2nd Grade Astronomy Unit

Unit Overview

The Astronomy unit, taught using BSCS Science T.R.A.C.S. *Investigating Objects in the Sky*, introduces students to concepts in astronomy while developing basic observational skills.

Essential/Unit Questions:

1. When can the sun be seen in the sky?
2. When can the moon be seen in the sky?
3. How do the sun, moon, and stars appear to move?
4. What does the moon look like throughout a month? How does it change and how does it remain the same?
5. How are stars positioned in the sky?
6. How many stars are in the sky?
7. What tools and models can help us learn about the sun, moon, and stars?

Lesson Summary (Paraphrased from pages 14-16 in BSCS Science T.R.A.C.S. *Investigating Objects in the Sky* Teacher's Edition)

Lesson 1: Students read a story and draw objects in the sky as they think those object would appear at different times of the day and night. Lesson serves as a pre-unit assessment.

Lesson 2: Students focus on the Moon and observe it both during the day and night. For at least one month, they observe and record the Moon's appearance, its position in the sky, and its direction. Teams discuss and compare their drawings and observations and look for patterns in both the apparent shape of the Moon and its sky position.

Lesson 3: Students conduct a simple investigation to determine how their shadows change when they don't move. They trace a teammate's shadow at two different times during a day, record the Sun's position in the sky at each time, and then compare and measure changes in the shadow outlines. Students relate the changes in their shadows to the changes in the Sun's position in the sky.

Lesson 4: Students make a "constellation in a can" and project them on the classroom walls. They find their constellation on a simple star map and then on a more detailed

map. Students conclude the lesson with discussion questions about stars' positions in the sky and the vast number of stars in the sky.

Lesson 5: Students learn that people have used the North Star as a guide for centuries and that the Big Dipper can help them find the North Star and other constellations. They make a simple star finder that will help them locate the Big Dipper, the Little Dipper, and Cassiopeia. Students use their star finder at home to observe the positions and patterns of movement of constellations in the night sky.

Lesson 6: Students use their Moon calendars and journals to review the appearance of the Moon over the course of a month. They sequence illustrations of the Moon's phases and make a "Moon Movie" flip book. They describe the pattern of change in the Moon's appearance. Using their data, they make predictions about future phases of the moon.

End-of-Unit Assessment: Students revisit the story from Lesson 1 and reflect what they have learned. Students also answer short-answer questions that require they demonstrate what they have learned about the sun, Moon, and stars.