



ISE GRADE 4 SCIENCE CURRICULUM STANDARDS / LEARNING OUTCOMES



<u>Curriculum Standards/Learning Outcomes</u>	<u>Teaching Strategies</u>	<u>Resources</u>
<p><u>Topic Four: Earth's Atmosphere and Solar System</u></p> <p>Using Weather Data:</p> <ul style="list-style-type: none">• Gases in the Earth's atmosphere support life and keep Earth warm.• Water changes states in the water cycle, causing changes in weather.• Meteorologists gather data about temperature, humidity, and air pressure to make predictions about weather.	<ul style="list-style-type: none">• Discover that air takes up space and has weight.• Identify the main gases in air.• Describe the four layers of Earth's atmosphere.• Explain the greenhouse effect.• Describe the water cycle and the changes that occur.• Identify three states of water.• Describe different kinds of clouds and forms of precipitation.• Collect and analyze weather data.• Describe weather factors.• Understand the causes of wind and how air masses and fronts move.• Model how bodies of water and mountains affect climate.• Identify three climate zones.• Describe how latitude and altitude affect climate.• Understand that climate changes over time.• Compare the mass of inflated and deflated balloons to discover if air has masses. (HM D5)	<ul style="list-style-type: none">• Textbook: Houghton Mifflin Grade Four Earth Science: Unit D...The Atmosphere and Beyond



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<p>Looking at the Universe:</p> <ul style="list-style-type: none">• The Sun’s energy supports life on Earth, while the Sun’s gravity holds the solar system together.• The outer planets orbit far from the Sun and are very different from the inner planets.• The motions of the Earth and the Moon cause changes in Earth’s seasons and the phases of the moon.• Stars can be classified and organized into constellations in the night sky, or into galaxies which make up the universe.	<ul style="list-style-type: none">• Make a model of the water cycle.• (HM D6)• Use instruments to collect weather data; make and test weather predictions using data and weather maps. (Handout) <ul style="list-style-type: none">• Understand the role of Sun’s energy on Earth.• Discuss the role of the Sun’s gravity in the solar system.• Describe and compare the nine planets.• Learn the size, distance from the Sun, and surface composition of the outer planets.• Understand the causes of Earth’s seasons and the phases of the Moon.• Classify stars and recognize constellations.• Understand that the universe is made of billions of galaxies held together by gravity.• Model the effects of sunlight on Earth’s surface by measuring and recording the varying temperatures of different types of surfaces. (HM D47)• Model the motion of the Earth and Moon around the Sun. (HM D67)	



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	<ul style="list-style-type: none">• Draw a diagram of the planets and their position around the Sun.• Give an oral report on a chosen planet.	