

Course Description

Course Title: 2nd Grade Science

Course Length: Full Year

Class Meetings (Per Week): 2-3 times

Textbooks: Science 2 for Christian Schools
BJU Press

General Course Description: This science series is developmental in nature and a main goal is to teach problem solving. In most cases the children will learn through hands on materials, activities, and procedures. These materials and activities should teach not only scientific knowledge but knowledge of God. Built into the curriculum are lessons to develop Christian character.

Biblical Principles:

The fear of God is the beginning of knowledge and wisdom. (Psalm 111:10a, Proverbs 1:7)

God as creator should be presented by both a Biblical and scientific approach. (Genesis 1:1, Colossians 1:16-17, Psalm 19:1)

General Course Content:

- 1st Quarter:** Living and Not Living
 Living Things Move
 Living Things Have Needs
 Living Things Respond
 Living Things Make New Living Things
 Living Things Grow
 Where Things Live
 Homes for Living Things
 Non-living thing Parts of the Environment
 Wind and Water communities & Population
 Ocean Shorelines
 Types of Shorelines and Beaches
 Different Beaches
 What is in Sand?
- 2nd Quarter:** The History of the Earth
 Theories about the Earth
 What is a Fossil?
 Kinds of Fossils
 Where are Fossils Found?
- A Round Earth
 Round like a Ball
 Where do the People Live?
 A Ball in Space
 What is down?
- Light & Shadows
 The Source of Light
 How Light Travels
 Shadows
 Shadows Growing and Changing

- How the Earth Moves
 - Day and Night
 - Time Zones
 - A Revolving Earth
 - A Year
- 3rd Quarter:** Forces
 - Gravity
 - Magnetic Force
 - Mechanical Force
 - Friction
- Layers of the Earth
 - Volcanoes & Earthquakes
 - The Layers of the Earth
 - The Materials of the Earth
 - Journey to the Center of the Earth
- Motion
 - What Causes Movement
 - The First Law of Motion
 - The Second Law of Motion
 - The Third Law of Motion
- 4th Quarter:** How long do Plants Live?
 - Planning a Garden
 - Planting a Garden
 - Caring for a Garden
- Your Bones
 - Bones and Cartilage
 - Names and Shapes of Bones
 - Where Bones Meet
 - Jobs of the Skeleton
- How Long is It?
 - What Do You Measure?
 - Why Do You Measure?
- Your Muscles
 - Names and Structures of Muscles
 - Muscles Move Bones
 - Muscles Move Food
 - Muscles Move Blood

Related Objectives/Learner Outcomes:

The student will learn to:

1. Group plants as annuals, biennials, and perennials.
2. Discuss planning, planting, and caring for a garden.
3. Plant seeds and prepare to record the progress of their miniature gardens.
4. Read about the two main beliefs about the earth's beginnings: creation and evolution
5. Find fossils and list clues they provide about the earth's history.
6. Role play the views of the creationist's and the evolutionists interpretations of the fossil clues.

7. See and differentiate forces around them: gravity, magnetic force, mechanical force and friction.
8. Recognize which forces are being used in various situations.
9. Scripture which illustrates that God created the forces and that He controls them.
10. Illustrate the framework of the human body through drawings.
11. Build a model which show the important role that joints play in the body's movement.
12. List minerals that make bones hard.
13. Sort bones by shape.
14. See the shape of the earth using a globe.
15. Illustrate through drawings the concepts of up and down as they relate to earth and the force of gravity.
16. List the importance of light to man.
17. Do experiments to show how light travels.
18. See what happens to light when it cannot pass through objects.
19. Demonstrate and observe light and objects in varying positions and note the change in size and location of shadows.
20. List some of the distinctions between living and nonliving things.
21. Sort the need of living things (living things move, have needs, respond, reproduce and grow) from those of non-living things.
22. Observe how living differs from the non-living through various examples of nature and experience with seed germination.
23. Demonstrate various ways to measure objects with different items such as paper clips, unifix cubes and popsicle sticks.
24. Summarize the two main reasons for measuring; to classify and to identify objects.
25. Identify the earth's rotation and its revolution around the sun through the use of a model.
26. Sort and classify the calendar into its divisions of months and seasons.
27. Role play the concept of leap year.
28. Demonstrate the earth's rotation relates to day and night, time zones, and seasons using a globe, flashlight and time zone maps.
29. Identify the various kinds of muscles through illustrations.
30. List the roles muscles perform in the body - movement of bones, blood, and food.
31. Illustrate the three layers of the earth and describe the features of the earth's crust.
32. "Build" their own model of the earth's crust.
33. Observe and discuss the differences in animal homes.
34. Explain the terms such a habitat, environment, biome, community, and population by going on a field trip to Powder Valley Wildlife Center.
35. Illustrate the importance of soil, sunlight, water, and wind on animals in a given environment.
36. List ways water is important to all living things.
37. Experiment with force on matter and summarize in group discuss the results.
38. List activities with the push or pull motions.
39. Sort the different kinds of shorelines and beaches.
40. Examine sand samples and record their findings.
41. Use a magnifying glass to sort grains of sand into large, medium, small
42. Identify sandpipers
43. Match pictures of different sharks with their descriptions
44. Jump rope and count the jumps

45. Define how our bodies use food and proteins
46. Locate labels for sugars in proteins
47. List ways to keep the body clean after discussing the phrase "beauty is only skin deep"
48. Describe the ways minerals and vitamins help the body
49. Define the different functions of teeth

Presentation Methods:

Experiments
 Lecture
 Discussion
 Cooperative Learning
 Videos
 Field Trips
 Use of GCA Nature Center

Evaluation and Grading Methods:

- Areas evaluated:
 - Understands concepts
 - Participates
 - Shows interest
 - Individual activities completed
 - Group activities completed
 - Chapter Tests
 - Interest as shown by any of the following: discussion in class, pointing out supplementary materials found in classroom, bringing relevant material and /or objects from home to share with class.
 - Participation in Science Fair
- Grading Scale:

E = Exceeds Expectations	+ = Commendable
M=Meets Expectations	√ = Acceptable
N =Needs Further Development	— = Area of Concern

Enrichment Resources or Special Activities:

- Models: Rotation Model of the Earth/Sun/Moon
 Simple Machines
- Hands On Science Sets:
 - Fossil Set
 - Rock & Mineral Set
 - Sea shells for sorting/classifying
 - Magnets & Objects
 - Magnetic Activity Board
- Stages of Butterfly Observed
- General principles & simple experiments
- Blackboard drill
- Sand trays to trace letter
- Grow Sun Flower Plants

- Penny Experiment
- GCA Nature Center Care
- Full scale model human skeleton used for presentation and discussion