

Plate Tectonics

WebQuest Description: This WebQuest was designed to give students activities on plate tectonics and ensure by the time the task is completed students will be better able to explain what the topic is about as well as to give demonstrations.

Grade Level: 9-12

Curriculum: Social Studies

Keywords: plate tectonic;
divergent plate boundary;
transform plate boundary;
convergent plate boundary;
earthquake;
volcanic activity;
mountain.

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Introduction

This WebQuest is intended to facilitate grade 9 students with the topic plate tectonics. Plate tectonic is a theory which describes the movement of crustal plates on the Earth's surface. Here is a scenario: Plate tectonics has three children; divergent plate boundary, convergent plate boundary and transform plate boundary. All the children of plate tectonics move in different directions which causes them to produce different children. In this scenario students should be detectives and try to find out why the children move in different direction. Is it because of the direction of the parents which results in them producing different children. This scenario is intended to built thinking skills in students and also aids in critical thinking.

Tasks

By the end of the WebQuest students should be able to describe the movement of the different plate boundaries. Students will also share examples of each plate boundary, with explanation of how the movement of the plates contribute to their formation. Students should use the blog provided to explain the different plate boundaries. Students will also do a role play, with the different movement of the plates on Earth's crust, this role play will also explain the results of plate movements. The students will also express what they understood from the presentation. This WebQuest intends to develop independence in students, as they will be using the blog to find information on the task. The blog also has an interactive PowerPoint to help in retention of information. Students will do the movement of how plates move across the Earth's crust. The PowerPoint was created to ensure students are involved and that their responses are answered. These activities are appropriate for 13 to 14 year old students, as it help students social more with peers as some of the activities that will be done is group activity. Even if there are individual differences among the students, they will have to work together to get the result of the different plate movements and to have an understanding of each formation. The WebQuest will help students develop interdependent as well to collaborate with peers for effective work to be done which would result in understanding and retention of information.

Process

Phase 1» Students will be provided with a blog that was created by the author which has credible and authentic information on the topic. Students will use blog to find all the information they will be needing. The students will be divided into two groups to read the information from the blog as well as to answer questions from the PowerPoint. Phase 2» Students will collaborate with their group mates in answering the questions from the interactive PowerPoint. The PowerPoint has several questions to be answered based on the information that was presented. Students will work together in answering the questions, as there are several points to be gained for each correct answer. In this section, the groups will be competing against each other to get the most points. The team that scores the most point, would mean that those students were working together, as well as understanding what they read. Phase 3» Students will be involved in an illustration in the form of a role play. Four students each will be assigned to one of the plate movements: divergent plate boundary- students will be in two pairs, each pair will move away from each other leaving a gap in the middle which would result in volcanic activities taking place, convergent plate boundary- Students will be in two pairs, each pair will move towards each other and then colliding, this will result in the formation of mountains, transform plate boundary- students will be in two pairs, each pair will pass be, and touching each other, this will cause tension between the pairs which results in shaking which causes earthquake. The other students will explain the formation of earthquake, volcanic activities and mountains with reference to the illustrations that were done by their fellow classmates. Phase 4» Each student will write a paragraph on their understanding of plate tectonics. Students will also describe the plate movements as well as to give examples of each plate movement.

