Science
Grade-Level Expectations: Grade 2

Science as Inquiry

The Abilities to Do Scientific Inquiry

1. Ask questions about objects and events in the environment (e.g., plants, rocks, storms) (SI-E-A1)
2. Pose questions that can be answered by using students' own observations, scientific knowledge, and testable scientific investigations (SI-E-A1)
3. Use observations to design and conduct simple investigations or experiments to answer testable questions (SI-E-A2)
4. Predict and anticipate possible outcomes (SI-E-A2)
5. Use a variety of methods and materials and multiple trials to investigate ideas (observe, measure, accurately record data) (SI-E-A2)
6. Use the five senses to describe observations (SI-E-A3)
7. Measure and record length and temperature in both metric system and U.S. system units (SI-E-A4)
8. Select and use developmentally appropriate equipment and tools (e.g., magnifying lenses, graduated cylinders) and units of measurement to observe and collect data (SI-E-A4)
9. Express data in a variety of ways by constructing illustrations, graphs, charts, tables, concept maps, and oral and written explanations as appropriate (SI-E-A5) (SI-E-B4)
10. Use a variety of appropriate formats to describe procedures and to express ideas about demonstrations or experiments (e.g., drawings, journals, reports, presentations, exhibitions, portfolios) (SI-E-A6)
11. Identify and use appropriate safety procedures and equipment when conducting investigations (e.g., gloves, goggles, hair ties) (SI-E-A7)

Understanding Scientific Inquiry

12. Recognize that a variety of tools can be used to examine objects at different degrees of magnification (e.g., hand lens, microscope) (SI-E-B3)
13. Explain and give examples of how scientific discoveries have affected society (SI-E-B6)

Physical Science

Properties of Objects and Materials

14. Classify objects as *bendable* or *rigid* (PS-E-A1)
15. Record the temperature of objects (Celsius and Fahrenheit) (PS-E-A1)
16. Measure weight/mass and volume of a variety of objects and materials by using a pan balance and various containers (PS-E-A2)
17. Use standard tools to measure objects or materials (e.g., ruler, meter stick, measuring tape, pan balance, thermometer, graduated cylinder) (PS-E-A2)
18. Observe, describe, and record the characteristics of materials that make up different objects (e.g., metal, nonmetal, plastic, rock, wood, paper) (PS-E-A3)
19. Describe and illustrate what remains after water evaporates from a salt or sugar solution (PS-E-A5)

Position and Motion of Objects

20. Observe and describe differences in motion between objects (e.g., toward/away, cardinal directions) (PS-E-B3)

Forms of Energy

21. Use students' own voices to demonstrate pitch (e.g., low, high) (PS-E-C1)

22. Give examples of objects that vibrate to produce sound (e.g., drum, stringed instrument, end of a ruler, cymbal) (PS-E-C1)
23. Change the direction of light by using a mirror and/or lens (PS-E-C2)
24. Describe how light behaves when it strikes objects and materials (e.g., transparent, translucent, opaque) (PS-E-C2)
25. Investigate ways of producing static electricity and describe its effects (PS-E-C4)
26. Identify and describe sources of energy used at school, home, and play (PS-E-C7)

Life Science
Characteristics of Organisms

27. Match the appropriate food source and habitat for a variety of animals (e.g., cows/grass/field, fish/tadpoles/water) (LS-E-A1)
28. Describe structures of plants (e.g., roots, leaves, stems, flowers, seeds) (LS-E-A3)
29. Compare differences and similarities among a variety of seed plants (LS-E-A3)
30. Identify physical characteristics of organisms (e.g., worms, amphibians, plants) (LS-E-A4)
31. Identify and discuss the arrangement of the food pyramid (LS-E-A6)
32. Analyze selected menus to determine whether they include representatives of all the required food groups (LS-E-A6)

Life Cycles of Organisms

33. Compare the life cycles of selected organisms (e.g., mealworm, caterpillar, tadpole) (LS-E-B1)
34. Describe inherited characteristics of living things (LS-E-B3)

Organisms and Their Environments

35. Identify the components of a variety of habitats and describe how organisms in those habitats depend on each other (LS-E-C1)

Earth and Space Science
Properties of Earth Materials

36. Observe and record the properties of rocks, minerals, and soils gathered from their surroundings (e.g., color, texture, odor) (ESS-E-A1)
37. Compare bodies of water found on Earth (e.g., oceans, seas, lakes, rivers, glaciers) (ESS-E-A2)
38. Explain why most of the water on Earth cannot be used as drinking (potable) water (ESS-E-A2)
39. Design an experiment involving evaporation (ESS-E-A3)
40. Gather, record, and graph weather data (e.g., precipitation, wind speed, wind direction, temperature) using appropriate instruments (ESS-E-A4)
41. Analyze recorded daily temperatures and weather conditions from newspapers, television, the Internet, and home/outdoor thermometers (ESS-E-A4)
42. Identify and use appropriate tools to gather and study rocks, minerals, and fossils (ESS-E-A5)

Objects in the Sky

43. Describe characteristics of the Sun, stars, and Earth's moon (e.g., relative size, shape, color, production of light/heat) (ESS-E-B1)
44. Give examples of how the Sun affects Earth's processes (e.g., weather, water cycle) (ESS-E-B5)

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Science and the Environment

45. Locate and identify plants and animals within an ecosystem (SE-E-A2)
46. Illustrate and describe a simple food chain located within an ecosystem (SE-E-A2)
47. Identify the Sun as the primary energy source in a food chain (SE-E-A2)
48. Describe a variety of activities related to preserving the environment (SE-E-A3)
49. Describe how consumption of resources can be reduced by recycling, reusing, and conserving (SE-E-A4)
50. Describe ways in which habitat loss or change can occur as a result of natural events or human impact (SE-E-A5)
51. Describe and give examples of threatened or endangered species (SE-E-A5)