

Rocking and Rolling

WebQuest Description: Students will learn about the rock cycle through various selected websites. There are a variety of activities to get the students familiar with the concept. In the final project, the students will choose items to represent each phase of the rock cycle and will create a powerpoint presentation with this information.

Grade Level: 3-5

Curriculum: Science

Keywords: The Rock Cycle, Metamorphic, Igneous, Sedimentary, Weathering, Erosion, Rocks, Fossils

Published On: 2016-02-20 11:47:45

Last Modified: 2016-02-07 13:15:22

WebQuest URL: <http://zunal.com/webquest.php?w=308518>

Introduction

Sam and Kate are at sixth grade camp. They are in a class learning about rocks and fossils. The teacher takes the students to a place to dig for fossils. While they are digging, Sam finds a fossil. "I got one!" he shouts. Kate excitedly runs over to him to check it out. "Wow! That is really cool! It looks like a sedimentary rock too!" she says. "No way! This is definitely an igneous rock," Sam argues. "I don't think a fossil can be found in an igneous rock," Kate answers back. "A fossil can be found in any kind of rock, duh" Sam says. They continue to argue. Who is right, Sam or Kate? You must decide! It is your mission as a detective to figure out who is correct. To do this, you've got some investigating to do.... Good luck!

Tasks

The camp teacher has hired you as a detective to help Sam and Kate figure out what type of rock they have found. The teacher would like to prove to the class which student is correct and why. She has asked you to create a powerpoint for the students on different types of rocks. She would like you to use an object that the students can relate to like food or an item that sixth graders would be familiar with to represent each type of rock. Each type of rock should get its own page in your presentation. When your presentation is over, the students should be able to figure out who is right, Sam or Kate.

Process

You have been placed into a group with two other detectives. Together, you must solve this argument! Who is right, Sam or Kate? But first, you must do some research...Here are your group's roles. Your teacher will assign each member of your group one of the following jobs. Job #1-Facilitator-You are responsible for reading the description of each activity, keeping your group on task, checking to make sure your group is recording accurate information, and asking questions to keep your group on track. Job #2-Recorder-You are responsible for taking accurate notes, completing paperwork, keeping the information organized and in an easily found place, and making sure that you encourage your group members by staying positive. Job #3-Summarizer- You are responsible for getting and turning in all documents, summarizing the information that the recorder is writing down, and watching the time that you have to complete this project to keep your group on task. ALL GROUP MEMBERS ARE RESPONSIBLE FOR RESEARCHING AND COLLECTING INFORMATION! Step 1: If you are following your jobs correctly, the facilitator should be reading this to you right now. Your first job as a team is to research different rock types. There are three main groups of rocks. Below, you will find links to each of the main types of rock. As you are researching, you will need to keep track of your information on the rock chart that Mrs. Siebert has given to the summarizer. When you are finished, the summarizer needs to keep this chart until the end of the project without losing it. Sedimentary Rocks Igneous Rocks Metamorphic Rocks Rock Hounds Rock Hounds Rock Hounds Koday's Kids Koday's Kids Rocks and Minerals Rocks and Minerals Rocks and Minerals Pictures Pictures Pictures All 3 Types of Rocks Types of Rocks Step 2: Your next task as a rock detective is to learn about the rock cycle. Like most things in life, rocks have a cycle that happens over and over again. Read through the information on the websites below to learn about it. Interactives: The Rock Cycle Exploring Earth: The Rock Cycle Earth Floor Cycles The Rock Cycle Now that you know about the rock cycle, you must draw a diagram of it. Your diagram should include colored pictures and labels. When you are finished with your diagram, your group will write a paragraph on the back of the diagram explaining what happens in the rock cycle. The summarizer will keep the diagram until the end of the project. Step 3: Once your rock cycle diagram and paragraph are complete, your group will watch an interactive movie about the rock cycle. Each member of the group will watch and interact

with this movie on their own. When you are finished with the movie, you will come together with your group and discuss if you need to add anything to your Rock Chart or diagram. Interactive Rock Movie Step 4: You are so close to figuring out who was right! Your next step as detectives is to learn about fossils and how they are made. To do this, research fossils using the websites below. The recorder should take any important information and write it down. Fossil Facts What are fossils? One Geology Fossil Facts for Kids Once you and your team have gathered enough facts about fossils, you must create an acrostic poem about them. The letters to spell out fossils should appear in capital letters going down the page. Each letter should have a sentence starting with that letter. You can sneak in up to three letters in front of the capital letter if you have a hard time thinking of anything to begin with that letter. When you are finished writing your acrostic poem, you will need to color only the capital letters spelling out the word fossils. The summarizer will keep the poem until the end of the project. Step 5: This is your last piece before your final project! Your group will watch a movie about the rock cycle independently. When you are finished watching the movie, your group will brainstorm ideas of different objects or food items that could be used to represent each type of rock. Your recorder will keep track of everyone's ideas by listing them on paper. Rock Cycle Movie Final Project: Put it all together!!! You and your group will choose a way to represent each type of rock in the rock cycle by using food or an item. Look over the list that you have created already. Discuss if any group member has any new ideas to add to it. Decide on which item or food you like the best to represent each type of rock in the rock cycle. Once you have made your choice, you will create a PowerPoint presentation about it. First, you will open PowerPoint, which is located under Microsoft Office under the all programs tab. Once this program is open, you will select blank presentation. You will now see a title screen. This is where you will write a title for your project. You must also include the authors of this PowerPoint or names of your group members. Then select pictures, background, a font, and a color that you like. Once this first slide is done, you will click on new slide at the top of the screen and select a layout that you like. Make sure you click on the drop down arrow next to new slide to make a choice. Otherwise, it will automatically select a layout for you. (I would recommend the title and content slide.) On this new slide you will write the title of your first type of rock. For example, if you are starting with sedimentary rock, that would be your title for this slide. Then, you will find a picture of the item or food that your group decided to use to represent this type of rock and put it on the slide. You will also write why this item or food represents the type of rock. You should have at least 2-3 sentences explaining how what you chose represents the type of rock. When you are finished with this slide, you will again click on new slide and select a layout you like. On this slide you will put the title of the next type of rock that you are doing. Then, you will find a picture of the food or item that your group chose for this type of rock. Again, you will write 2-3 sentences explaining how what you chose represents the type of rock. Feel free to play with the background and font choices. Next, click on new slide and select a layout that you like. You will repeat the same steps above for your third and final type of rock. Once you are finished with each type of rock, you will click new slide and select a layout that you like. For this final slide, you will write about everything that you have learned from this project, including whether Sam or Kate was right. You can make it a paragraph or a bulleted list. A bulleted list would look like the steps I have made for you in this project. It is just small dots in front of each new fact that you have learned. Please add a background, font, and color of your choosing for this slide as well. When you are finished, be sure to save your project. The name of your project should be your group name.

Evaluation

Category and Score	Beginning	Developing	Very Good	Exemplary	Score
Content	Content is inaccurate and information is not presented in a logical order, making it difficult to follow.	Content is questionable and information is not presented in a logical order, making it difficult to follow.	Content is accurate, but information may not be presented in a logical order.	Content is accurate and information is presented in a logical order.	
Slide creation and transition	Presentation has no flow and no transitions are used.	Presentation is unorganized and may not have the correct number of slides. Very few, if any transitions are used.	Presentation flows well and has the correct number of slides. Some transitions are used to enhance the presentation.	Presentation flows well and has the correct number of slides. Transitions enhance the presentation.	
Pictures, clip art, and background	There may or may not be images used for the content. The layout is unfinished.	Most images used are appropriate for the content. The layout may appear cluttered or unfinished.	The images used are appropriate for the content. The layout may appear cluttered.	The images used fit well with the content. The layout is pleasing to the eye.	
Mechanics	There are many spelling and grammar errors. The text has been copied.	There are some spelling and grammar errors. Most of the text is in the author's own words.	There are few spelling or grammar errors. The author has used their own words in the text.	There are no spelling or grammar errors. The author has used their own words in the text.	
				Total Score	

Conclusion

You and your group have learned so much!!! You have learned about the three different types of rocks and their features, fossils, the rock cycle, and so much more. By now, you've also figured out who was right, Sam or Kate. Can fossils be found in igneous rocks? The conclusion that you have come to should be that fossils can not be found in

igneous rocks, but they can be found in both sedimentary and metamorphic rocks. Kate was right!

Teacher Page

This Web Quest will take the students through a process of learning about each type of rock and the rock cycle. It will also touch upon fossils and where they fit in with the rock cycle. For the final project, students will be required to create a Power Point presentation of 5 slides. This Web Quest should take from 3-4 weeks to complete.

Standards

This Web Quest was created for fourth graders in West Virginia.

The standards covered by this Web Quest are listed below.

Content Area: English Language Arts

Number and Text: CCSS RI.4.1

Refer to details and examples in an informational text when explaining what the text says explicitly and when drawing inferences from the text.

Content Area: English Language Arts

Number and Text: CCSS RI.4.3

Explain events, procedures, ideas or concepts in a historical, scientific or technical text, including what happened and why, based on specific information in the informational text.

Content Area: English Language Arts

Number and Text: CCSS RI.4.4

Determine the meaning of general academic and domain-specific words or phrases in an informational text relevant to a grade 4 topic or subject area.

Content Area: English Language Arts

Number and Text: CCSS RI.4.9

Integrate information from two informational texts on the same topic in order to write or speak about the subject knowledgeably.

Content Area: Science

Number and Text: SC.O.4.1.12

Draw and support conclusions, make predictions and inferences based on patterns of evidence (e.g., weather maps, variation of plants, or frequency and pitch of sound).

Content Area: Science

Number and Text: SC.O.4.2.33

Differentiate between types of rock and describe the rock cycle.

Content Area: Science

Number and Text: SC.O.4.3.3

Observe that changes occur gradually, repetitively, or randomly within the environment and question causes of change.

West Virginia 21st Century Learning Skills by number and text of objective

Number: 21C.O.3-4.1.LS.1

Text of Objective: Student identifies information needed to solve a problem or complete an assignment, conducts a search and prioritizes various sources based on credibility and relevance, retrieves relevant information from a variety of media sources, and uses this information to create an effective presentation.

Number: 21C.O.3-4.1.LS.2

Text of Objective: Student accurately interprets symbols and visuals and can distinguish fact from opinion when presented with visuals through various media; student uses his/her knowledge to construct new knowledge and communicate information.

Number: 21C.O.3-4.1.LS.3

Text of Objective: Student, cognizant of audience and purpose, articulates thoughts and ideas accurately and effectively through oral, written or multimedia communications.

Number: 21C.O.3-4.2.LS.1

Text of Objective: Student engages, with teacher assistance, in a critical thinking process that synthesizes knowledge and ideas.

Number: 21C.O.3-4.3.LS.4

Text of Objective: Student appreciates, accepts and works cooperatively with others, in both academic and social contexts, shares responsibility for continued improvement of the academic performance and climate of the school, and exhibits ethical behavior while working alone or communicating with others.

West Virginia 21st Century Technology Tools by number and text of objective

Number: 21C.O.3-4.1.TT.1

Text of Objective: Student uses keyboard, mouse and other common input and output devices (including adaptive devices when necessary) efficiently and effectively; student handles diskettes, CD/DVDs, USB drives, microphones, and headphones with care; student opens files independently, saves documents, and sends documents to the printer.

Number: 21C.O.3-4.1.TT.4

Text of Objective: Student finds, imports, inserts, and resizes or moves pictures, images and charts in word processing documents, spreadsheets, presentations and other electronic templates.

Number: 21C.O.3-4.1.TT.5

Text of Objective: Student uses word processing software to create and format a document (e.g., paragraphs, tabs, page justification, margins, spell check, grammar check, word count, insert page breaks, page numbers), uses Edit menu to cut, copy, paste, change font type, size and color, select and highlight text, and other common editing features.

Number: 21C.O.3-4.1.TT.7

Text of Objective: Student creates a presentation of at least four to six slides. Student inserts slides and chooses backgrounds, fonts, and slide layouts. Student understands and uses different formats for viewing (e.g., slide sorter menu, slide show menu, normal view).

Number: 21C.O.3-4.1.TT.9

Text of Objective: Student participates in several curriculum-based telecommunications projects as class activities (e.g., web quests, ask an expert, collaborative email projects, online discussions). Student uses telecommunications efficiently and effectively to access remote information and communicate with audiences.

Number: 21C.O.3-4.2.TT.3

Text of Objective: Student uses technology tools (e.g., presentation software, word processing software, publishing software, group web page design, digital cameras, scanners) for individual and collaborative writing, communication, and publishing activities to create informative products for audiences inside and outside the classroom.

Number: 21C.O.3-4.3.TT.2

Text of Objective: Student evaluates bookmarked Internet sites or teacher-directed sites for relevance to curriculum tasks.

Number: 21C.O.3-4.3.TT.6

Text of Objective: Student selects appropriate technology tools and resources needed to communicate information to others, to achieve personal goals, and to support independent learning.

Credits

All of the images I used are copyright free images from Flickr.

I would like to thank my instructor for introducing me to Web Quests. Before I took this class, I didn't realize how wonderful Web Quests can be. I also didn't realize that they require students to utilize information while creating something new. It involves higher level thinking and questioning.

Other