

Grade Eight Indicators

Earth and Space Sciences

<i>The Universe</i>	<ol style="list-style-type: none">1. I can describe how the Earth rotating on its axis (imaginary line through the North and South poles) and revolving (orbiting) around the sun results in day, night, year, season changes, eclipses (blocking light on each other) and effects of the moon on Earth.2. I can explain how gravity is the main force that determines movements in the solar system and keeps planets in orbit around the sun.3. I can explain the difference between the revolution of Earth and the revolution of comets and asteroids. I can also explain the difference between what these three are made of.4. I can describe what happens when asteroids or meteoroids move through space and planet atmospheres.5. I can explain that the pattern of stars determine what the galaxies look like by size and shape.6. I can explain that the distances between stars are measured in light years because Earth bound measurement units (kilometer, centimeter, etc.) would be too small.7. I can explain what would happen next to a star by looking at a star's life cycle.8. I can explain how the tools used to study space work and what these tools tell us about the universe.
<i>Earth Systems</i>	<ol style="list-style-type: none">9. I can describe the inside and outside layers of Earth. I can describe what moves the top layer of Earth.10. I can explain how tectonic plate motion causes natural disasters (earthquakes, volcanic eruptions, mountain building, etc.)11. I can locate items on different kinds of models. (globes, topographic maps, satellite images) I can describe landforms using different kinds of models. (stereograms, topographic maps, satellite images)12. I can explain the process of convection. I can explain the role of gravity in the movement of tectonic plates.13. I can describe how landforms are created through constructive processes. (deposition) I can describe how landforms are created through destructive processes. (erosion)14. I can explain the processes that would cause rock layers to move so that the youngest is not always found on top.15. I can show how different landforms (mountains, volcanoes, and ocean trenches) are created from each plate boundary (transform, divergent and convergent).

Physical Sciences

<i>Forces & Motion</i>	<ol style="list-style-type: none">1. I can explain that the motion of an object is always described in relation to a certain point.2. I can explain that motion of an object is described by its rate (change in position over time) of movement and the direction it moves.3. I can explain that a push or a pull on an object will change its speed or direction.
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<i>Nature of Energy</i>	<ol style="list-style-type: none"> I can explain how waves move energy from one place to another. I can show how vibrations in materials move away from a point in all directions.
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Life Sciences

<i>Heredity</i>	<ol style="list-style-type: none"> I can describe how asexual reproduction limits the spread of harmful characteristics through a species and allows the species to continue. I can explain that sexual reproduction results in new combinations of traits which may increase or decrease an organism's chances for survival.
<i>Evolutionary Theory</i>	<ol style="list-style-type: none"> I can explain how differences in structure, behavior or body processes allow some species to increase their reproductive success and survival in a particular environment. I can explain that diversity of species is developed through gradual processes over many generations (e.g., fossil record). I can describe how a species adapted to a particular environment may become extinct if the environment, as shown by the fossil record, changes.

Science and Technology

<i>Understanding Technology</i>	<ol style="list-style-type: none"> Examine how science and technology have advanced through the contributions of many different people, cultures and times in history. Examine how choices regarding the use of technology are influenced by constraints caused by various unavoidable factors (e.g., geographic location, limited resources, social, political and economic considerations).
<i>Abilities To Do Technological Design</i>	<ol style="list-style-type: none"> Design and build a product or create a solution to a problem given more than two constraints (e.g., limits of cost and time for design and production, supply of materials and environmental effects). Evaluate the overall effectiveness of a product design or solution.

Scientific Inquiry

<i>Doing Scientific Inquiry</i>	<ol style="list-style-type: none"> Choose the appropriate tools or instruments and use relevant safety procedures to complete scientific investigations. Describe the concepts of sample size and control and explain how these affect scientific investigations. Read, construct and interpret data in various forms produced by self and others in both written and oral form (e.g., tables, charts, maps, graphs, diagrams and symbols). Apply appropriate math skills to interpret quantitative data (e.g., mean, median and mode).
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Scientific Ways of Knowing

<i>Nature of Science</i>	<ol style="list-style-type: none"> Identify the difference between description (e.g., observation and summary) and explanation (e.g., inference, prediction, significance and importance).
<i>Ethical Practices</i>	<ol style="list-style-type: none"> Explain why it is important to examine data objectively and not let bias affect observations.