

## 6<sup>th</sup> Grade Standard I Rubric

### Phases of the Moon

Score 4	<p>In addition to scoring a 3.0, the student will:</p> <ul style="list-style-type: none"><li>--demonstrate the ability to apply an in-depth understanding of moon phases to real life situations</li><li>--demonstrate an understanding of different reasons why the moon might not be visible at certain times of night and/or month</li></ul>
Score 3	<p>In addition to understanding level 2 and 1 concepts, the student will:</p> <ul style="list-style-type: none"><li>--looking at a picture of earth, moon, and sun, be able to tell what phase of the moon would be seen from earth</li><li>--identify and label moon phases in the correct order</li><li>--predict what phase of the moon will occur in a specified amount of time (1 week, 2 weeks, etc.)</li></ul>
Score 2	<p>In addition to understanding level 1 concepts, the student will:</p> <ul style="list-style-type: none"><li>--name the four major phases of the moon</li><li>--understand that the moon doesn't actually change shapes during the month</li><li>--understand rotation and revolution</li></ul>
Score 1	<p>The student will:</p> <ul style="list-style-type: none"><li>--identify and label a new moon and a full moon</li><li>--understand that the moon doesn't always look the same</li></ul>

## 6<sup>th</sup> Grade Standard II Rubric

### Earth's Tilt/Seasons

Score 4	<p>In addition to scoring a 3.0, the student will:</p> <ul style="list-style-type: none"><li>--infer a city's general location on earth based on the number of hours of daylight it receives and the month of the year</li><li>--demonstrate the ability to apply an in-depth understanding of earth's tilt/seasons to real life situations</li></ul>
Score 3	<p>In addition to understanding level 2 and 1 concepts, the student will:</p> <ul style="list-style-type: none"><li>--be able to look at a picture of the earth's relative position to the sun and tell what season is represented</li><li>--understand the earth's tilt and revolution around the sun cause the seasons</li><li>--understand the angle of the sun's rays affects the four seasons due to intensity and length of day</li><li>--explain why the seasons are reversed in the northern and southern hemispheres</li></ul>
Score 2	<p>In addition to understanding level 1 concepts, the student will:</p> <ul style="list-style-type: none"><li>--understand that seasons are reversed in the northern and southern hemispheres</li><li>--understand that earth's distance from the sun does not cause seasons</li></ul>
Score 1	<p>The student will:</p> <ul style="list-style-type: none"><li>--name the four seasons in order</li><li>--know the earth's axis is tilted relative to its orbit around the sun</li><li>--recognize which months have the longest and shortest daylight hours</li></ul>

6<sup>th</sup> Grade Standard III Rubric

Solar System

Score 4	<p>In addition to scoring a 3.0, the student will:</p> <ul style="list-style-type: none"><li>--explain why our knowledge and description of the solar system changes</li><li>--describe how exploration of the solar system affects peoples' lives on earth</li></ul>
Score 3	<p>In addition to understanding level 2 and 1 concepts, the student will:</p> <ul style="list-style-type: none"><li>--name and identify characteristics of objects in the solar system</li><li>--identify the different technologies used to study and understand the solar system</li><li>--explain the difference between manmade and natural satellites</li><li>--understand how gravity and mass affect objects in the solar system</li></ul>
Score 2	<p>In addition to understanding level 1 concepts, the student will:</p> <ul style="list-style-type: none"><li>--identify gas and rocky planets</li><li>--name the eight planets in order of distance from the sun</li><li>--understand that gravity holds the solar system together</li><li>--explain how telescopes and space probes help scientists understand the solar system</li></ul>
Score 1	<p>The student will:</p> <ul style="list-style-type: none"><li>--know that the sun is the center of the solar system</li><li>--understand that distant stars are not part of the solar system</li><li>--understand technology must be used to observe the solar system</li></ul>

## 6<sup>th</sup> Grade Standard IV Rubric

### The Universe

Score 4	<p>In addition to scoring a 3.0, the student will:</p> <ul style="list-style-type: none"><li>--explain why Polaris does not seem to move in the night sky</li><li>--explain how constellations can be used to find other constellations</li><li>--demonstrate an understanding of the vastness of the universe</li><li>--show why we cannot see all the constellations of the Zodiac at any one time from earth</li></ul>
Score 3	<p>In addition to understanding level 2 and 1 concepts, the student will:</p> <ul style="list-style-type: none"><li>--understand that everything is part of an ordered universe</li><li>--order objects found in the universe according to size</li><li>--be able to identify well known constellations</li><li>--explain the reasons why stars appear to change position both during the night and throughout the year</li><li>--understand the historical significance of constellations</li><li>--explain why stars in a constellation appear to be the same distance from earth, but in reality are not</li><li>--tell how stars can be used for navigation and making calendars</li><li>--understand that the universe is mostly empty space</li></ul>

Score 2	<p>In addition to understanding level 1 concepts, the student will:</p> <ul style="list-style-type: none"><li>--understand objects in the universe are different sizes</li><li>--understand that stars appear to change position both during the night and throughout the year</li><li>--be able to identify the Big Dipper and the Little Dipper</li><li>--understand that stars can be used for navigation and making calendars</li><li>--understand distances outside the solar system are measured in light years</li></ul>
Score 1	<p>The student will:</p> <ul style="list-style-type: none"><li>--understand that stars are grouped into patterns which are called constellations</li><li>--know that our solar system is part of the <i>Milky Way Galaxy</i></li><li>--understand that the <i>Milky Way Galaxy</i> is one of many galaxies in the universe</li></ul>

6<sup>th</sup> Grade Standard V Rubric

Microorganisms

Score 4	<p>In addition to scoring a 3.0, the student will:</p> <ul style="list-style-type: none"><li>--explain why microorganisms are classified as living</li><li>--explain the difference between a viral and bacterial infection</li><li>--explain the benefits of regular hand washing</li><li>--explain why an understanding of microorganisms would be important for food handlers</li></ul>
Score 3	<p>In addition to understanding level 2 and 1 concepts, the student will:</p> <ul style="list-style-type: none"><li>--compare characteristics of microorganisms</li><li>--infer how the microorganism functions (cilia, etc.)</li><li>--explain what a microorganism requires to survive</li><li>--tell five ways microorganisms are involved in the production of food</li><li>--tell five ways microorganisms are helpful</li><li>--tell three discoveries that led to our current understanding of microorganisms</li><li>--tell one disease caused by each of the following: bacteria, fungi, protists</li><li>--understand the harmful effects microorganisms can have on food</li></ul>

Score 2	<p>In addition to understanding level 1 concepts, the student will:</p> <ul style="list-style-type: none"><li>--identify three kingdoms into which microorganisms are classified</li><li>--recognize that microorganisms are living</li><li>--tell two ways microorganisms are involved in the production of food</li><li>--tell two ways microorganisms are helpful</li><li>--tell one discovery that led to our current understanding of microorganisms</li></ul>
Score 1	<p>The student will:</p> <ul style="list-style-type: none"><li>--explain what a microorganism is</li><li>--recognize that microorganisms are both helpful and harmful</li><li>--understand that microorganisms are found nearly everywhere</li></ul>

6<sup>th</sup> Grade Standard VI Rubric

Heat/Light/Sound --- Heat

Score 4	<p>In addition to scoring a 3.0, the student will:</p> <ul style="list-style-type: none"><li>--explain why an object with more mass has more heat energy than an object with less mass</li><li>--tell why cooking utensils are designed the way they are</li></ul>
Score 3	<p>In addition to understanding level 2 and 1 concepts, the student will:</p> <ul style="list-style-type: none"><li>--explain how heat is transferred by conduction, convection, and radiation</li><li>--give an example of conduction, convection, and radiation</li><li>--give two examples of conductors and insulators</li></ul>
Score 2	<p>In addition to understanding level 1 concepts, the student will:</p> <ul style="list-style-type: none"><li>--understand that heat moves from hotter to cooler objects</li><li>--name the three ways heat is transferred</li><li>--know the difference between an insulator and a conductor</li></ul>
Score 1	<p>The student will:</p> <ul style="list-style-type: none"><li>--understand that heat transfers</li><li>--understand that insulators slow the movement of heat</li></ul>

6<sup>th</sup> Grade Standard VI Rubric

Heat/Light/Sound --- Light

Score 4	<p>In addition to scoring a 3.0, the student will:</p> <ul style="list-style-type: none"><li>--explain why light changes speed when it hits a new medium</li><li>--demonstrate the ability to apply an in-depth understanding of light to real life situations</li></ul>
Score 3	<p>In addition to understanding level 2 and 1 concepts, the student will:</p> <ul style="list-style-type: none"><li>--explain the difference between a source and a reflector of light</li><li>--compare and contrast reflection and refraction</li><li>--explain and illustrate the law of reflection</li><li>--give three examples of transparent, translucent, and opaque objects</li><li>--understand that light waves do not need a medium through which to travel</li><li>--understand that white light is a combination of all the colors</li></ul>
Score 2	<p>In addition to understanding level 1 concepts, the student will:</p> <ul style="list-style-type: none"><li>--explain that the color of an object is the color it reflects</li><li>--recognize a prism and know what it does</li><li>--label picture examples of reflection and refraction</li><li>--give one example each of transparent, translucent, and opaque objects</li></ul>
Score 1	<p>The student will:</p> <ul style="list-style-type: none"><li>--identify the colors of the spectrum (Roy G Biv)</li><li>--understand there must be a light source in order for us to see</li><li>--know the difference between a source of light and a reflector of light</li></ul>

6<sup>th</sup> Grade Standard VI Rubric

Heat/Light/Sound --- Sound

Score 4	<p>In addition to scoring a 3.0, the student will:</p> <ul style="list-style-type: none"><li>--explain what must change in order for the pitch of a sound to change</li><li>--explain why loud sounds can damage hearing</li></ul>
Score 3	<p>In addition to understanding level 2 and 1 concepts, the student will:</p> <ul style="list-style-type: none"><li>--understand why sound needs a medium through which to travel</li><li>--describe how the size of an object affects its pitch</li><li>--explain how energy and volume are related</li></ul>
Score 2	<p>In addition to understanding level 1 concepts, the student will:</p> <ul style="list-style-type: none"><li>--know that sound must have a medium through which to travel</li><li>--know that pitch is how high or low a sound is</li><li>--understand that intensity is how loud or soft a sound is</li></ul>
Score 1	<p>The student will:</p> <ul style="list-style-type: none"><li>--understand that sound is produced by vibrations moving through a medium</li><li>--recognize that pitch and intensity are properties of sound</li></ul>