

SEASONS

Session 5: Earth's Tilted Axis

I. Model a Year

Model Earth orbiting the Sun, using the Seasons sheet on your table as a guide.

Note: Be sure to always point your Earth's axis in the direction indicated by the instructor.

- Place your team's Seasons Sheet on the table. Match the orientation of the seasons on the sheet to the signs hung around the room. Place a ring on the Seasons sheet. Place your Sun on the ring.
- Each team member should stand around your table at one of the season positions marked on the sheet. Each team member should represent a different season.
- Summer team member:
 - Hold Earth on the side of the Sun that represents Summer. Orient the tilt of Earth's axis in the direction indicated by the instructor.
 - Holding the dowel that represents Earth's axis, move Earth through your season to model how Earth orbits around the Sun during Summer.
 - Pass Earth to the Fall team member, always keeping the axis pointed in the correct direction.
- Fall, Winter, and Spring team members:
 - Take turns repeating the steps above during your season. Fall team member will model Earth's orbit during Fall, then pass Earth to Winter team member, and so on.
 - Make to complete a full Year by passing Earth through every season and back to Summer.

2. Model a Day at Different Times of Year

- Summer team member: Rotate Earth at the Summer position, so your Lego person experiences both night and day. All teammates should make sure that the axis orientation remains correct.
- Fall team member: Rotate Earth at the Fall position, so your Lego person experiences both night and day. All teammates should make sure that the axis orientation remains correct.
- Pass and repeat for the other two seasons.

3. Observe from the Model

When Earth experiences **Summer** in the Northern Hemisphere:

1. The Northern Axis is tilted _____ the Sun.
< towards / away from >
2. The Southern Axis is tilted _____ the Sun.
< towards / away from >
3. To see the Sun at midday, Lego person must look _____ , _____ in the sky.
< up / ahead > , < high / low >

When Earth experiences **Winter** in the Northern Hemisphere:

1. The Northern Axis is tilted _____ the Sun.
< towards / away from >
2. The Southern Axis is tilted _____ the Sun.
< towards / away from >
3. To see the Sun at midday, Lego person must look _____ , _____ in the sky.
< up / ahead > , < high / low >