



Fact or Fiction

Overview

It can be difficult to understand that the sun is stationary when you see its apparent movement across the sky. In fact, the Earth's rotation and movement around the sun is responsible for the sun's apparent movement from Earth. It is a case in which the observer is moving while that which is being observed is standing still. This concept is comparable to watching the countryside "go by" outside the window of a moving car or train. The person inside the car feels like they are being still, while the trees and fields outside the car appear to be passing by

Arizona State Standards

SC05 S6C3 PO4 Describe the change in position and motion of the following objects in the sky over time:

- Real motion-moon and planets
- Apparent motion-sun

Objectives

The students will correct their misconceptions of the Sun's movement and accurately describe the difference between real and apparent motion.

Materials

Sun Misconceptions Worksheet

Procedures

1. Distribute "Sun Misconceptions" worksheet to students.
2. Have the students fill out if the statement is fact or fiction
3. Now have students work with a partner and compare answers. Give them time to discuss why they answered as they did.
4. As a class, discuss with the students which statements they thought were fact or fiction. Let them know all the statements were false. Ask the students how could they go about proving that the statements were false? Some might require their own correction of wording things.
5. Provide them with time to explore their ideas. Select one to do as a class.
6. If your students do not come up with an idea the attached activity "Colors of the Sky" will prove that the sun does not change color.



Identify the following statements as fact or fiction.

1. The sun moves across the sky from east to west. _____
2. The sun comes up in the east and goes down in the west. _____
3. The sun dips below the horizon just before dark. _____
4. The sun rises above your house. _____
5. The sun moved behind a cloud. _____
6. The sun isn't out on cloudy days. _____
7. A shadow changes as the sun moves. _____
8. The sun stays up in the sky longer in the summer than in the winter. _____
9. The sun moves in an arc across the sky. _____
10. When the sun goes down, the moon comes up. _____
11. The sun changes color. _____