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Geology 702
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GAME

Title: EARTHQUAKE CONCENTRATION

Introduction: This activity may be used as a tool for evaluating students learning about the geology of earthquakes. It is best introduced as a culminating activity after students have developed background information about earthquakes through class lessons and practical experiences. This activity also provides students with experiences in team learning situations. The rules for this game can easily be changed to fit the needs of each class setting.

Objectives:

Students will:

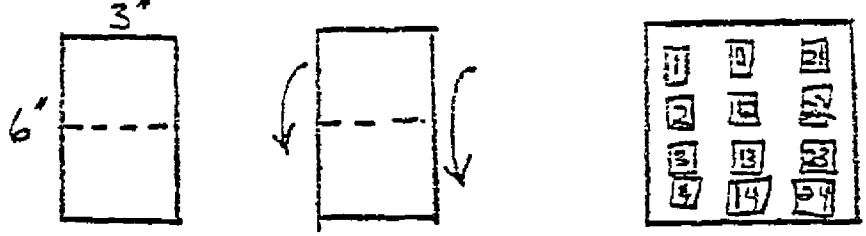
1. define concepts concerning the geology of earthquakes,
2. apply learned concepts to interpreting pictures and data,
3. learn concepts in a team learning situation.

Materials:

1. 3" X 3" piece of tag board
2. 30 tag board cards 3" X 6"
3. rubber cement
4. marking pen
5. 30 paper clips
6. 30 2" X 3" cards (use these cards to write the questions on)

Procedure:

1. Make concentration game board
   a) Fold in half the 30 3" X 6" cards and cement them to the tag board. Make three rows with 10 cards in each row.



   b) Number each card on the side facing the students.

   c) Put a paper clip on each card to hold an answer or question that will be hidden from students inside the folded card.

   d) Now, make 15 pairs of definitions and words, pictures and concepts, etc, so that students willbe able to match all 30 2" X 3" cards into 15 pairs.

Examples:

A system of mountains extending around the earth under water is called _____	Mid-ocean ridge

Examples:

The three kinds of earthquake waves are _____	Primary, secondary surface
A place where the rock on either side of a crack has moved is called a _____	fault
What happens at the mid-ocean ridge and how is this related to crustal plates?	Draw a picture that matches this questions
Describe the earth's interior in terms of sections and temperature	Draw a picture that matches this question
What relationship is there between fault and earthquakes?	Show a map that proves the relationship

Once you have made the question and answer cards, place them in random order under the numbered cards on the tag board.

2. Now, explain one set of possible game rules to the students.

a) Divide the class into two teams.
b) Have one person from one team pick two numbered cards to be turned over so the question or answer may be seen. If the question and answer match then that team wins a point. If the cards do not match, then they are turned over and the other team has one member choose two cards. This procedure continues until one team earns eight points.
c) It might be best to begin the game by discussing the paired cards and see if the students all agree that they match.

3. Alternative Rules:

a) A time limit could be placed on the game to speed things up.

b) Instead of having two teams and matched pairs, you could have 30 seperate questions. Then, you could call on students to pick a card and try to answer it. If they can't, then open it up to someone else in the class. The student with the most cards wins a prize.

CREATIVE DRAMATICS IN EARTHQUAKE SAFETY EDUCATION

STUDENT ACTIVITY

This activity is designed to give intermediate level students an opportunity to write, produce and perform a play or puppet show based on home safety principles in "Earthquake Country."

The objectives of this activity are that a group of from four to six students will write (with teacher direction) a ten minute play explaining basic earthquake safety procedures; the students will create the necessary puppets, backgrounds, props and/or costumes and perform the play.

The materials needed are resource books, pamphlets and films at the primary and intermediate reading levels; art supplies for the puppets, etc. and a tape recorder(optional).

After class instruction in earthquake geology, and safety precautions, students might work in groups to write play scripts, create puppets, make and/or decorate puppet theatre and tape record the finished script.

TEACHER ACTIVITY

The children would need to read and review books and pamphlets to make a list of the most important principles of home safety before, during and after an earthquake. The production would logically occur as a culminating activity to the study of earthquakes.

The use of puppets as a teaching tool might be a motivating introduction to this activity. Puppets can be used for role-playing skits allowing children to ask questions or discuss their fears, misconceptions, and personal experiences regarding earthquakes - which may be somewhat uncomfortable for them to talk about face to face. Puppets are often a good way to start creative dramatics. Children who would be too shy to perform "live" can "hide" behind simple stick or bag puppets. Some children may even have "muppets" or Sesame Street characters or marionettes. A class with more experience can go on stage in costume with the more shy students as stage crew.

It is often said that we learn by doing; and that we reinforce our understanding of a concept when teaching others. Using creative dramatics as a format for earthquake safety enables children to share what they have learned with others in a fun, "change of pace" activity.

Some extensions of this activity might be to perform the play for a parent group meeting; prepare an informational handout for audiences; write books for primary students illustrating safety; select appropriate sound effects and music to accompany the play and prepare posters to advertise the production.

References:

Bolt, Bruce A.: Earthquakes, A Primer

Lauber, Patricia: Earthquakes

Civil Defense Preparedness Agency: Your Chance to Live

Brochures:

U.S. Dept of Interior: Earthquakes

Safety and Survival in an Earthquake

The San Andreas Fault

California Division of Mines and Geology: Earthquakes #39

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