

Lesson 1 – Caves: Earth’s Underground Treasures

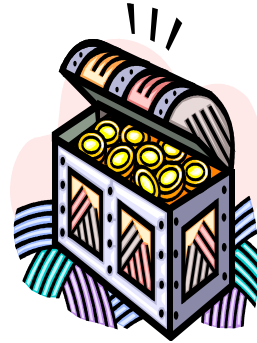
Lesson Overview:

This lesson introduces students to caves.

Objectives:

Students will be able to:

1. Define the terms “cave” and “speleology”.
2. List at least 2 different types of caves.



Standards Addressed:

National Science Education Standards: 5th-8th grade

- Content Standard D: Earth and Space Science

International Society for Technology in Education Standards for Students:

- Creativity and Innovation
- Technology Operations and Concepts

Duration of Lesson/Time Requirement: 40 minutes; Additional class time may be required for creation of student “wordles”

Materials Required:

Pictures of caves

Various art supplies (optional)

Classroom Technology:

Computer with Internet connection and projection capabilities and/or SMART Board

Several classroom computers with Internet connection for student use

Wordle (<http://www.wordle.net/>)

YouTube (<http://youtu.be/hXKYQXwt8n0>)

Microsoft PowerPoint

Survey Monkey (<http://www.surveymonkey.com/>)

Procedure:

Introduction

Display a picture of a cave and/or write the word “cave” for the students to see. Ask the students if they know what a cave is. Ask the students if any of them have ever visited a cave before? Where? When? What was it like?

Tell the students that caves have captured the imaginations of people for hundreds and even thousands of years. Tell the students that as a class they are going to spend some time learning about caves and what amazing and unique places they are.

Activity #1

Ask the students what they think of when they hear or see the word “cave”. Allow several of the students to share their answers.

Project/display Wordle (<http://www.wordle.net/>) for the students to view. Explain to the students that Wordle is used for generating “word clouds” from text that the user provides. Show the students several examples of wordles. Briefly demonstrate to the students how to use Wordle. Tell the students that the clouds give greater prominence to words that appear more frequently in the source text.



Have the students share classroom computers to use Wordle in order to generate a “word cloud” about caves.* Each individual student should create their own wordle and include at least 10 different thoughts and feelings that they have about caves. Ask the students thought provoking questions such as:

- Have you ever visited a cave before? What was it like?
- Have you ever seen pictures or seen movies about caves?
- If you have never visited a cave before what do you think it would be like?
- What do you find inside of caves?

Encourage the students to experiment with different fonts, layouts, and color schemes. Once they are satisfied with their “wordle” these can be printed to display in the classroom and discussed.

*If the technology to complete this activity is not available have each student create their “word cloud” about caves on a sheet of paper or poster board. They can use a variety of different art supplies (crayons, colored pencils, markers, etc.) to express how they feel about caves. Once complete these can be displayed around the classroom.

Activity #2

After the students have created, displayed and discussed their “wordles” have them view the presentation “Caves: Earth’s Underground Treasures”.

As an educator there are several options that you have to share “Caves: Earth’s Underground Treasures” with your students.

1. Have students view the pre-recorded version of “Caves: Earth’s Underground Treasures” on Youtube at <http://youtu.be/hXKYQXwt8n0>. This can be done by projecting the video to the entire class at once or having individuals or small groups of students view the

video on classroom computers. The video recording is approximately 7 minutes in length.

2. Present “Caves: Earth’s Underground Treasures” to the class using the Microsoft PowerPoint presentation and script provided. The file can be accessed at <http://db.tt/5G4nXaTv>
3. Use the “Caves: Earth’s Underground Treasures” Microsoft PowerPoint presentation and script as a template to create a more personalized presentation about caves and present it to the class.

Wrap-Up/Conclusion

Once all of the students have viewed “Caves: Earth’s Underground Treasures” tell them that it is time to find out what they have learned about caves.

As an educator you have several options to assess what your students have learned.

1. If you have access to a SMART Board/Interactive Whiteboard complete the “Caves: Earth’s Underground Treasures” lesson with your students.
2. Create an online quiz for your students to complete using SurveyMonkey (www.surveymonkey.com). SurveyMonkey is a private American company that enables users to create their own Web-based surveys using free and enhanced paid products and services. SurveyMonkey allows users to design surveys, collect responses, and analyze the responses to their created surveys. SurveyMonkey can be used in education to schedule a meeting or group project; as a pre-test or pre-class survey; as a post-class survey; as an assessment of background knowledge; or for evaluations. The basic plan is free. To evaluate the students’ knowledge on caves use the template provided, or create your own.
3. Print off the “Caves: Earth’s Underground Treasures” quiz and give it to your students to complete. The answer key is included.