



Activity 4

The Shadow Shows (The Reason for the Seasons) Part 1

Names _____

Materials:

Axis holder
Pool ball

5/8" nail
flashlight

8" skewer

Explore:

1. Insert the skewer so it passes through the North and South Poles of the ball.
2. Insert a nail in the ball to represent our latitude on the Earth.
3. Push the nail in until only about 1/8" sticks up above the surface.
4. Make sure the nail is perpendicular to the surface.
5. Insert the pointed end of the skewer into the 90° hole in the holder.
6. Position the light so approximately half of the globe is in the light. (Look for the shadow mark to help you.)
7. Turn the skewer slowly. Observe how the parts of the globe move into and out of the light.
8. Observe the nail and the shadow it makes.

- A. When is the shadow of the nail shortest? _____
- B. When is the shadow of the nail longest? _____
- C. When is there no shadow for the nail? _____

Explore some more:

1. Move the sun and to the opposite side (180° from where it is)
2. Repeat the procedure of turning the globe and observing the nail.

- A. Do you notice any differences? _____ If so, what are they?

- B. How is the shadow on the globe similar to explorations you did with the folder?
