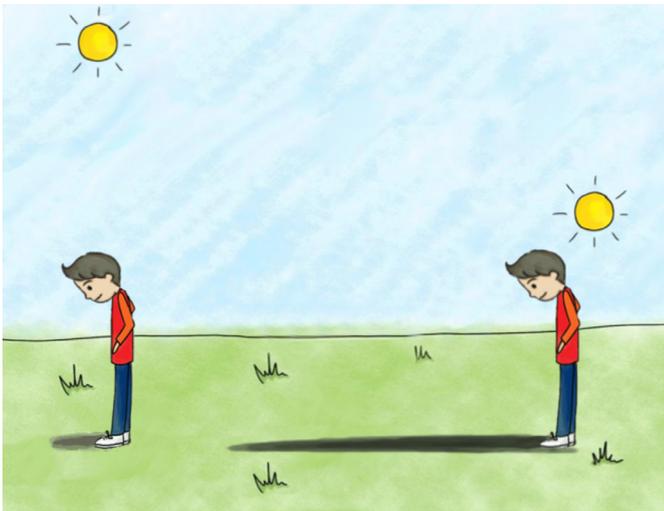


SPACE VIDEO CONFERENCE LEARNING RESOURCE. STAGE 2 REASON FOR THE SEASON



Before the video conference, help the learners think about the Earth's relationship with the Sun. This should include the differences between the Sun (star) and the Earth (planet). Look at regular changes of day and night and the effect of our yearly journey around the Sun. What would those changes look like from our *Space Engine* Spaceship?

If available, ask your learners to look at a globe of the Earth and draw their attention to the lean or tilt. The tilt was probably the result of a collision with planetesimals (small bodies) billions of years ago. The effects of this collision are experienced every year through the seasons.

During the video we will make use of this diagram showing the height of the Sun at lunchtime (midday) in summer and winter. What follows is an experiment your learners can do over the next month, or longer.

Please remind everyone that you can NEVER look directly at the Sun.

Season shadow challenge

1. Place a single chopstick, pencil or even a toy in a marked location so we can use the same location each time.
2. Make sure you put the object in the exact same location and the measure the length of the shadow at lunchtime (midday) once a week for a month or longer.

Observations

1. Make a graph of the length of the shadow and the date.

Explanation

Why does the length of the shadow change and what can it tell us about the reason for the season?

HINT: Think about the orbit of the Earth around the Sun. Does the Earth stand straight up or lean (tilt) to one side? Please take pictures of your experiment and the graph and share it using the hashtag #seasonshadows