

Cave Research Project

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Research projects offer students a unique opportunity to explore a topic or question of their interest. It also provides them with the experience of learning independently how to find answers to their own questions.

This activity emphasizes process skills within the New York State standards more than the specific content knowledge standards. The content knowledge will be determined by the topic or question selected for each student.

The classroom time for this activity is more extensive than some prior activities and may use from three to five blocks of 45 minutes each.

The following ideas are generated to provide guidelines for you to make the process easier. Please modify to fit your classroom and the resources that you have available.

Students will be able to:

- Develop a question for research.
- Answer their research question by providing appropriate information on their topic.
- Evaluate peer topics using a rubric scoring sheet.
- Present their findings to their peers.

Materials:

- Access to library or computer lab.

VOCABULARY

Ten new terms created by students' research.

STEP 1

Students should select their topic question. Their topic question should be concise, answerable, and of interest to the student.

On page 3 are some possible ideas for topic questions. To assist the students, hand out the list of ideas and have them brainstorm with a partner about possible topics related to caves (provide 5 minutes).

Once this is completed, have student's select two ideas each that they are interested in pursuing. Ask the students to turn their ideas into topic questions. Ask the students to write down their two topic questions (10 minutes).

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Example Topic Questions

How do caves form?

What are the prominent features found in Howe Caverns?

What is the history of Howe Caverns?

What are some of the famous caves found in the United States?

How did Mammoth Cave form?

What are some similarities and differences between some of the following famous caves?

Dragon's Lair

Eisesenwelt

Narcoorte

Waitoma

Lascaux

Blue Grotto

Lava Red Caves

Pierre-Saint Martin

Sarawak Chamber

How do we explore ice caves?

What is the history of spelunking?

What was early cave exploring like?

How do we explore caves today?

How do we explore underwater caves?

What animals live in caves?

How does human interaction change the ecology of a cave?

What do we know about white nose bat disease?

Other topic ideas:

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Sources

Provide at least three different sources.

Source 1

Title of Source: _____

Author(s): _____

Date Published: _____

Who Published the Information?: _____

Volume, edition, date of periodical: _____

Website (URL): _____

Where did you find the source? _____

Other information: _____

Source 2

Title of Source: _____

Author(s): _____

Date Published: _____

Who Published the Information?: _____

Volume, edition, date of periodical: _____

Website (URL): _____

Where did you find the source? _____

Other information: _____

Source 3

Title of Source: _____

Author(s): _____

Date Published: _____

Who Published the Information?: _____

Volume, edition, date of periodical: _____

Website (URL): _____

Where did you find the source? _____

Other information: _____

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Name: _____

Date: _____

Partner: _____

Research Directions Guidelines for Project

STEP 2

Have the students begin their research in the library or computer lab (45 minutes). Provide them with guidelines.

- A) They should take notes on their topic.
- B) They should find three sources of information.
- C) They should list their sources on the sheet provided.
- D) They should collect a minimum of five facts and enough notes to write about a two page report to answer their topic question.

STEP 3

Have the students develop their thoughts around how they will present the information.

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Name: _____

Date: _____

List 5 FACTS that help you answer your topic question.

1.

2.

3.

4.

5.

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Name: _____

Date: _____

Planning your Presentation

Considering your cave topic, think of a creative way to present the information you have learned to a small group of four to five people in your classroom.

Ideas: a model of a cave, PowerPoint, poster display, audio recording, combination of different ways, etc.

Topic Question: _____

Draw or write about your presentation below.

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Name: _____

Date: _____

Presentation Preparation Sheet

Share your model with another group of students. Prepare this page to share with them.

Name: _____ Date of Presentation: _____

Topic Question: _____

How will you present your materials and information?
(show a PowerPoint, show your model, poster board display, etc.)

List the top **5 key points** to share with your group regarding your research findings.

1.

2.

3.

4.

5.

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Name: _____

Date: _____

Peer Review Sheet

Presenter's Name: _____ Date of Presentation: _____

Topic Question: _____

1. Did the presenter introduce themselves and clearly share the topic question for their research? (1 point) _____

2. For every fact that is shared about their topic provide one point (up to a total of five points). (5 points) _____

3. Was the presenter clear and understandable? (1 point) _____

4. Did the presenter show their model/PowerPoint/recording accurately? (1 point) _____

5. Was the presenter polite and able to respond to appropriate questions? (2 points) _____

Total Points _____
out of 10 points

Notes:

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Name: _____

Date: _____

Rubric For Research/Presentation Project on Caves				
Title: Topic Question	Research Process	Content Information	Writing of Content	Design of Presentation/Model
<ul style="list-style-type: none"> A concise, clear question Researchable Grade level appropriate (4 points) 	<ul style="list-style-type: none"> On task during research time and finding support materials (4 points) 	<ul style="list-style-type: none"> Page and a half summary that includes at least 5 main facts related to the question Includes pictures or drawings that are relevant to the topic (4 points) 	<ul style="list-style-type: none"> Well-organized, good grammar and spelling Used 5 to 10 new vocabulary terms accurately (4 points) 	<ul style="list-style-type: none"> Presentation design suits the topic question Adds more than required Well organized Well constructed (4 points)
<ul style="list-style-type: none"> A question Researchable (3 points) 	<ul style="list-style-type: none"> Needs to be reminded to stay on task and focused to find research materials (3 points) 	<ul style="list-style-type: none"> One page summary, includes 3 facts related to the question. (3 points) 	<ul style="list-style-type: none"> Needs some work on organization, grammar and spelling Used 3 to 5 new vocabulary terms (3 points) 	<ul style="list-style-type: none"> Presentation meets all the design requirements (3 points)
<ul style="list-style-type: none"> A questions (2 points) 	<ul style="list-style-type: none"> Off task and focus during research time (2 points) 	<ul style="list-style-type: none"> Less than a page with 3 facts related to the question (2 points) 	<ul style="list-style-type: none"> Needs to be revised due to organization, spelling and grammar issues Used one to three new vocabulary terms (2 points) 	<ul style="list-style-type: none"> Missing some parts of requirements (2 points)

Conversion To Grade:
 A=20
 B=15
 C=10
 Below ten points the students should rework their project.
 Total Points: _____

New York State Standards

5th—8th Grade MST

Standard 1: Analysis, Inquiry, and Design

Science: s1.1, s1.4

Technology T1.2, T1.4b

Standard 2: Information Systems

Key idea 1: 1.1, 1.3

Key idea3: 3.1

Standard 4: Life Science

Standard 4: Physical setting

Key Idea 2: 2.1i, 2.2g

Key Idea 3: 3.1b

Standard 6: Interconnectedness:

Common Themes

Key Idea 2: 2.1, 2.1

Key Idea 4

Key idea 5: 5.2

Standard 7: Interdisciplinary Problem Solving

Key Idea 2: 2.1 working effectively, gathering and processing information