

MIDLAND PARK SCHOOLS
MIDLAND PARK, NEW JERSEY 07432

SCIENCE -GRADE 2

I. COURSE PREREQUISITES

Enrollment in Science Grade 2 presumes mastery of Science Grade 1 course objectives.

II. COURSE DESCRIPTION

The Science Grade 2 course is a study in Life Science, Physical Science, and Earth Science units with an emphasis on process skills. Each Unit will expose students to a variety of content in the domains of science as they relate to the New Jersey Core Curriculum Standards.

III. COURSE PERFORMANCE OBJECTIVES

Upon successful completion of the requirements for this course, the student will demonstrate proficiency in the knowledge and skills objectives (and attitudes objectives, if applicable) listed below. Core Curriculum Content Standards as established by the New Jersey State Board of Education are included here, too. The number(s) of the Core Curriculum Content Standard(s) addressed is/are shown in parentheses following the statement.

A. Knowledge

The students will

1. Understand how sound is made
2. Understand how light moves and bounces off objects.
3. Understand how temperature affects objects and life forms.
4. Understand that weather changes seasonally and daily.
5. Understand weather conditions and how weather affects plants, animals, and people.
6. Understand the characteristics of the ocean.
7. Understand how ocean plants and ocean animals depend on one another.
8. Understand the classification system for mammals, birds, fish, amphibians, and reptiles.
9. Understand how our Earth and its life forms change over time.
10. Identify basic needs of a plant
11. Describe a plant.
12. Identify parts of a plant and describe each part's function.
13. Describe the growth and development of a plant.
14. Identify parts of a seed.
15. Identify ways seeds can be scattered.
16. Identify products that come from plants.
17. Describe growth and development of a frog.
18. Show the life cycle of a frog
19. Describe the life cycle of a butterfly.
20. Identify features that enable animals to live in various habitats.
21. Explain how animals depend on plants and other animals for food.
22. Name ways animals protect themselves.
23. Explain what fossils are and how they are formed.
24. Identify some dinosaurs and their characteristics.
25. Identify events that may have caused the extinction of dinosaurs.
26. State the properties of objects.
27. Define matter.
28. Describe the properties of solid, liquid, and gas.
29. Tell how matter can be changed.

30. Identify ways heat can change matter.
31. Learn that sound is produced when objects vibrate.
32. Identify sources of heat.
33. Identify materials that conduct heat.
34. Identify sources of light.
35. Learn that sources of light also give off heat.
36. Learn how heat travels.
37. Identify ways to make objects move.
38. Describe how gravity affects objects.
39. Identify when magnets repel or attract each other.
40. Identify some objects a magnet will attract.
41. Explain how electricity moves.
42. Name ways to use electricity safely.
43. Name some uses of electricity.
44. Identify features of the earth
45. Identify types of rocks.
46. Identify ways rock and soil can be changed.
47. Identify properties of different rocks.
48. Identify ways volcanoes and earthquakes change the earth.
49. Identify natural resources and their uses.
50. Identify effects of pollution and ways people can protect natural resources.
51. Identify items that can be recycled.
52. Identify ways to protect the earth
53. Identify instruments used to measure weather.
54. Identify seasonal weather conditions and their affects on plants and animals.
55. Describe the water cycle.
56. Learn that air contains water.
57. Describe severe weather and ways to be safe in severe weather.
58. Describe results of evaporation.
59. Describe how the rotation of the earth causes day and night.
60. Describe features and phases of the moon.
61. Identify sequence and phases of the moon.
62. Identify the sun and planets in our solar system.
63. Identify space exploration as a way we have learned about the solar system.

B. Skills

The students will be able to

1. Describe how sound is made.
2. Explain how light moves and bounces off objects.
3. Explain how temperature affects objects and life forms.
4. Demonstrate how weather changes seasonally and daily.
5. Identify weather conditions and show how weather affects plants, animals, and people.
6. List and explain the characteristics of the ocean.
7. Describe how ocean plants and ocean animals depend on one another.
8. Classify mammals, birds, fish, amphibians, and reptiles.
9. Describe how Earth and it's life forms change over time.
10. Classify plants based on characteristics.
11. Classify animals
12. Identify mixtures and solutions.

13. Observe how matter can change when mixing things together.
14. Learn how to make sounds and change volume.
15. Demonstrate effects of earthquakes.
16. Determine how sunlight affects soil, water, and air temperatures.
17. Use senses to observe objects and things that happen.
18. Use words, pictures and graphs to communicate and share what they have learned.
19. Classify objects by their properties
20. Use non-standard units and metric rulers to estimate and measure objects.
21. Infer or make a conclusion or a guess from what is already known.
22. Make predictions about what will happen next.
23. Use what they already know to describe something and/or to create a definition.
24. Make and use models to demonstrate knowledge.
25. Create a hypothesis to answer a problem or a question and test the hypothesis.
26. Collect data on what they observe or measure, record the data by using graphs, charts, pictures or words, and use the data to answer problems or questions.
27. Demonstrate understanding of the impact of controlling variables by changing one thing that will affect others.
28. Plan and complete an experiment/investigation to test a hypothesis or to answer a problem and draw conclusions from same.

C. COURSE SEQUENCE

Unit A: Life Science

Unit B: Physical Science

Unit C: Earth Science

D.

1. Evaluation Activities

Students can expect regularly scheduled written as well as oral tests and quizzes. Additional activities will be geared to appeal to specific learning styles and to multiple intelligences. Students will be expected to participate daily in class discussions and other classroom activities in addition to completing all homework assignments.

2. Grading Criteria

1. Test and quizzes
2. Activities (Research, oral/written assignments; projects; labs
3. Homework
4. Portfolios
5. Class Participation

Student Performance

E. TEXT(S) AND OTHER SUPPORT MATERIALS

2009 NJCCCS in Science

5.4.P.F.1 Observe and record weather;

5.4.2.F.1 Observe and document daily weather conditions and discuss how the weather influences your activities for the day.

5.3.P.A.1 - Investigate and compare the basic physical characteristics of plants, humans, and other animals.

5.3.P.A.2 - Observe similarities and differences in the needs of various living things, and differences between living and nonliving things.

5.3.P.D.1- Observe and record change over time and cycles of change that affect living things (e.g., use baby photographs to discuss human change and growth, observe and photograph tree growth and leaf changes throughout the year, monitor the life cycle of a plant).

5.3.2.D.1 - Record the observable characteristics of plants and animals to determine the similarities and differences between parents and their offspring.

5.3.2.D.2 - Determine the characteristic changes that occur during the life cycle of plants and animals by examining a variety of species, and distinguish between growth and development.

