EXPLORER

1. Establish Meaning: Use prior and new knowledge and tools to understand what is happening or being said.
2. Ask Questions: Compose questions based on observations, readings, or problems.
3. Investigate: Use multiple methods to inquire, gather information, and establish context.

ANALYZE

4. Interpret: Use sources, data, or computations to extract meaning.
5. Identify Patterns: Find similarities and draw connections among events, ideas, and representations.

REASON

7. Assess Arguments: Evaluate arguments, points of view, and positions with attention to evidence and reasoning.
8. Take a Position: Develop your own position. Support it with appropriate evidence and reasons and defend it from the criticism of others.
9. Reflect: Reflect upon actions and experiences, recognize strengths and shortcomings, and identify ways to improve.

COMMUNICATE

10. Collaborate: Participate in group work, and give and receive peer feedback.
11. Compose: Design and produce works that connect ideas and demonstrate knowledge. Revise work to make it better.
12. Share: Connect with the audience and communicate work clearly.
Establish Meaning

Use prior and new knowledge and tools to understand what is happening or being said.

EXAMPLE PROMPTS

- What inferences can you draw from your review of the material?
- Describe the connection between objects, theories, or concepts.
- What conclusions can you make between the material and personal experience?
- How does your research support the main point or discipline-specific concept?

RELEVANT VOCABULARY

- Define
- Summarize
- Annotate
- Recognize
- Identify
- Explain
- Apply
- Make observations
- Analyze
Ask Questions

Compose questions based on observations, readings, or problems.

EXAMPLE PROMPTS

- What questions do you have about the content, material, or resource that address the main point?
- What observations can you make from a text, source, or object? What does that tell you about major themes?
- Describe the validity of narratives, perspectives, sources, and observations.
- What are you still wondering or curious about?
- Can any of your questions be tested as a basis for research? How do you know?
- What are the advantages and disadvantages of using certain solution paths?

RELEVANT VOCABULARY

- Develop
- Generate
- Record
- Produce
- Distinguish
- Determine
- Consider
Investigate

Use multiple methods to inquire, gather information, and establish context.

EXAMPLE PROMPTS

• What quality sources are you using for research? How do you know they are reliable and high-quality?

• Are you using multiple sources with different points of view? How are you integrating that into final artifacts?

• Describe the appropriate materials or equipment for a specific resource or experiment. Which ones will produce more accurate results? How do you know?

• What design or process will you use for research or data collection?

• How can you break down a multi-step problem into smaller pieces to determine a solution?

• Describe how you can apply a solution path or research statement in your everyday life.

RELEVANT VOCABULARY

• Identify
• Select
• Conduct
• Determine
• Apply
• Research
• Synthesize
• Use in context
Interpret

Use sources, data, or computations to extract meaning.

EXAMPLE PROMPTS

- How are you approaching your analysis? What methods work well for a specific scenario?
- What evidence can be found in a text or source? How does it support a specific conclusion?
- Explain a pattern of causes across multiple sources.
- How will you display data visually and appropriately?
- Identify relationships between representations for a given situation or context.
- Determine and describe the reasonableness of results, representations, or conclusions.

RELEVANT VOCABULARY

- Analysis
- Evidence
- Physical or abstract models
- Sources
- Cause
- Representations
- Reasonableness
- Solve
- Comprehend
Identify Patterns

Find similarities and draw connections among events, ideas, and representations.

EXAMPLE PROMPTS

• What traits or attributes are unique to a given genre? How do you know? How might this differ across time periods?

• Compare and contrast multiple and diverse sources on a given topic. Organize based on events, ideas, or dynamics.

• Explain the relationship between differing views on a topic in a concise way.

• Is a given scenario correlation or causation? How do you know?

• How can you manipulate variables to illustrate a direct or inverse relationship? Predict the correlation between variables.

• What do you notice about a text, problem set, or source? Describe any repetition and create a generalization based on evidence.

RELEVANT VOCABULARY

• Recognize
• Compare and contrast
• Cause and effect
• Causation and correlation
• Direct or inverse relationship
• Repetition
• Correlation
• Patterns
Be Creative
Create solutions, new ideas, and new methods.

EXAMPLE PROMPTS

- Describe or show your unique voice and perspective.
- What feedback, input, or suggestions will you use to develop a new idea or approach?
- Identify a problem and offer a new solution.
- How can the engineering design process support a path to a solution for a given scenario or problem?
- Apply inductive and deductive approaches to research solutions to a problem.
- How can you use functions to describe coherence in algebraic manipulations?
- Describe the difference between inspiration and plagiarism. How does that impact the creative process?

RELEVANT VOCABULARY

- Problem and solution
- Voice
- Perspective
- Inspiration
- Plagiarism
- Development of ideas
Assess Arguments

Evaluate arguments, points of view, and positions with attention to evidence and reasoning.

EXAMPLE PROMPTS

• Recognize point of view and the role of context in an argument.

• How does bias or motive affect an argument, scientific conclusion, or mathematical claim?

• What parts of the argument are strong? Which parts are weak? How do you know? Provide examples of each.

• How does specific evidence support the key points of an argument? How do you know?

• What scientific evidence is available to support the claim? How do you know it is a reliable source?

• Describe the limitations of data and design experiments to support a claim.

• Describe the reasonableness and effectiveness of a mathematical argument. Use proper mathematical notation to support.

RELEVANT VOCABULARY

• Point of view
• Bias or motive
• Context
• Critique
• Claim
• Reasonableness
• Accuracy or legitimacy
Take a Position

Develop your own position. Support it with appropriate evidence and reasons and defend it from the criticism of others.

EXAMPLE PROMPTS

• Make a claim. What evidence do you have to support it? What is the counterargument of your position?

• What opposing evidence is there for each perspective in an argument? Cite your sources.

• Apply claim, evidence, and reasoning (CER) to support or defend a position.

• Describe and justify the position or reasoning for a claim or mathematical reasoning. Use correct notation or citing.

• How can you build on the viable arguments of others to refine your approach or position?

• Identify and support choices for algorithms and formulas based on a given context.

RELEVANT VOCABULARY

• Justify
• Argument
• Counterargument
• Claim, evidence, and reasoning (CER)
• Defend
• Evidence
Reflect upon actions and experiences, recognize strengths and shortcomings, and identify ways to improve.

**EXAMPLE PROMPTS**

- In what ways does the world around you influence your own personal thinking and decision making?
- Develop a plan and demonstrate change in work, behavior, or interactions based on reflection.
- How do your personal words and actions affect those around you? What are your own strengths and areas for improvement?
- Monitor and document your own progress. Determine shortcomings and make a plan to address them.
- What questions do you have about a given topic, claim, or resource?
- What are the benefits of understanding a strategy that is different from your own? Provide an example in a given subject or topic.
- Reflect on mistakes or misconceptions to improve your understanding.

**RELEVANT VOCABULARY**

- Develop a plan
- Influence
- Consequences or effect
- Effectiveness
- Adapt
- Monitor progress
- Set goals
Collaborate

Participate in group work, and give and receive peer feedback.

EXAMPLE PROMPTS

• Practice and demonstrate techniques of effective peer review.

• How can you build on the ideas of others to better your own work and theirs?

• Use active listening skills to produce creative work within a group.

• Incorporate feedback from others to address areas of improvements and strengthen your work, solution, or claim.

• Provide feedback to others constructively so that it supports their learning.

• How can you serve as an instructional resource to your peers?

RELEVANT VOCABULARY

• Peer review
• Feedback
• Constructive
• Active listening
• Resource
• Comment
• Question
Compose
Design and produce works that connect ideas and demonstrate knowledge. Revise work to make it better.

EXAMPLE PROMPTS

• Recognize and use correct conventions, writing, and notational expectations for a given scenario.

• How can you connect ideas or works in an organized way to demonstrate understanding? (e.g. research paper, lab report, problem set, etc.)

• Collaborate, share, and refine ideas with minimal support.

• What design or processes will you use for research or data collection?

• What strategies will you use to create a final version of your work? (e.g. outline, brainstorming, evidence-based sources, etc)

• Keep detailed, organized, and accurate records of data and observations.

• Distinguish between correct or flawed logic or reasoning. Describe why it is correct or flawed.

• Make plausible conjectures based on anecdotal and data driven evidence.

RELEVANT VOCABULARY

• Revise and refine
• Express
• Create
• Connect ideas
• Conjectures or conclusions
Share

Connect with the audience and communicate work clearly.

EXAMPLE PROMPTS

• Create works that are readable and understandable. Choose an appropriate venue for sharing your work.

• How will specific feedback refine your work? What concrete or abstract revisions need to be made?

• Report experimental or mathematical conclusions supported by data analysis. Discuss and communicate findings.

• Present and explain ideas, reasoning, and representations used in the solution process. What other visual or written representations can you use to present findings.

RELEVANT VOCABULARY

• Create
• Venues
• Audience
• Accessibility
• Concrete or abstract revisions
• Tools
• Communicate
Background to Consider While Planning

COURSE:

JOURNEY:

QUEST/ACTIVITY:

EVIDENCE OF CONTENT LEARNING:

EVIDENCE OF SKILL:

FOCUS SKILL:

FOCUS SKILL GUIDANCE: