

[Matiza Sacotingo]

[10/25/2018]



Four Seasons

Key Words:

- Rotation
- Revolution
- Earth
- Tilt

Material List

- A big globe (with marked the point, sticky note, that represents CT)
- Extra Sticky Notes
- 10 four seasons diagrams
- 1 flashlight (there are 2 extra just in case)
- Styrofoam balls
- Wooden Sticks

**ATTENTION: FOR EACH ACTIVITY, PLEASE
ACCOMMODATE ACCORDINGLY TO YOUR SCHOOL
SIZE !**

If the weather is reasonable, have this lesson plan outside!

1. Introduction to Seasons

Duration: [15 minutes]

Setting: Separate the entire class into groups according to your size with one volunteer per group as this will be the setting for the entire lesson (max: 6 groups of 3-4 people per group)

1. Introduce what will be taught today.

Today, we are going to learn about our four seasons and day and night! Ask who can tell you what our four seasons are. State that they are Fall, Winter, Summer and Spring.

Ask what characterizes the four seasons. Below are some ideas:

- Start with Fall:
 - Colorful leaves
 - Months: Late September, October, November and early December
 - Clothings (sweaters, long pants, etc)
 - Cool climate
- Winter:
 - Leaves start to fall
 - Months: Mid December, January, February, Mid March
 - Clothings (boots, jackets, gloves, hats, winter gear, etc)
 - Cold Climate (snow, blizzards, etc)
- Spring
 - Leaves start to get pretty again
 - Months: Late March, April, May, Early June
 - Clothings (sweaters, jeans, etc)
 - Warm climate
- Summer
 - Bugs start to come out
 - Months: June, July, August, Mid September
 - Clothings (shorts, skirts, short sleeves, etc)
 - Hot climate

Emphasize that Earth's four seasons comes from the Earth's *revolution* around the sun and that the day and night comes from the Earth's *rotation* about its axis.

Before learning about seasons or day/night, we need to understand what *the axis* is and what it means.

2. Tilt of Axis

Duration: [15 minutes]

Ask if anyone has an idea of what it is. State that the axis is an imaginary slanted line that goes through the center of the Earth that never changes how much it is tilted. Earth's axis is tilted and that means that our Earth is on a slant. Ask if anyone knows why we don't walk slanted if our Earth slanted. State that the reason for it is because *gravity!*

In the groups, have the kids grab a partner. Have everyone stand to next to each other in arm's distance so that they don't bump heads. Now, we're going to pretend to be the Earth. Tell everyone to lean towards their partner on one foot and make them hold that position for a few seconds. Explain that this angled position is called an *axis*, and just like the Earth's tilted axis, it is *always* going to be tilted at that same angle.

3. Day and Night

Duration: [15 minutes]

Have everyone stay in the groups but focus their attention to the front of the class and listen up for the leader. Leader will: ask anyone if they know why we have day and night. Explain that the reason for day and night is because the Earth's rotation about its axis. Explain that as the Earth rotates about its axis with the presence of the sun, that causes day and night. To visualize: Leader will grab the big globe to represent Earth and have a volunteer hold a flashlight to represent the sun. Volunteer holding the flashlight will stay still and the leader will hold the globe in front of the flashlight. Before doing anything else, go around and show the marker point (sticky note) of where we are on the globe to everyone (marker point should be marked where Connecticut is). State that we will be focusing on Connecticut. Position yourselves in a way so that the kids can see the flashlight shining on the Earth and also, the Earth spinning. Now, spin the globe about its axis in front of the flashlight. Explain that when Connecticut is facing the sun, we have day but when it is facing away from the sun, we have night. State that this "spinning" is called rotating. To better understand the concept of rotation, have everyone stand up and spin one time in place. Emphasize that day and night comes from the earth's spin or *rotation* about its axis. Explain that one full Earth rotation is 24 hours. Emphasize that when we are talking about day and night, we use the word ***rotation***.

4. Reasons for Seasons

Duration: [20 minutes]

Have the kids turn their attention away from the center and focus on their groups. Kids will analyze the diagram of the four seasons. Volunteers will state that the diagram in front of them represents the four seasons. Ask the kids if they can make sense of what the diagram means. Explain that the main focus about the picture are the tilt of the Earth and the red dot representing Connecticut. With the diagram, explain that when the tilt of the Earth is angled towards the Sun, there is Summer in Connecticut and when the tilt of the Earth is angled away from the Sun, there is Winter. When the tilt of the Earth is neither away or towards, we either experience fall or spring. [SEE INSTRUCTOR COMMENTS FOR EXPLANATION TO OLDER KIDS ABOUT HEMISPHERES.]

After the kids have given their theories (5-7 minutes), turn their attention back to the center. Leader will ask anyone if they know why we have four seasons. Explain that the reason for seasons is because of the Earth's revolution around the sun. To visualize: Leader will grab the big globe to represent Earth and

have a volunteer use their body to represent the sun. Before doing anything else, go around and show the marker point (sticky note) of where we are on the globe to everyone (marker point should be marked where Connecticut is) as CT is what we will be paying attention to. Position yourselves in a way so that the kids can see the “sun” (volunteer) and also, the globe. While the volunteer stays still, to show revolution, leader will move the globe around the sun. *State that while the Earth is revolving, it is still “spinning” or rotating but that we are only focusing on the Earth’s revolution for now.* Explain that when the ‘marked point’ is angled towards the sun, there is stronger sunlight and we have summer. When the ‘marked point’ is angled partially towards the sun, there is lesser sunlight and we have spring giving us hot/warm climates. When the ‘marked point’ is angled away from the sun, there is no sunlight and we have winter. When the ‘marked point’ is angled partially away from the sun, there is little to no sunlight, we have fall giving us cold/cool climates. Explain that these different climates represent our seasons and that the seasons come from the earth’s *revolution* around the sun. To better understand the concept of revolution, have everyone stand up in their groups and split up into pairs. Have one person in the pair represent the sun and the other, represent Earth. Instruct the ‘sun’ to stay still while the ‘Earth’ moves around the ‘sun’ on a slanted angle (tilt) while emphasizing that their tilt should never change. Explain that this is called revolution. Explain that one full Earth revolution is 365 days. That means that it takes 365 days to go through *all* of our four seasons. Emphasize that when we are talking about four seasons, we use the word **revolution**.

5. Build your own Earth

Pass out styrofoam balls to all the students and give them markers to decorate their Earth. Once they are done, pass out the wooden sticks and inform them that the wooden sticks will represent the axis.

Emphasize that it is important to have the wooden sticks be on a tilted axis on their styrofoam balls (because that is how our real Earth is).

Once students are done, split the kids into groups with one volunteer in each group. Have them take pick a spot on their Earth and have them demonstrate the four seasons from what they learned. The volunteer will represent the Sun. Students will revolve their Earth around the sun while representing the four seasons.

6. Color!

[If you finish early]

Have students draw what their favorite season looks like (including weather, holidays, clothes, etc).

Conclusion

Instructor Comments

- FOR OLDER KIDS: Ask them how they think that the Northern and Southern hemispheres will impact the four seasons. With the diagram, explain that when the tilt of the Earth is angled towards the Sun, there is Summer in Connecticut *while the Southern hemisphere of the world is in Winter since the southern hemisphere will be angled away from the Sun.* When the tilt of the Earth is angled away from the Sun, there is Winter in Connecticut *while the Southern hemisphere is in Summer since the Southern hemisphere will be angled towards the sun.*