**Coastal Processes WebQuest**

Science Grade 7 TEKS §112.19. (4Ai and 2E)

Technology Applications TEKS Grade 7 §126.15. (3D and 6D)

**Intro**

Have you ever wondered what the driving force behind waves and currents which move sediment along the coast is?

Coastal processes is a term applied to describe these forces and how they change and shape our coastal shores. This WebQuest is a journey into how these processes work and the causes behind them.

**Task**

This WebQuest is designed to help you conduct research on coastal processes. After completing this WebQuest you will be more knowledgeable about the geographic changes our coastlines undergo and what causes these changes. You and your team will be creating a "Research field guide" to aid you in your Coastal processes project.

To complete this task, you should be working in a group (4 people). You will be using Google docs, so there is no need for pencil or paper.

**Resources:**

<http://www.cbi.tamucc.edu/CHRGIS/CHRGIS-Physical-Processes/>

**Process**

During this WebQuest project, each group will need to read the information, interpret the information in their own words, and then record how they interpreted the information. Copy and pasting answers located in the website will not be tolerated. However, you will be able to copy and paste images from the website to help illustrate your field guide.

**Task 1** - [Find the diagram of wave](http://library.thinkquest.org/04oct/00116/diagram.htm) characteristics located on the Coastal Physical Processes website . Copy and paste the diagram into your Google doc. Use the section titled "wave vocabulary" to answer the following questions. Remember to use your own words.

*[Picture goes here. Erase this text once you have placed the picture.]*

(1) What is the crest of the wave?

(2) Name the horizontal distance between the successive crests of a wave.

(3) What is the wave trough?

(4) Name vertical distance between the trough and the crest of a wave.

(5) Describe in your own words how waves interfere with one another.

**Task 2** - Use the section called "Why do Waves Break?" to answer the following questions.

(1) Why do waves break when they enter shallow water?

(2) What is the condition for a wave to break?

(3) What is the reason for this wave break?

(4) What is a "Spilling Breaker" and what kind of coast line is it responsible for sculpting?

**Task 3** - Use the section called "Forces that Drive Shoreline Erosion" to answer the following questions.

(1) [Describe wind](http://www.onr.navy.mil/focus/ocean/regions/oceanfloor2.htm) generated waves.

(2) [Describe the wave](http://www.britannica.com/eb/article-9026060/continental-slope) process from micro ripples to fully developed sea.

(3) Describe Direct wave action's effect on the shoreline.

**Evaluation**

The work you completed will be assessed using a teacher created rubric. Remember the goal of this WebQuest is so that you and your team are able to complete the final Coastal processes project with ease and scientific accuracy. (Please see next page for rubric!)

**Rubric**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Mastery**  **(100 pts)** | **Accomplished**  **(85 pts)** | **Developing**  **(70 pts)** | **Beginning**  **(50 pts)** |
| **Coastal Process Questions** | Students answer all questions thoroughly and correctly. Used paraphrasing and effectively communicated the answers. | Students answers at least 9 questions thoroughly and 3 questions adequately. Used paraphrasing to adequately communicate the answers. | Students answered at least 9 out of the 12 questions somewhat adequately. Paraphrasing was attempted somewhat effectively to communicate the answers. | Students answered at least 6 out of the 12 questions somewhat adequately. Did not use paraphrasing and effectively to communicate the answers. |
| **Teamwork** | Everyone listened and contributed to the group respectfully. | Everyone listened and contributed to the group respectfully for the most part. | There was more than one instance of a group member not being respected or a group member not contributing to the group. | Group members did not listen to one another and did not contribute to the group. |
| **Time usage** | Time was used wisely and effectively all the way through. The project was finished right on time. | Time was mostly used wisely and effectively. The project was finished right on time. | Time was not used wisely and effectively. The project was only somewhat finished. | Time was not used wisely and effectively. The project was only half finished. |