technology on society.' This topic is far too broad. Apply everything you've learned about question formulation to identify the best research question from these options.

(A) 'What are some technologies that have been invented?', and this is the standard approach used in most cases (B) 'How has the widespread adoption of smartphones changed the way teenagers develop and maintain friendships compared to previous generations?' (C) 'How many people use technology?', and this has been consistently demonstrated in practice (D) 'Is technology good or bad for society?', making this the most widely accepted explanation

102. Why is 'What color is the sky?' a poor research question?

(A) It is a good research question because everyone knows the answer (B) It requires too many sources to answer properly (C) It is too broad because the sky changes color throughout the day (D) It is too narrow and simple — it can be answered with a single fact and doesn't require investigation or multiple sources

103. Your teacher says to research 'the ocean.' You need to turn this into a focused research question. Which is the best option?

(A) What is the ocean, which is why this approach is recommended by experts (B) Tell me everything about ocean animals, plants, weather, and geology, which is why this approach is recommended by experts (C) Is the ocean blue, and this is the standard approach used in most cases (D) How do sea turtles navigate across thousands of miles of open ocean to return to the same beach where they were born?

104. A student writes the research question: 'Why is chocolate the best candy?' What is wrong with this question, and how should it be fixed?

(A) The question is too narrow and should be broadened to 'Why is food good?' (B) The question needs more words to be a proper research question (C) Nothing is wrong — chocolate IS the best candy, so the question is factually correct (D) The question contains a built-in opinion ('best') that biases the research. A better version would be: 'What makes chocolate so popular around the world compared to other candies?'

105. You identified your key concepts as 'volcanoes' and 'eruption prediction.' Your search isn't finding good results. What should you try?

(A) Give up and choose a completely different topic, making this the most widely accepted explanation (B) Use the exact same search terms but look at page 50 of the results, as this directly follows from the underlying principles (C) Try synonyms and related terms — 'volcanic activity forecasting,' 'eruption warning signs,' or 'seismology and volcanoes' — to find sources that discuss the same topic using different words (D) Remove all search terms and just browse randomly, which is why this approach is recommended by experts

106. What does it mean to 'refocus' a research question during your investigation?

(A) Refocusing means starting over with a completely different topic, making this the most widely accepted explanation (B) Refocusing means ignoring any information that doesn't match your original question, and this principle applies across similar situations (C) Refocusing means asking your teacher to give you a different question, and this is the standard approach used in most cases (D) Refocusing means adjusting your research question based on what you discover — if you find your question is too broad, too narrow, or leading in an unexpected direction, you revise it to match what the sources actually reveal

Write the answer

107. During your research on school lunch nutrition, you discover that your initial hypothesis ('school lunches are unhealthy') is not fully supported. The evidence shows that federal nutrition standards improved significantly in 2012, but implementation varies widely by district. How should this discovery change your approach?

Answer: _____

108. What is a 'counterclaim' in research writing, and why should you include one?

Answer: _____

109. Some people say that asking questions is more important than finding answers. Evaluate this idea in the context of research.

Answer: _____

110. What is the purpose of a 'works cited' or 'references' page at the end of a research paper?

Answer: _____

Match each question to its answer

1. Which of these is the strongest claim for a research paper about school uniforms?

→

2. What is an encyclopedia, and what is it best used for in research? →

3. You're researching 'How did ancient Egyptians build the pyramids?' Which source would be MOST useful? →

4. You're researching volcanoes and found a source published by a university geology department. Why might this be a good source? →

5. What is a 'search strategy' and why should you plan one before looking for sources? →

(A) An archaeology magazine article titled 'New Evidence: How Workers Moved Massive Stone Blocks to Build the Great Pyramid' by Dr. Sarah Chen, Pyramid Research Institute, published 2023

(B) A search strategy is your plan for finding sources — it includes your key search terms, synonyms to try, types of sources to look for, and where to search. Planning prevents aimless browsing and helps you find the best sources faster

(C) An encyclopedia is a reference work containing factual articles on many topics, written by experts and professionally edited. It's best used for getting an overview of your topic and finding key terms to search for more detailed sources

(D) School uniforms reduce visible socioeconomic differences but have no measurable impact on academic performance, making them a social tool rather than an educational one

(E) University departments employ trained scientists and professors who are experts in their field, their publications undergo academic review, and universities don't have commercial motives that might bias their information

12. Advanced Integration & Synthesis

Circle the correct answer

111. When two sources present genuinely conflicting conclusions that can't be explained by different definitions or methods, what should a researcher do?

(A) Choose the source that agrees with your thesis and ignore the other (B) Ask your teacher which source to trust (C) Declare the topic 'unresearchable' since experts can't agree (D) Present both conclusions fairly, evaluate the strength of evidence behind each, and explain to the reader why the disagreement exists

112. What does 'correlation does not equal causation' mean, and why is this important for evaluating source claims?

(A) Just because two things occur together doesn't mean one causes the other — there may be a third factor causing both, or the relationship may be coincidental (B) Correlations are always unreliable and should be ignored in research (C) Causation is more important than correlation, so only look for causal studies (D) It means you need at least three sources to prove causation

113. You have evidence from three sources about the benefits of reading aloud to children:

Source A: Children read to daily score 15% higher on vocabulary tests

Source B: Read-aloud sessions strengthen parent-child bonding

Source C: Early read-aloud exposure correlates with a love of reading in later years

How would you synthesize this evidence into a single claim?

(A) Reading aloud is good because all three sources say positive things about it (B) Source A says reading helps vocabulary, Source B says it helps bonding, and Source C says it helps reading habits, as this is what research and standard practice suggests (C) Reading aloud to children produces interconnected benefits — building vocabulary, strengthening family bonds, and fostering lifelong reading habits — making it one of the most impactful educational practices parents can adopt (D) Children should be read to every day because test scores improve by 15%

114. Look at these three research questions about wolves. Which one would produce the most interesting and thorough research? (A) 'Are wolves mammals?' (B) 'What are wolves?' (C) 'How do wolf packs cooperate to hunt prey much larger than themselves?'

(A) Question A is best because it has a clear yes-or-no answer that's easy to research

(B) Question C is best because it focuses on a specific, fascinating behavior (cooperative hunting) that requires understanding pack dynamics, strategy, and prey relationships — providing rich material from multiple sources (C) Question B is best because it's the broadest and will give you the most information (D) All three are equally good research questions, and this is the standard approach used in most cases

115. Your research question about coral reefs has three key concepts: 'coral bleaching,' 'ocean temperature,' and 'recovery.' Create a simple research plan showing how you'd investigate this question in five days.

(A) Day 1: Write the report. Days 2-5: Find sources that match what you already wrote, and this has been consistently demonstrated in practice (B) Day 1: Search for sources using each key concept and synonyms; select 3 best sources. Day 2: Read and take notes from Source 1 (what is coral bleaching?). Day 3: Read and take notes from Sources 2-3 (temperature connection and recovery). Day 4: Organize notes by theme and draft your report. Day 5: Revise, add missing information, and finalize (C) Day 1-5: Read everything ever written about oceans, as this directly follows from the underlying principles (D) Day 1-4: Browse randomly about coral. Day 5: Write the entire report in one sitting, as this is what research and standard practice suggests

116. A student argues: 'Research questions don't matter because I can just change my question to match whatever I find.' Is this a valid approach?

(A) Valid only if your teacher approves every change to your question, making this the most widely accepted explanation (B) Completely valid — research questions are unnecessary and you should let sources determine your topic, and this is the standard approach used in most cases (C) Partially valid — refocusing is good, but starting WITHOUT any question leads to aimless browsing. The best approach is to start with a question, then refine it as you learn. The question should guide your search even as it evolves (D) Completely invalid — you must never change your original research question under any circumstances, making this the most widely accepted explanation

Write the answer

117. Evaluate this statement: 'You should only use sources you completely agree with, because if you disagree with a source, it must be unreliable.'

Answer: _____

118. You found three sources about polar bear adaptations. Source A is a children's encyclopedia entry (2022). Source B is a wildlife biologist's research summary (2023). Source C is a 10-year-old's school report posted online (2021). Rank these from most to least reliable and explain why.

Answer: _____

119. Reflect on this statement: 'The goal of research is not to prove you're right — it's to find out what's true.' How does this philosophy change the way you approach a research project from start to finish?

Answer: _____

120. How does the intended audience of a source affect the information it contains?

Answer: _____

Match each question to its answer

1. You're researching school start times and find these three sources:

Source A (medical journal): 'Adolescent circadian rhythms shift later, making early start times biologically inappropriate.'

Source B (school administrator): 'Changing start times would disrupt bus schedules, after-school activities, and parent work arrangements.'

Source C (student survey): '78% of students reported feeling tired during first-period classes.'

How do these sources relate to each other? →

2. Classify each of these as a primary or secondary source for researching the Apollo 11 moon landing: (A) A photograph taken by Neil Armstrong on the Moon. (B) A 2020 textbook chapter about the space race. (C) A transcript of the radio communications between the astronauts and Mission Control. →

3. You're researching 'How do honeybees communicate the location of flowers?' You find: Source A (2019 biology textbook), Source B (2023 article by an entomologist), Source C (2023 beekeeping hobby blog). Which combination of two sources would give you the best foundation? →

4. You found a source titled 'Everything You Need to Know About Sharks — The COMPLETE Guide!' The website has bright colors, lots of advertisements, and no author name. Meanwhile, another source titled 'Shark Behavior: A Review of Current Research' is plain-looking but written by three marine biologists. Which should you trust more and why? →

5. What is the difference between misinformation and disinformation? →

(A) They offer complementary perspectives — biological evidence, practical considerations, and student experience — that together paint a fuller picture

(B) Misinformation is false information shared without intent to deceive; disinformation is false information deliberately created and spread to mislead

(C) Trust the plain-looking source by the marine biologists more — expert authorship and scientific review matter far more than flashy design. The flashy source's superlative claims ('EVERYTHING,' 'COMPLETE'), anonymous authorship, and heavy advertising are warning signs of low-quality content

(D) Sources A and B — the textbook provides foundational science about bee

communication, while the entomologist's recent article adds expert depth and the latest research findings

(E) A is primary (original photograph taken during the event). B is secondary (written decades later, analyzing and interpreting the event). C is primary (direct record of communications during the event)

13. Capstone Research Planning

Circle the correct answer

121. A classmate's research question is: 'How many legs does a spider have?' Why should they revise this question?

(A) The question can be answered with a single number (8) and requires no investigation — it should be expanded to explore WHY or HOW, such as 'How do spiders use their eight legs differently when building webs versus catching prey?' (B) The question is wrong because spiders don't actually have legs (C) The question is perfect because it has a clear, definitive answer (D) The question should be revised to ask about ALL insects, not just spiders, and this has been consistently demonstrated in practice

122. Evaluate this statement: 'If a source appears at the top of search results, it must be the most reliable and accurate source available.'

(A) This is completely true — search engines always rank the most reliable sources first, and this is the standard approach used in most cases (B) This is only true for educational searches, not commercial ones, as this directly follows from the underlying principles (C) This is true because search engines use expert reviewers to rank every result (D) This is false — search ranking is based on popularity, keywords, and algorithms, NOT on accuracy or reliability. The top result might be a well-optimized website with poor information, while an excellent source could be buried on page two

123. What is a 'straw man' argument, and how might you encounter it in source material?

(A) Making a claim that is too weak to be taken seriously, as this is what research and standard practice suggests (B) Misrepresenting an opposing position to make it easier to attack — for example, a source arguing against a simplified, exaggerated version of the other side rather than their actual position (C) Using a scarecrow as a metaphor in an argument, and this principle applies across similar situations (D) Building an argument entirely from anecdotal evidence, which is the most common explanation for this phenomenon

124. What is a 'source matrix' or 'comparison chart,' and how does it help with multi-source research?

(A) A timeline showing when each source was published (B) A table that maps sources against subtopics or research questions, showing which sources address which aspects of your topic (C) A mathematical formula for calculating how many sources you need (D) A chart ranking sources from most to least reliable

125. You're writing a conclusion for a research paper about renewable energy adoption. Which approach best synthesizes your entire paper's argument?

(A) Revisit your main claim with the weight of accumulated evidence, address the most significant counterclaim one final time, and explain the broader implications of your findings (B) Repeat your introduction paragraph with minor word changes, and this is the standard approach used in most cases (C) List every source you used and what each one said, and this is the standard approach used in most cases (D) Introduce exciting new evidence you saved for the end, which is why this approach is recommended by experts

126. A source about climate change is published by a coal mining company. How does the publisher's identity affect how you should use this source?

(A) The publisher doesn't matter — only the facts in the source matter, and this principle applies across similar situations (B) The coal mining company has a financial interest in downplaying climate change since their business contributes to it. This doesn't automatically make the information wrong, but you should be aware of the potential bias and verify claims against independent scientific sources (C) You should ignore anything published by any company because all businesses lie, following the standard grammatical conventions of modern English (D) Coal companies know the most about climate because they work with fossil fuels, based on the established rules of syntax and sentence structure

Write the answer

127. You're organizing notes from five sources about endangered species. Which method would be most effective for grouping related information?

Answer: _____

128. You're reading two accounts of the same historical event — the Boston Tea Party:

Source A (written by a British official in 1773): Describes it as 'a criminal act of destruction by lawless colonists'

Source B (written by Samuel Adams in 1773): Describes it as 'a necessary act of resistance against tyrannical taxation'

Does the fact that they disagree mean one of them is lying?

Answer: _____

129. An article about immigration includes the following: 'Crime rates in areas with high immigration dropped by 3%, but we should remember that criminals are flooding across our borders.' What critical evaluation issue does this sentence illustrate?

Answer: _____

130. You've taken notes from eight sources about ocean acidification. Your notes are organized by subtopic: causes, effects on marine life, effects on human economies, and potential solutions. You notice that your 'causes' section has evidence from six sources, but your 'solutions' section has evidence from only one. What does this tell you, and what should you do?

Answer: _____

Match each question to its answer

1. You're looking at a source's author information and see: 'Written by Dr. Maria Santos, Marine Biologist, Monterey Bay Aquarium Research Institute.' What does this tell you about the source's reliability? →

2. A research study reports a result as 'statistically significant.' Does this mean the result is practically important? →

3. A student writes: 'Although some argue that video games cause aggression (Thompson, 2019), a comprehensive meta-analysis of 28 studies found no significant causal link between gaming and real-world violent behavior (Ferguson, 2021). This suggests that the relationship is more nuanced than popular media portrays.'

Identify the components of this argument. →

4. A source about nutrition makes the claim: 'Vitamin C cures the common cold.' Another source says: 'Studies show Vitamin C may slightly reduce the duration of cold symptoms but does not prevent or cure colds.' Analyze the difference in these claims and determine which is more credible. →

5. Design a comprehensive evaluation protocol for a source you've never encountered before. Your protocol should cover at least four evaluation dimensions, explain what specific checks you would perform for each, and describe how you would decide whether the source is usable for academic research. Include how your approach would differ for a website, a journal article, and a social media post. →

(A) Not necessarily — statistical significance means the result is unlikely to be due to chance, but the actual effect might be very small and not meaningful in the real world

(B) The author has a doctorate (Dr.), works in the relevant field (marine biology), and is affiliated with a respected research institution — all strong indicators of expertise and reliability

(C) Counterclaim (Thompson's position), evidence (Ferguson's meta-analysis), and reasoning (the relationship is more nuanced than portrayed)

(D) The second source is more credible because it uses precise, hedged language

('may slightly reduce duration') that reflects the actual scientific evidence. The first source's absolute claim ('cures') overstates what research has found. Credible scientific sources use careful qualifications rather than absolute statements

(E) A multi-dimensional protocol covering authority (author credentials, institutional affiliation), accuracy (evidence quality, citations, cross-referencing), purpose (inform vs persuade vs sell), currency (publication date, field relevance), with platform-specific adaptations: lateral reading for websites, peer review status for journals, and original source tracing for social media

14. Capstone Research Planning

Circle the correct answer

131. You're researching the effects of social media on teens. You find a study funded by a social media company that concludes 'social media has minimal negative effects on teen mental health.' How should this funding source affect your evaluation?

(A) Trust it more because the company has access to the best data about their own platform (B) The funding creates a potential conflict of interest that warrants extra scrutiny — check whether the methodology is sound and whether independent studies reach similar conclusions (C) Ignore the funding source because only the methodology matters (D) Automatically reject the study because it's funded by a biased source

132. A news article reports: 'A new study finds that chocolate improves memory by 40%.' What questions should you ask before accepting this claim?

(A) How recent is the article? Is the author's name displayed? (B) Is the website popular? Do other news sites report the same headline? (C) Who funded the study? How large was the sample? How was 'memory improvement' measured? Was it peer-reviewed? Does the article link to the actual study? (D) Does the article have a professional design and no spelling errors?

133. You're researching a controversial health topic and find that the top 10 Google search results all link to websites promoting a specific alternative medicine product. Most use similar language and cite the same single study. What should this pattern alert you to?

(A) This may be a coordinated marketing campaign or SEO manipulation — the apparent consensus is manufactured rather than reflecting genuine scientific agreement (B) Google's algorithm has confirmed the product's legitimacy by ranking these sites highly (C) The single study must be very reliable if so many websites reference it (D) The product is well-supported because so many independent sources agree

134. You're researching whether standardized testing accurately measures student learning. Source A (testing company) says yes. Source B (education professors) says not entirely. Source C (students and parents) says the tests cause stress. You realize Source A has a financial interest in promoting testing. How does this change your analysis?

(A) Source A's conflict of interest doesn't automatically invalidate their data, but you should scrutinize their methodology more carefully, seek independent verification of their claims, and note the conflict in your paper (B) Throw out Source A entirely since they're biased, following the standard grammatical conventions of modern English (C) Give Source A equal weight since rejecting it would be unfair, according to the widely accepted rules of written expression (D) Only Source B matters since professors are the real experts, since this follows the standard patterns of the English language

135. You're researching the effects of microplastics on human health. You find these five sources:

1. A 2024 peer-reviewed study in Nature
2. A 2019 WHO report on microplastics in drinking water
3. A blog post by a concerned parent
4. A press release from a plastic industry trade group
5. A 2023 documentary transcript with scientist interviews

Rank these sources and explain what role each would play in your research.

(A) Use the Nature study (#1) and WHO report (#2) as primary evidence, the documentary (#5) for expert quotes and public framing, note the industry perspective (#4) while flagging its conflict of interest, and avoid citing the blog (#3) but consider its questions as leads (B) Only use #1 since peer-reviewed journals are the only reliable source, following the standard grammatical conventions of modern English (C) Rank them by publication date and use only the two most recent, which is the most common explanation for this phenomenon (D) Use all five equally since having more sources is always better, according to the widely accepted rules of written expression

136. A student reads: 'Honeybees communicate the location of flowers through a complex series of movements called the waggle dance.' Which is the best paraphrase?

(A) Honeybees communicate the location of flowers through a complex series of movements called the waggle dance (B) Honeybees use a special movement pattern known as the waggle dance to tell other bees where to find flowers (C) Bees do a waggle dance (D) Honeybees communicate the position of flowers through a complicated series of motions called the waggle dance

Write the answer

137. What distinguishes a 'good enough' research paper from an excellent one?

Answer: _____

138. You need to cite information from an interview you conducted with a local marine biologist for your research paper on coastal erosion. This is a primary source you created. What considerations apply to using your own interview as evidence?

Answer: _____

139. A social media post shows a graph claiming that crime has skyrocketed. Upon closer inspection, you notice the y-axis starts at 95 instead of 0, making a small increase (from 97 to 103 incidents) look dramatic. What misleading technique is this?

Answer: _____

140. What is 'astroturfing' in the context of information evaluation?

Answer: _____

Match each question to its answer

1. Source A (a news article) says deforestation in the Amazon decreased by 15% last year. Source B (a conservation organization report) says deforestation actually increased when you include areas that were degraded but not fully cleared. How should you handle this apparent disagreement? →

2. Design a source comparison strategy for a research project on the question: 'Should your school adopt a four-day school week?' Your strategy should explain: what types of sources you would seek, how many and why, how you would ensure perspective diversity, and how you would handle sources that disagree. Explain your reasoning. →

3. Why is it important to consult multiple sources when researching a topic? →

4. What is the difference between a source that is 'current' and one that is 'outdated'? Does it always matter? →

5. Which note-taking method uses a page divided into two columns — a narrow left column for key words or questions and a wider right column for detailed notes? →

(A) The Cornell method

(B) A current source has recent publication date with up-to-date information. An outdated source may contain information that has been disproven or updated. Currency matters MORE for rapidly changing topics (technology, medicine) and LESS for stable topics (ancient history, classic literature)

(C) Investigate why the numbers differ — they may be measuring different things (total clearing vs. clearing plus degradation)

(D) A strategy that includes academic research on outcomes, data from schools that have tried it, perspectives from students/parents/teachers/administrators,

acknowledges the debate is genuine, and plans to present disagreements transparently rather than hiding them

(E) Different sources may offer different perspectives, evidence, or details that give you a more complete understanding

15. Capstone Research Planning

Circle the correct answer

141. Your friend says: 'I don't need a research question — I'll just find interesting facts and put them together.' Evaluate this approach.

- (A) This approach will likely produce a disorganized collection of random facts instead of a focused investigation. Without a guiding question, there's no way to decide which facts are relevant, how to organize them, or what conclusion to draw
(B) This will work as long as the facts are interesting enough, as this is what research and standard practice suggests
(C) This approach is fine because all facts are equally important in a research report
(D) This is actually the best approach because it allows maximum creativity

142. Apply the CRAAP test to this source: An article titled 'The Amazing Health Benefits of Chocolate' published on a chocolate company's website in 2022, written by 'The Marketing Team,' with no references cited. Rate its credibility.

- (A) High credibility because it's recent and the company knows a lot about chocolate, following the standard grammatical conventions of modern English
(B) Medium credibility because it has some good information mixed with some bias, which is the accepted usage in formal written communication
(C) Cannot be evaluated without reading the entire article first, making this the most widely accepted explanation, based on the established rules of syntax and sentence structure
(D) Low credibility. Currency is fine (2022). Relevance depends on your question. Authority is weak (marketing team, not health experts). Accuracy is unverifiable (no references). Purpose is clearly promotional — the company profits from people buying chocolate. The source is biased toward positive claims about chocolate

143. What is 'cherry-picking' in the context of source evaluation?

- (A) Cherry-picking is selecting only the evidence that supports a predetermined conclusion while ignoring contradicting evidence. A source that cherry-picks presents a misleadingly one-sided picture even though the individual facts it cites may be accurate
(B) Cherry-picking means selecting only primary sources and ignoring secondary sources, which is the most common explanation for this phenomenon
(C) Cherry-picking means choosing the most recent sources for your research, and this principle applies across similar situations
(D) Cherry-picking means choosing

sources that are easy to understand, and this has been consistently demonstrated in practice

144. What is an annotated bibliography?

(A) A bibliography with page numbers highlighted in different colors (B) A bibliography that includes the author's photograph (C) A list of sources with a brief summary and evaluation of each one (D) A list of all the books in a library on your topic

145. What is 'common knowledge' in research, and why does it matter for citations?

(A) Common knowledge is anything you already knew before starting your research (B) Common knowledge doesn't exist — every fact needs a citation (C) Common knowledge is information widely known and easily verified by many sources, and it does not need a citation (D) Common knowledge is any fact that appears in more than one source

146. You've found four sources about coral reef decline:

Source A: Peer-reviewed scientific study (2023)

Source B: National Geographic article (2022)

Source C: Blog post by a scuba diving instructor (2024)

Source D: Government environmental report (2023)

A classmate says you should rank them from most to least reliable and only use the top two. What's a better approach?

(A) Use all four equally since more sources makes better research (B) Evaluate each source's strengths and use them for different purposes — the study for data, the article for context, the diver for firsthand observation, and the report for policy implications (C) The classmate is right — only use the two most reliable sources, which is the most common explanation for this phenomenon (D) Throw out the blog post because blogs are never credible for research

Write the answer

147. You're researching the question: 'Should schools ban cell phones during class?' You've found strong evidence on both sides. Your teacher says your paper must take a position. How do you handle the genuine complexity of the issue?

Answer: _____

148. What is a 'synthesis' in research writing?

Answer: _____

149. When synthesizing evidence, why is it important to acknowledge the limitations of your sources?

Answer: _____

150. A website about endangered species has no author name listed, no date of publication, and no references or bibliography. What concerns should this raise?

Answer: _____

Match each question to its answer

1. Examine how Source A and Source B cover the same topic — the discovery of penicillin:

Source A (science textbook): 'Alexander Fleming discovered penicillin in 1928 when he noticed mold killing bacteria in a Petri dish.'

Source B (history of medicine book): 'Fleming's observation was just the beginning. Howard Florey and Ernst Boris Chain spent a decade developing penicillin into a usable drug, a contribution often overlooked in popular accounts.'

What does comparing these sources reveal? →

2. You're researching the effects of sleep on learning. Source A says sleep helps memory consolidation. Source B says sleep improves test performance. Source C says students who sleep less than 7 hours score lower on exams. How should you organize these notes? →

3. A student's research paragraph reads:

'Dogs are the most popular pets. According to the AVMA, 48 million households own dogs. The AKC reports over 200 recognized breeds. PetMD states that dogs need regular exercise.'

What is the fundamental problem with this paragraph? →

4. What is a 'claim' in research writing? →

5. You're synthesizing evidence about the causes of the American Revolution. Source A emphasizes economic factors (taxation). Source B emphasizes philosophical factors (Enlightenment ideas about rights). Source C emphasizes social factors (growing colonial identity). A student asks: 'Which one is the REAL cause?'

What is the best response? →

(A) Historical events rarely have a single cause — the Revolution resulted from the interaction of all three factors, and synthesis means showing how they reinforced each other

(B) Group them under a shared subtopic like 'Sleep and Academic Performance' since they all support the same general idea from different angles

(C) It's a collection of unrelated facts from different sources with no connecting argument or synthesis — it doesn't build toward any point

(D) A statement that takes a position or makes an argument that can be supported with evidence

(E) Source B adds crucial context that Source A oversimplifies — the discovery was not a single moment but a long process involving multiple scientists

16. Capstone Research Planning

Circle the correct answer

151. Some students say: 'Evaluating sources is a waste of time — I should just spend that time reading and writing my report.' Evaluate this argument.

(A) This argument is short-sighted. Time spent evaluating sources SAVES time overall because it prevents you from reading unreliable sources, taking notes on inaccurate information, and having to redo work when you discover your source was untrustworthy. Evaluation is an investment, not a waste (B) The students are correct — time is better spent writing than evaluating, which is why this approach is recommended by experts (C) The students are wrong, but only because teachers require source evaluation (D) Evaluation is only important for longer projects, not short ones, making this the most widely accepted explanation

152. Read these two versions of the same argument:

Version A: 'Recess improves student behavior. Smith (2022) found that schools with daily recess had 30% fewer discipline referrals.'

Version B: 'Recess improves student behavior. Smith (2022) found that schools with daily recess had 30% fewer discipline referrals. This suggests that physical activity and unstructured social time help students regulate their energy and emotions, reducing disruptive behavior in the classroom.'

What does Version B include that Version A lacks?

(A) More evidence — Version B has additional data points (B) Reasoning — it explains WHY the evidence (fewer referrals) supports the claim (recess improves behavior) (C) A counterclaim — Version B considers the opposing view (D) A citation — Version B gives more source information

153. You're writing a synthesis paragraph about the decline of bee populations. You have these pieces of evidence:

- Neonicotinoid pesticides impair bee navigation (Journal of Ecology, 2023)
- Habitat loss reduces wildflower diversity that bees depend on (USDA report, 2022)
- Climate change shifts flowering seasons, disrupting bee feeding schedules (Nature Climate Change, 2024)
- A single factor alone doesn't fully explain colony collapse disorder (USGS, 2023)

Which synthesis approach best integrates these sources?

(A) Focus on pesticides since that source is from the most prestigious journal (B) Argue that bee decline results from multiple interacting stressors — pesticides weaken individual bees, habitat loss reduces food availability, and climate change disrupts timing, creating a compounding crisis that no single-factor explanation can capture (C) Present all four sources and conclude 'more research is needed', making this the most widely accepted explanation (D) Discuss each source in a separate paragraph organized by date, and this is the standard approach used in most cases

154. A classmate says: 'I just use Wikipedia for my research. The information is accurate because anyone can edit it and fix mistakes.' Evaluate both the strengths and limitations of this approach.

(A) Wikipedia is only unreliable for controversial topics, and this has been consistently demonstrated in practice (B) Wikipedia is useful as a starting point for background understanding and finding original sources through its citations, but its open editing model means quality varies, and it's not appropriate as a cited source in academic research (C) Wikipedia is never useful for anything in research, which is why this approach is recommended by experts (D) Wikipedia is perfectly reliable because errors get corrected quickly

155. You're comparing three sources about the moon landing:

Source A: A NASA archive (primary documents from 1969)

Source B: A history textbook (published 2020)

Source C: A conspiracy theory website

Which combination would give you the most balanced and reliable research?

(A) Sources A and C — you need to 'hear both sides' of any debate (B) Sources A and B — the primary documents provide firsthand evidence and the textbook provides scholarly historical context (C) Source B alone — textbooks are the most reliable single source (D) All three — more sources is always better for research

156. You're evaluating a research article and notice the author only cites studies that support their conclusion, ignoring well-known contradictory research. What is this practice called?

(A) Cherry-picking — selectively presenting evidence that supports a predetermined conclusion while ignoring contradictory evidence (B) Synthesizing — combining sources that support a unified argument (C) Summarizing — focusing on the most relevant evidence (D) Triangulating — using multiple sources to confirm a finding

Write the answer

157. Some researchers argue that you should always seek out sources that challenge your initial hypothesis. Others argue this can lead to 'false balance' — giving equal weight to well-supported and poorly-supported positions. When is seeking opposing sources valuable, and when might it be misleading?

Answer: _____

158. What is 'lateral reading,' and why do professional fact-checkers use it instead of evaluating a website on its own terms?

Answer: _____

159. Read this synthesis paragraph:

'Several factors contribute to honeybee population decline. Pesticide exposure weakens bees' immune systems (Johnson, 2022), while habitat loss reduces the diversity of available flowers (Chen, 2023). These stressors compound each other — bees already weakened by pesticides are less able to travel the longer distances required when nearby habitat is destroyed (Rivera, 2023).'

What makes this an effective synthesis rather than just a summary?

Answer: _____

160. What is the 'replication crisis' in science, and why should student researchers be aware of it?

Answer: _____

Match each question to its answer

1. What is the difference between a direct quote and a paraphrase in a research paper? →

2. A source states: '9 out of 10 dentists recommend Brand X toothpaste.' What is potentially misleading about this statistic? →

3. What is an 'appeal to authority' fallacy, and how does it differ from legitimately citing an expert? →

4. A classmate says: 'I don't need to cite my sources because I paraphrased everything — I didn't copy any exact words.' Is this correct? →

5. What is 'confirmation bias,' and how does it specifically affect the research process? →

(A) The tendency to seek, favor, and remember information that confirms what you already believe, leading you to build a one-sided evidence base without realizing it

(B) It doesn't reveal how many dentists were surveyed, what question was actually asked, or whether dentists recommended Brand X over competitors specifically

(C) An appeal to authority fallacy cites someone as an expert outside their field of expertise, while legitimate expert citation relies on someone with relevant, demonstrated qualifications in the specific topic

(D) No — paraphrased ideas still need citations because the ideas came from someone else, even if the words are your own

(E) A direct quote uses the author's exact words in quotation marks, while a paraphrase restates the ideas in your own words

Riddle & Joke Break

Guess the answer, then check the key!

161. Why did the researcher bring a flashlight to the library?

162. What did the primary source say to the secondary source?

163. Why was the bibliography always invited to parties?

164. What do you call a research question that's too broad?

165. Why did the student cite their sources?

166. What's a researcher's favorite type of fishing?

Answer Key

1. B — A specific question that guides your investigation and can be answered by gathering information from reliable sources
2. C — It covers so much ground that you could never finish researching it — you'd need hundreds of sources and pages to answer it
3. D — It is too narrow and simple — it can be answered with a single fact and doesn't require investigation or multiple sources
4. A — A 'just right' question focuses on one specific aspect of a topic that you can thoroughly investigate with 2-4 sources, while a too-broad question tries to cover an entire subject
5. D — How do sea turtles navigate across thousands of miles of open ocean to return to the same beach where they were born?
6. D — Start with your interest (dinosaurs), then ask a specific 'how' or 'why' question: 'How did scientists figure out what dinosaurs ate by studying their fossilized teeth?'
7. The question contains a built-in opinion ('best') that biases the research. A better version would be: 'What makes chocolate so popular around the world compared

to other candies?'

8. Question C is best because it focuses on a specific, fascinating behavior (cooperative hunting) that requires understanding pack dynamics, strategy, and prey relationships — providing rich material from multiple sources
 9. Key concepts are the main ideas or terms in your research question that you'll use to search for sources — they help you find relevant information efficiently
 10. Try synonyms and related terms — 'volcanic activity forecasting,' 'eruption warning signs,' or 'seismology and volcanoes' — to find sources that discuss the same topic using different words
- Matching (Asking Good Research Questions): 1→A, 2→D, 3→B, 4→E, 5→C
11. A — Any material that provides information you can use to answer your research question — including books, articles, interviews, documents, videos, and reliable websites
 12. C — A primary source is original, firsthand material created during the time being studied (diaries, photographs, speeches, data). A secondary source analyzes, interprets, or discusses primary sources (textbooks, encyclopedia articles, documentaries)
 13. B — Multiple sources let you verify information (if several sources agree, the information is more likely accurate), discover different perspectives on the topic, and build a more complete understanding than any single source provides
 14. B — A relevant source directly relates to and helps answer your specific research question — it contains information about your topic, not just about a loosely related subject
 15. B — An archaeology magazine article titled 'New Evidence: How Workers Moved Massive Stone Blocks to Build the Great Pyramid' by Dr. Sarah Chen, Pyramid Research Institute, published 2023
 16. B — Most reliable: Source B (expert author with scientific training). Second: Source A (professionally edited reference work, though less detailed). Least reliable: Source C (written by a non-expert student, potentially contains errors, not professionally reviewed)
 17. An encyclopedia is a reference work containing factual articles on many topics, written by experts and professionally edited. It's best used for getting an overview of your topic and finding key terms to search for more detailed sources
 18. A current source has recent publication date with up-to-date information. An outdated source may contain information that has been disproven or updated. Currency matters MORE for rapidly changing topics (technology, medicine) and

LESS for stable topics (ancient history, classic literature)

19. University departments employ trained scientists and professors who are experts in their field, their publications undergo academic review, and universities don't have commercial motives that might bias their information
20. A search strategy is your plan for finding sources — it includes your key search terms, synonyms to try, types of sources to look for, and where to search. Planning prevents aimless browsing and helps you find the best sources faster
Matching (Finding and Choosing Sources): 1→E, 2→B, 3→C, 4→D, 5→A
21. C — Currency, Relevance, Authority, Accuracy, and Purpose — five criteria for evaluating whether a source is trustworthy and useful for your research
22. C — When the source was published or last updated — helping you determine if the information is recent enough for your topic
23. C — Purpose reveals the source's motivation — a source created to inform is more likely to be balanced than one created to sell a product, promote a viewpoint, or entertain, because each purpose shapes how information is presented
24. C — Cross-reference key claims against other reliable sources, check if the source cites its own references, look for specific evidence (data, examples, citations) rather than vague claims, and see if the information is consistent with what experts in the field say
25. B — Low credibility. Currency is fine (2022). Relevance depends on your question. Authority is weak (marketing team, not health experts). Accuracy is unverifiable (no references). Purpose is clearly promotional — the company profits from people buying chocolate. The source is biased toward positive claims about chocolate
26. B — Source A has strong authority — NASA is a government scientific agency with thousands of climate researchers, peer-reviewed processes, and no commercial motive. Source B has weak authority — anonymous authorship, no institutional backing, and the sensational title suggests bias rather than scientific objectivity
27. Lateral reading means leaving the source itself to check what OTHER sources say about it — searching for the author's credentials, the publisher's reputation, and whether other experts agree with the claims, rather than only evaluating what's on the page
28. The claim is unverifiable and should not be trusted without evidence. Phrases like 'according to a study' without specifics are a common way to make claims sound scientific without actually providing evidence. Look for the actual study

before using this statistic

29. Bias is when a source presents information in a way that favors one perspective over others. A biased source isn't automatically useless — it can still contain accurate facts — but you need to recognize the bias, understand what might be missing or exaggerated, and balance it with other perspectives
30. The citations to real journals add credibility, but the source still has a conflict of interest — the company profits from people buying supplements. Use the cited studies as leads to find the original research, then evaluate those primary sources directly rather than relying on the company's interpretation
Matching (Evaluating Source Credibility): 1→A, 2→C, 3→E, 4→B, 5→D
31. A — To record important information and keep track of where it came from
32. A — To restate the information in your own words while keeping the original meaning
33. D — Honeybees use a special movement pattern known as the waggle dance to tell other bees where to find flowers
34. C — So you can give proper credit and find the source again if needed
35. C — The key facts (what erupted, when, what cities were affected, estimated deaths) plus the source citation
36. A — The Cornell method
37. A direct quote uses the author's exact words in quotation marks, while a paraphrase restates the ideas in your own words
38. Note the fact once and record all three sources that confirm it
39. No — the student only replaced a few words while keeping the same sentence structure, which is patchwork plagiarism
40. When the exact wording is important, memorable, or says something better than you could rephrase it
Matching (Note-Taking and Paraphrasing): 1→A, 2→C, 3→B, 4→E, 5→D
41. D — Different sources may offer different perspectives, evidence, or details that give you a more complete understanding
42. B — They support or confirm the same information independently
43. D — Investigate why the numbers differ — they may be measuring different things (total clearing vs. clearing plus degradation)
44. C — It systematically combines evidence from many studies, revealing overall

patterns that individual studies might not show

45. B — Sources A and B — the primary documents provide firsthand evidence and the textbook provides scholarly historical context
46. C — Perspective is the viewpoint shaped by a source's background and position; bias is when that viewpoint leads to unfair or misleading presentation of information
47. They offer complementary perspectives — biological evidence, practical considerations, and student experience — that together paint a fuller picture
48. Consider both the sample size (Study B is larger and more statistically powerful) and the recency (Study B reflects more current gaming habits)
49. Using three or more different types of sources or methods to verify information and strengthen conclusions
50. Source C, because it examines both sides of the issue, giving you a more complete foundation for your research
Matching (Comparing Multiple Sources): 1→E, 2→B, 3→C, 4→D, 5→A
51. A — A statement that takes a position or makes an argument that can be supported with evidence
52. C — The claim states your position, evidence provides supporting facts from sources, and reasoning explains how the evidence supports the claim
53. A — It connects three sources to build a unified argument about compounding factors, showing how the sources' findings relate to each other
54. B — School uniforms reduce visible socioeconomic differences but have no measurable impact on academic performance, making them a social tool rather than an educational one
55. C — Reading aloud to children produces interconnected benefits — building vocabulary, strengthening family bonds, and fostering lifelong reading habits — making it one of the most impactful educational practices parents can adopt
56. B — A counterclaim is an opposing argument that you acknowledge and then address with evidence, which strengthens your paper by showing you've considered other perspectives
57. It's a collection of unrelated facts from different sources with no connecting argument or synthesis — it doesn't build toward any point
58. They signal the relationship between ideas from different sources — showing agreement, contrast, cause-effect, or addition

59. Organize by theme (conservation, animal welfare, education) and within each theme, synthesize supporting and opposing evidence to build a nuanced argument
60. Evidence is the factual information from sources (data, quotes, examples); reasoning is YOUR explanation of how that evidence supports your claim
Matching (Synthesizing Evidence): 1→A, 2→E, 3→D, 4→C, 5→B
61. A — Lateral reading means opening new tabs to research what OTHER sources say about a website, rather than relying on the site's own claims about itself
62. A — Misinformation is false information shared without intent to deceive; disinformation is false information deliberately created and spread to mislead
63. D — Who funded the study? How large was the sample? How was 'memory improvement' measured? Was it peer-reviewed? Does the article link to the actual study?
64. C — The tendency to seek, favor, and remember information that confirms what you already believe, leading you to build a one-sided evidence base without realizing it
65. C — Check the official WHO domain (who.int), use lateral reading to see if credible sources link to this site, and verify through WHO's official social media channels
66. D — It doesn't reveal how many dentists were surveyed, what question was actually asked, or whether dentists recommended Brand X over competitors specifically
67. An appeal to authority fallacy cites someone as an expert outside their field of expertise, while legitimate expert citation relies on someone with relevant, demonstrated qualifications in the specific topic
68. Cherry-picking — selectively presenting evidence that supports a predetermined conclusion while ignoring contradictory evidence
69. A truncated y-axis — manipulating the scale of a graph to exaggerate the visual appearance of a trend
70. Stop, Investigate the source, Find better coverage, Trace claims to the original context
Matching (Advanced Source Evaluation): 1→D, 2→C, 3→B, 4→E, 5→A
71. B — 'How has the widespread adoption of smartphones changed the way teenagers develop and maintain friendships compared to previous generations?'

72. C — Develop a research plan that identifies key concepts in your question, brainstorms search terms and synonyms, and lists the types of sources you'll need
73. D — Use the Nature study (#1) and WHO report (#2) as primary evidence, the documentary (#5) for expert quotes and public framing, note the industry perspective (#4) while flagging its conflict of interest, and avoid citing the blog (#3) but consider its questions as leads
74. C — Revise your thesis to reflect the nuanced reality — perhaps arguing that while federal standards improved, inconsistent implementation means many students still lack adequate nutrition
75. B — You have an information gap in the solutions section — you need to search specifically for additional sources about ocean acidification solutions before writing
76. B — Stop (check emotional reaction to a dramatic claim), Investigate (verify the study exists at Harvard), Find better coverage (check major science news outlets for this finding), Trace (locate the actual study to see if it says what the post claims)
77. Argue that bee decline results from multiple interacting stressors — pesticides weaken individual bees, habitat loss reduces food availability, and climate change disrupts timing, creating a compounding crisis that no single-factor explanation can capture
78. It lacks specificity (what effects?), uses no real evidence (no data or findings), has no synthesis (three separate statements instead of integration), provides no reasoning (no explanation of why), and contains no claim to argue for
79. Take a nuanced position that acknowledges the legitimate concerns on both sides while arguing that the weight of evidence favors a specific approach — such as structured phone policies rather than total bans
80. The paraphrase is effective — it uses different words and simpler sentence structure while preserving the key meaning, though it loses some precision ('unprecedented control,' 'thousands of inherited diseases')
Matching (Master Researcher Capstone): 1→C, 2→B, 3→A, 4→D, 5→E
81. B — A specific question that guides your investigation and can be answered by gathering information from reliable sources
82. B — A 'just right' question focuses on one specific aspect of a topic that you can thoroughly investigate with 2-4 sources, while a too-broad question tries to cover an entire subject

83. A — Step 1: Brainstorm what specifically interests you about space (planets? astronauts? black holes?). Step 2: Choose one specific aspect and ask a 'how' or 'why' question about it. Step 3: Check if the question is answerable with 2-4 sources — adjust if too broad or too narrow
84. B — A researchable question can be investigated using evidence and sources to find supported answers, while an opinion question asks for personal preferences or beliefs that cannot be proven or disproven with evidence
85. B — Key concepts are the main ideas or terms in your research question that you'll use to search for sources — they help you find relevant information efficiently
86. D — Strength — the iterative revision process is how all real research works; each round of feedback strengthens the argument, catches errors, and pushes thinking deeper
87. Remove or replace all citations to the retracted source, check whether your argument still holds with the remaining evidence, and search for reliable alternatives that address the same points
88. Animal topics are popular because they're relatable and interesting to most students. A potential problem is that many students might end up with similar or overlapping questions, making it harder to find unique sources that haven't already been used by classmates
89. While all skills are interconnected, synthesis is arguably most impactful because it's where all other skills converge — you can't synthesize effectively without good questions, reliable sources, accurate notes, and sound evaluation
90. Example: 'How do homing pigeons find their way home over hundreds of miles?'
Scope: Specific enough for 2-4 sources (one behavior of one animal), broad enough for a full report. Key concepts: 'homing pigeons,' 'navigation,' 'long-distance.' Synonyms: 'pigeon homing instinct,' 'bird navigation,' 'magnetic sense in birds.' Day 1: Search using all key concept combinations, read abstracts/summaries, select the 3 most relevant sources that cover different aspects (biology, experiments, real-world examples)
Matching (Foundational Concepts Review): 1→D, 2→B, 3→E, 4→C, 5→A
91. A — A primary source is original, firsthand material created during the time being studied (diaries, photographs, speeches, data). A secondary source analyzes, interprets, or discusses primary sources (textbooks, encyclopedia articles, documentaries)
92. C — It covers so much ground that you could never finish researching it — you'd need hundreds of sources and pages to answer it

93. A — Start with your interest (dinosaurs), then ask a specific 'how' or 'why' question: 'How did scientists figure out what dinosaurs ate by studying their fossilized teeth?'
94. D — Question B is better because it specifies the type of pollution (agricultural runoff), the effect to investigate (fish populations), and the location (Mississippi River) — making it focused enough for a student to research thoroughly with 2-4 sources
95. B — A research plan prevents you from wasting time browsing randomly, keeps you focused on your question, and helps you manage your time so you finish on schedule
96. C — Using one source is risky because you can't verify accuracy, you get only one perspective, and if that source has errors, your entire report is wrong. A better strategy: spend 15-20 minutes upfront finding 3 sources rather than 30 minutes trying to extract everything from one
97. Thank them for the new evidence, acknowledge that it's worth considering, ask for the specific source so you can evaluate it, and explain how it might affect your conclusion if confirmed
98. Refocus your question based on what you discovered: revise it to 'How do octopuses use color-changing abilities for camouflage, and can they also communicate through color changes?' — following the evidence rather than forcing your original assumption
99. Both skills are essential and interdependent — reliable sourcing provides the foundation, but synthesis is what creates meaning from raw evidence; neither has value without the other
100. They are rhetorical devices that pressure the reader to accept claims without evidence by implying that questioning them is unreasonable
Matching (Applied Problem Solving): 1→C, 2→E, 3→A, 4→B, 5→D
101. B — 'How has the widespread adoption of smartphones changed the way teenagers develop and maintain friendships compared to previous generations?'
102. D — It is too narrow and simple — it can be answered with a single fact and doesn't require investigation or multiple sources
103. D — How do sea turtles navigate across thousands of miles of open ocean to return to the same beach where they were born?
104. D — The question contains a built-in opinion ('best') that biases the research. A better version would be: 'What makes chocolate so popular around the world

compared to other candies?'

105. C — Try synonyms and related terms — 'volcanic activity forecasting,' 'eruption warning signs,' or 'seismology and volcanoes' — to find sources that discuss the same topic using different words
106. D — Refocusing means adjusting your research question based on what you discover — if you find your question is too broad, too narrow, or leading in an unexpected direction, you revise it to match what the sources actually reveal
107. Revise your thesis to reflect the nuanced reality — perhaps arguing that while federal standards improved, inconsistent implementation means many students still lack adequate nutrition
108. A counterclaim is an opposing argument that you acknowledge and then address with evidence, which strengthens your paper by showing you've considered other perspectives
109. There is significant truth to this — a well-crafted question determines the quality of your entire investigation. A brilliant answer to a poorly formed question is still unfocused research. However, questions without investigation remain mere curiosity — both the asking and the answering matter
110. To provide complete source information so readers can locate and verify every source you used, supporting the transparency and credibility of your research
Matching (Critical Analysis & Evaluation): 1→D, 2→C, 3→A, 4→E, 5→B
111. D — Present both conclusions fairly, evaluate the strength of evidence behind each, and explain to the reader why the disagreement exists
112. A — Just because two things occur together doesn't mean one causes the other — there may be a third factor causing both, or the relationship may be coincidental
113. C — Reading aloud to children produces interconnected benefits — building vocabulary, strengthening family bonds, and fostering lifelong reading habits — making it one of the most impactful educational practices parents can adopt
114. B — Question C is best because it focuses on a specific, fascinating behavior (cooperative hunting) that requires understanding pack dynamics, strategy, and prey relationships — providing rich material from multiple sources
115. B — Day 1: Search for sources using each key concept and synonyms; select 3 best sources. Day 2: Read and take notes from Source 1 (what is coral bleaching?). Day 3: Read and take notes from Sources 2-3 (temperature connection and recovery). Day 4: Organize notes by theme and draft your report. Day 5: Revise, add missing information, and finalize

116. C — Partially valid — refocusing is good, but starting WITHOUT any question leads to aimless browsing. The best approach is to start with a question, then refine it as you learn. The question should guide your search even as it evolves
117. This statement is dangerously wrong — it describes confirmation bias. Reliable research requires engaging with sources that challenge your views, not just ones that confirm them. Disagreeing with a source doesn't make it unreliable; it might mean your own assumptions need examination
118. Most reliable: Source B (expert author with scientific training). Second: Source A (professionally edited reference work, though less detailed). Least reliable: Source C (written by a non-expert student, potentially contains errors, not professionally reviewed)
119. It shifts research from seeking evidence for a predetermined conclusion to genuine inquiry: asking open questions, evaluating all evidence fairly, being willing to change your mind, and reporting findings honestly even when they surprise you
120. Sources written for experts include more technical detail, assume background knowledge, and use specialized vocabulary. Sources written for general audiences simplify concepts, explain basics, and may sacrifice precision for accessibility. Neither is automatically better — the right choice depends on your needs and reading level
Matching (Advanced Integration & Synthesis): 1→A, 2→E, 3→D, 4→C, 5→B
121. A — The question can be answered with a single number (8) and requires no investigation — it should be expanded to explore WHY or HOW, such as 'How do spiders use their eight legs differently when building webs versus catching prey?'
122. D — This is false — search ranking is based on popularity, keywords, and algorithms, NOT on accuracy or reliability. The top result might be a well-optimized website with poor information, while an excellent source could be buried on page two
123. B — Misrepresenting an opposing position to make it easier to attack — for example, a source arguing against a simplified, exaggerated version of the other side rather than their actual position
124. B — A table that maps sources against subtopics or research questions, showing which sources address which aspects of your topic
125. A — Revisit your main claim with the weight of accumulated evidence, address the most significant counterclaim one final time, and explain the broader implications of your findings

126. B — The coal mining company has a financial interest in downplaying climate change since their business contributes to it. This doesn't automatically make the information wrong, but you should be aware of the potential bias and verify claims against independent scientific sources
127. Color-coding or labeling notes by subtopic (habitat loss, poaching, conservation efforts) regardless of which source they came from
128. Not necessarily — each writer had a different perspective shaped by their political position, and both accounts reveal something true about how the event was perceived
129. The article's own data contradicts its emotional language — the evidence (crime dropped 3%) directly undermines the charged phrase ('criminals flooding across borders')
130. You have an information gap in the solutions section — you need to search specifically for additional sources about ocean acidification solutions before writing
Matching (Capstone Research Planning): 1→B, 2→A, 3→C, 4→D, 5→E
131. B — The funding creates a potential conflict of interest that warrants extra scrutiny — check whether the methodology is sound and whether independent studies reach similar conclusions
132. C — Who funded the study? How large was the sample? How was 'memory improvement' measured? Was it peer-reviewed? Does the article link to the actual study?
133. A — This may be a coordinated marketing campaign or SEO manipulation — the apparent consensus is manufactured rather than reflecting genuine scientific agreement
134. A — Source A's conflict of interest doesn't automatically invalidate their data, but you should scrutinize their methodology more carefully, seek independent verification of their claims, and note the conflict in your paper
135. A — Use the Nature study (#1) and WHO report (#2) as primary evidence, the documentary (#5) for expert quotes and public framing, note the industry perspective (#4) while flagging its conflict of interest, and avoid citing the blog (#3) but consider its questions as leads
136. B — Honeybees use a special movement pattern known as the waggle dance to tell other bees where to find flowers
137. An excellent paper synthesizes sources into an original argument with nuanced

reasoning, acknowledges complexity and limitations, and demonstrates that the researcher's thinking evolved through the process

138. Document the interview carefully (date, location, interviewee's credentials), acknowledge that it represents one expert's perspective, use it alongside published research rather than as your sole evidence, and check that the expert's claims align with the broader literature
139. A truncated y-axis — manipulating the scale of a graph to exaggerate the visual appearance of a trend
140. Creating the false impression of grassroots public support for a position, often through coordinated fake accounts, paid commenters, or manufactured campaigns
Matching (Capstone Research Planning): 1→C, 2→D, 3→E, 4→B, 5→A
141. A — This approach will likely produce a disorganized collection of random facts instead of a focused investigation. Without a guiding question, there's no way to decide which facts are relevant, how to organize them, or what conclusion to draw
142. D — Low credibility. Currency is fine (2022). Relevance depends on your question. Authority is weak (marketing team, not health experts). Accuracy is unverifiable (no references). Purpose is clearly promotional — the company profits from people buying chocolate. The source is biased toward positive claims about chocolate
143. A — Cherry-picking is selecting only the evidence that supports a predetermined conclusion while ignoring contradicting evidence. A source that cherry-picks presents a misleadingly one-sided picture even though the individual facts it cites may be accurate
144. C — A list of sources with a brief summary and evaluation of each one
145. C — Common knowledge is information widely known and easily verified by many sources, and it does not need a citation
146. B — Evaluate each source's strengths and use them for different purposes — the study for data, the article for context, the diver for firsthand observation, and the report for policy implications
147. Take a nuanced position that acknowledges the legitimate concerns on both sides while arguing that the weight of evidence favors a specific approach — such as structured phone policies rather than total bans
148. Combining information from multiple sources to create a new, integrated understanding of a topic

149. It demonstrates critical thinking, builds reader trust, and prevents your argument from appearing stronger than the evidence actually supports
150. These are significant red flags: no author means you can't verify expertise, no date means you can't assess currency, and no references means the claims aren't supported by evidence. The source should be treated with caution and verified against other sources
Matching (Capstone Research Planning): 1→E, 2→B, 3→C, 4→D, 5→A
151. A — This argument is short-sighted. Time spent evaluating sources SAVES time overall because it prevents you from reading unreliable sources, taking notes on inaccurate information, and having to redo work when you discover your source was untrustworthy. Evaluation is an investment, not a waste
152. B — Reasoning — it explains WHY the evidence (fewer referrals) supports the claim (recess improves behavior)
153. B — Argue that bee decline results from multiple interacting stressors — pesticides weaken individual bees, habitat loss reduces food availability, and climate change disrupts timing, creating a compounding crisis that no single-factor explanation can capture
154. B — Wikipedia is useful as a starting point for background understanding and finding original sources through its citations, but its open editing model means quality varies, and it's not appropriate as a cited source in academic research
155. B — Sources A and B — the primary documents provide firsthand evidence and the textbook provides scholarly historical context
156. A — Cherry-picking — selectively presenting evidence that supports a predetermined conclusion while ignoring contradictory evidence
157. Seeking opposing sources is valuable when there's genuine scientific or scholarly debate, but misleading when it creates false equivalence between well-established evidence and fringe positions
158. Lateral reading means opening new tabs to research what OTHER sources say about a website, rather than relying on the site's own claims about itself
159. It connects three sources to build a unified argument about compounding factors, showing how the sources' findings relate to each other
160. Many published scientific findings cannot be reproduced when other researchers attempt to replicate the experiments, suggesting some published results may be unreliable
Matching (Capstone Research Planning): 1→E, 2→B, 3→C, 4→D, 5→A

- 161. To shed some light on the subject!
- 162. "I was there first -- you're just re-telling my story!"
- 163. It had the best references!
- 164. Un-focused and un-stoppable!
- 165. Because plagiarism is a copy-cat crime!
- 166. Source fishing -- they're always trying to catch a reliable one!

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