Paper Mache Globe

Time Frame: 3 sessions 45 minutes each

Learning Standards:
Earth and Space Science
- Recognize that water, rocks, soil, and living organisms are found on the earth's surface.

Skills of Inquiry:
- Ask questions about objects, organisms, and events in the environment.
- Name and use simple equipment and tools (e.g., rulers, meter sticks, thermometers, hand lenses, and balances) to gather data and extend the senses.

Student will be able to:
- Create their own globe with minimal assistance from the teachers.
- Recognize all the continents, label them, place them accurately on the globe and understand how they are organized on the globe.
Lesson #1: Making a Paper Mache Globe

Materials:
- Paper Mache paste
- Balloon per student
- Safety pins
- Name tags
- Newspaper cut into 3-inch strips
- Newspaper or paper to cover paper

Vocabulary: globe, sphere, continent

Anticipatory set:
Show students a globe and explain that it is a model of Earth. Have the students find where they live on the globe and name all the continents. Then tell the students that they will be making their own globes.

Activity:
1. At each table there should be bowls of Paper Mache paste and strips of newspaper (already cut). At each seat there should be a blown up balloon.
2. The children should go to their tables and begin creating their globes. They should dip the strips of newspaper in the paste and stick them to the balloon. Make sure the students are putting a lot of paste on each strip so that the newspaper sticks to the balloons.
3. The students should cover everything except for the nipple of the balloon.
4. When the students are done putting the newspaper on the balloons a teacher should check to make sure that there is enough newspaper and enough paste. If the Paper Mache looks good then attach the child’s name to the balloon by putting a nametag on a safety pin and attaching it through the nipple of the balloon.

Closure: Tell students that the Paper Mache must dry; by next class the newspaper will be hard and they will be able to take the balloon out and continue working on their globe.
**Assessment:** Participation in activities and class discussion.

**Recipe for Paper Mache:**
- ¾ white glue
- ¼ water
- Make a couple bowls for each table and have extra supplies in case any table runs out.
Lesson #2: Painting Paper Mache Globe

Materials:
- Blue paint
- Paper plates for paint
- Paint brushes
- Attached worksheet of continents
- Globe
- Scissors
- Pencils
- Markers and/or colored pencils and/or crayons for coloring the continents

Vocabulary: continent, country

Anticipatory set:
Go over the different continents and how they are different bodies of land containing distinct countries. Tell the students that they will be painting their globe and coloring there continent.

Activity:
1. Split the class into two stations. At two of the tables the children will be painting and at the other two tables the children will be coloring their continents.
2. At the painting tables there should newspaper over the table, blue paint dispersed in bowls and paint brushes. The students should use the nametags to find their balloons. By now the balloon will be fairly deflated and the students can pop the balloons and take them out of the Paper Mache. Then the students should start to paint their globes. When they are done the teacher can stick the safety pin through the bottom of the Paper Mache so that the students will be able to find their globes next class.
3. At the other table the students should be cutting out and coloring their continents. Each student should have a copy of the attached worksheet with all the shapes of the continents on it. Students should color the continents each a different color. After they are finished coloring the students
may cut out the continents. Make sure the students label the continent and put their own name on the back of each continent.

4. When both groups have finished have them switch tables.

**Closure:** Next class the students will be putting their continents on the globes!

**Assessment:** Participation in activities, continent worksheet and class discussion.
Lesson #3: Adding the Continents

Materials:
- Permanent markers
- Glue
- Measuring tape
- Worksheet
- Rubric

Vocabulary: rubric, continents, equator, circumference, equator

Anticipatory set (at rug):
Talk about how the globe is like a giant map and thus it matters where the students place the continents. The order of the continents is important as well as the spacing between them. Demonstrate how the divide the globe up in order to help place the continents in the right place. Ask the students if they can show where the equator is. Show them how to find the center of the globe by using a piece of string and folding it.

Activity (at tables):
1. Pair students up. The students should work in pairs to measure the half waypoint between north and south in order to find where the equator is. They can do this by using a piece of string and the folding it in half, or using string and then a ruler to find the half way point. The students should make four or five marks where the half waypoint is so that they can sketch out where the equator is.
2. Using the attached worksheet the students should glue all of the continents to their appropriate place.
3. They should then label the remaining things (oceans, etc.) with permanent maker.

Closure: Have the students find where they live on their own globes.

Assessment: Participation in activities, globe, rubric and class discussion.
Burt the Shadow Man

Time Frame: 1 session 45 minutes

Materials:
- Worksheet
- Burt
- Scissors
- Tape
- Measuring tape
- Flashlights
- Globe
- Pencils

Learning Standards:

*Life Science*
- Identify some events around us that have repeating patterns, including the seasons of the year, day and night.

*Physical Science*
- Sort objects by observable properties such as size, shape, color, weight, and texture.

Skills of Inquiry:
- Ask questions about objects, organisms, and events in the environment.
- Tell about *why and what would happen if?*
- Make predictions based on observed patterns.
- Name and use simple equipment and tools (e.g., rulers, meter sticks, thermometers, hand lenses, and balances) to gather data and extend the senses.
- Record observations and data with pictures, numbers, or written statements.
- Discuss observations with others.
Student will be able to:
- Understand how the sun produces different length shadows for an object.
- Tell what time of the day their shadow is longest and shortest.

**Vocabulary:** orbit, rotation, period, shadow, angle

**Anticipatory set:**
Using the globe and a flashlight show how the earth orbits the sun, and how it spins on its axis when it orbits. Show that when the sun rotates some of the earth is in a shadow and thus it is night on that half of the earth. Have the students start thinking about what shadows would look like on the different parts of the globe where it is daytime. Can the students predict where the longest shadow is? What makes a long shadow? You could also have kids get in a circle and they could represent the planets orbiting around the sun. Explain to the students that they will be experimenting with shadows today. They will discover how shadows change during the different times of the day and will be measuring the lengths of the shadows to collect data.

**Activity:**

1. Pair students. Using the worksheet, each pair should cut out Burt’s figure.
2. Folding Burt on the bottom the students should then stand Burt up and tape him to a long piece of butcher paper (it makes it easier to see his shadow).
3. Using flashlights the students should simulate the movement of the sun and see what happens to the shadow during the different times of the day.
4. The students should then hold the light at different angles corresponding to different times of the day and measure the different lengths of Burt’s shadow using a tape measurer.
5. The students should then complete the attached worksheet.
Closure: Ask students when Burt’s shadow was longest and shortest. What time of day would shadow be longest and shortest? Why?

Assessment: Participation in activities, worksheet with measurements and class discussion.
Sedimentation

Time Frame: 1 session 45 minutes

Materials:
- Water bottles with label removed
- Paper
- Crayons and/or markers
- Tape (to tape caps on)

Learning Standards:
Earth and Space Science
- Recognize that water, rocks, soil, and living organisms are found on the earth’s surface.

Physical Science
- Sort objects by observable properties such as size, shape, color, weight, and texture.

Skills of Inquiry:
- Ask questions about objects, organisms, and events in the environment.
- Tell about why and what would happen if?
- Make predictions based on observed patterns.
- Name and use simple equipment and tools (e.g., rulers, meter sticks, thermometers, hand lenses, and balances) to gather data and extend the senses.
- Record observations and data with pictures, numbers, or written statements.
- Discuss observations with others.

Student will be able to:
- Identify the different layers of sedimentation that are in the Green River.

Vocabulary:
**Anticipatory set:**
Explain that the whole class is going to the river to collect samples of the water and earth to see what it is composed of. Ask students what they think they will find.

**Activity:**

1. At the river, hand out water bottles for each student to use to collect sediments.
2. Walk down to the river and allow the student to fill their water bottle with dirt, rocks and water. Explain to them that normally you shouldn’t take elements of the river out of its environment because it disturbs the things that live there. However, today for the purpose of learning more about the river we will be collecting small samples.
3. Put the cap back on the water bottle and bring them back to class.
4. Before the sediments have settled have the students predict and draw what they think the water bottle will look like when they let it sit for a while.
5. Share their drawings and predictions

**Closure:** Let the water bottles sit in the classroom and see what they look like at the end of the day. Check their drawings and predictions

**Assessment:** Participation in activities and class discussion.
List of suggested books for Earth Science Unit:

- **Look Closer-River Life**
- **National Geographic: the river's journey** ISBN 0-7922-8706-1
- **All along the river** by Allan Fowler ISBN 0-516-46019-6
- **Wonders of rivers** by Rae Bains ISBN 0-89375-571-0
- **Kids discover Rivers**
Name ____________________

World Globe Directions

1) Measure North to South = _____ inches.

   1/2 way from North to South is _____ inches.

2) Draw your equator at the 1/2 way point. (East to West)

3) Glue North and South America.

4) Label the Atlantic and Pacific Oceans.

5) Glue Antarctica.

6) Glue Australia.

7) Label the Indian Ocean.

8) Label the Arctic Ocean.

9) Glue Africa, Europe and Asia.

10) Enjoy and take care of your world!!! :)

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Continent Patterns
Use with "Where in the World?" on page 27.