

Diocese of Fall River Grades 3-5 Science Learning Outcomes: A school's curriculum will address these outcomes over this 3 year span. In addition to achieving these standards, a student is expected to have developed the grade-level-appropriate skills necessary to do science, i.e. scientific inquiry, including asking and answering questions by conducting investigations or experiments and to have been given the opportunity to experience Technology/Engineering challenges. [The Diocesan Science Curriculum Guidelines and Preface are available at: www.dfrcec.com]

<i>[Additional outcomes from the Diocesan Health Curriculum Guidelines will also be included unless they are addressed in other courses.]</i>
1. Sort into the major groups, based on their physical characteristics: plants (flowering vs. non-flowering) and animals (mammal / bird / fish / reptile / insect)
2. Use a key to sort organisms into their major group.
3. Identify the basic structures of plants (roots, stem, leaves,) the major functions of each, and how plants grow.
4. Recognize that all living things have a predictable life cycle that may or may not include dramatic changes in form.
5. Give examples of inherited characteristics
6. Describe how the needs of an organism must be met by its environment in order for it to survive.
7. Describe how plants and animals respond to changes in their environment.
8. Give examples of how organisms can change their environments and/or impact their ecosystems.
9. Distinguish between learned and instinctive behaviors
10. Describe how the sun's energy is used by plants [to produce sugars (via photosynthesis) and is transferred within a food chain.]
11. Recognize that matter has many observable properties, such as weight, shape, color, temperature; and that these properties can be measured and/or used to sort things.
12. Compare and contrast the basic properties of solids, liquids and gases [definite shape or not, takes up certain amount of space or not.]
13. Describe how water can change from one state to another
14. Identify the basic forms of energy (light, sound, heat, electrical, magnetic)
15. Give examples of how one form of energy can be changed to another form
16. Construct an electrical circuit using a battery with a light bulb or bell and explain the requirements for a working circuit.
17. Test materials and determine if they are conductors or insulators
18. Construct and use an electromagnet
19. Recognize that magnets have poles that attract or repel each other.
20. Test materials and formulate conclusions about what type(s) of materials are magnetic
21. Recognize that sound is produced by vibrating objects and requires a medium through which to travel. Relate the rate of vibration to the pitch of the sound.
22. Recognize that light travels in a straight line until it strikes an object or travels from one medium to another, and that light can be reflected, refracted, or absorbed.
23. Categorize minerals based on their physical properties
24. Distinguish between the 3 categories of rocks (igneous, metamorphic & sedimentary.)
25. Explain what soil is and how it is formed.
26. Describe the weather in terms of measurable quantities such as air temperature, wind speed and direction, and precipitation.
27. Describe how global patterns such as the jet stream and water currents influence local weather.
28. Differentiate between weather and climate.
29. Describe/illustrate the water cycle.
30. Give examples of how the surface of the earth changes by such processes as erosion and weathering; landslides, volcanoes and earthquakes.
<i>continued</i>

31. Describe the solar system in the most basic terms.

32. Describe the movements of the earth and relate its rotation to day/night and the apparent movement of objects in the sky.

33. Describe the changes in the observable shape of the moon over the course of a month.

34. Use basic tools with increasing accuracy & precision (including a ruler, thermometer and balance) to make metric measurements.