Summary of the Embedded Assessments

	Embedded Assessments
Engage	**Individual Assessment** **Team's Physical Model and Guided Questions** • How long does it take Earth to revolve around the Sun? • Is Earth's orbit more circular or more elliptical? • What season is the southern hemisphere having when the northern hemisphere is having spring? • Did your team vary the distance of your Earth models from the light? If so, explain. • Did your team change the tilt of your Earth models? If so, explain how.
Explore	With your team, follow the procedures in the "Exploration" section and a make a sketch of your new, revised model. Explain any changes that you made to the distance of your Earth models from the light and the tilt of your Earth model.
Explain	Label the two-dimensional diagram of the seasons based on your three-dimensional model. Include the following: • Earth's axis, showing the tilt, • arrows to show the movement of Earth around the Sun, • names of the seasons, and • the date each season begins.
Extension	As you construct and use a Sundial and an astrolabe and study the amount of daylight and the path of the Sun at different latitudes, answer the following questions: • Describe the path of the Sun on the day you did your measurements. • How would the path be different at other times of the year? Explain. • Study the three tables of daylight information and graphs of the Sun's

	path for the three cities. Based on the data and graphs, answer the following questions: o During what season do all three cities have the greatest amount of daylight? o During what season do all three cities have the shortest amount of daylight? o As the latitude increases how does the length of daylight on December 21 change? How does the length of daylight on June 20 change? o As the latitude increases how does the angle and path of the Sun change on the first day of summer? How does the angle and path of the Sun change on the first day of winter?
Summative Evaluation	**Individual Assessment** **Individual Self-Reflections** • Why does the length of daylight vary throughout the seasons at different latitudes? • Is the angle of the Sun's elevation ever 90 degrees above south Florida (26°N)? Why or why not? • Why are the warmest climates located near the equator? • Why is it warmer in the summer than in the winter on Earth? • Why does the North Pole have more daylight in the summer than we do in South Florida? Why is it so much colder there? • Using what you have learned in these activities, explain why the North Pole has 24 hours of daylight on June 21 and the South Pole has 24 hours of darkness. You can use a diagram. • What causes the seasons on Earth? Look back at your drawing and make any changes to reflect your understanding after doing the lesson. • How have your ideas on the cause of the seasons changed as a result of this lesson?