

Develop and use a model

1. Build or develop a model.
2. Choose a variable. Describe what would happen if it's changed.
3. Choose one unobservable phenomenon. Describe its possible impact.
4. Discuss the limitations of your model.

Analyze and interpret data

1. Construct a graph, chart or table.
2. Describe major trends and/or patterns seen in the data.
3. Identify temporal and/or spatial connections/relationships.
4. Discuss the limitations of your graph, chart or table.

Obtain, evaluate and communicate information

1. Select 2 articles or videos on the same topic. Give their names and sources.
2. Summarize or paraphrase each article.
3. Discuss the credibility, accuracy, and bias of your sources. Cite specific examples.
4. Discuss qualitative and quantitative information. Cite specific examples.

Engage in argument from evidence

1. Identify both sides of an argument.
2. Summarize each side. Include one piece of evidence from each side.
3. Present your opinion on the topic.
4. Receive a detailed critique of your work by a classmate or adult.

Use math and computational thinking

1. Decode by Identifying a problem related to the LT. Break it into smaller pieces.
2. Identify similarities found in all of those pieces.
3. Identify 1 solution that can solve your initial problem. (Cite all sources)
4. Create a series of ordered steps to prove your solution would work. (cite all sources)

Ask questions and define problems

1. Brainstorm a list of questions that can be investigated within the scope of the classroom, outdoor environment, museum or another public facility.
2. Create a testable hypothesis. (*cite all sources*)
3. Research or test your hypothesis. (*cite all sources*)
4. Present your findings and possible next steps via verbal presentation.

Plan and carry out investigations

1. Design an investigation. Identify independent & dependent variables, controls, tools needed, and how measurements will be recorded.
2. Collect data.
3. Display your data in a table and a graph. (*takes up a full page on graph paper*)

4. Identify weaknesses, possible failure points, or areas where accuracy could be improved in your investigation.

Construct explanations and design solutions

1. Make a quantitative or qualitative claim about a scientific phenomenon.
2. Research the phenomenon. Summarize and cite 3 articles on the topic.
3. Design/build a solution that explains or solves the phenomenon.
4. Prioritize the parts of your design and discuss trade-offs.