CALVERT™ HOMESCHOOL

CURRICULUM CATALOG

Science 300

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Table of Contents

SCIENCE 300 COURSE OVERVIEW....1
UNIT 1: YOU GROW AND CHANGE....1
UNIT 2: PLANTS....1
UNIT 3: ANIMALS....2
UNIT 4: BODY HEALTH....2
UNIT 5: PROPERTIES OF MATTER....2
UNIT 6: SOUND....2
UNIT 7: TIME AND SEASONS....3
UNIT 8: ROCKS AND THEIR CHANGE....3
UNIT 9: HEAT ENERGY....3
UNIT 10: REVIEW....3

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Science 300 Course Overview

Science 300 is a basic elementary course intended to expose students to the designs and patterns in the physical universe. This course provides a broad survey of the major areas of science. Some of the areas covered in Science 300 include the human body, plants, animals, health and nutrition, matter, sound waves, earth science, and heat energy.

The curriculum seeks to develop the students' ability to understand and participate in scientific inquiry. The units contain experiments and projects to capitalize on children's natural curiosity. The students will explore, observe and manipulate everyday objects and materials in their environment. Collectively, this should help students develop a subject-matter knowledge base.

Upon completion of the course, students should be able to do the following:

- Demonstrate a basic understanding of the systems in a human body.
- Discuss the process a plant goes through in order to grow.
- Explain the difference between types of animals.
- Determine which eating and care habits are the healthiest for students.
- Distinguish between the three phases of matter and describe their properties.
- Explain how sound travels.
- Describe why time and seasons change.
- Discuss how rocks are formed and how they change.
- Explain how heat is produced.

Science 300

Unit 1: You Grow and Change

Assignments

1. Course Overview
2. Your Body Breathes Air
3. Your Body Needs Oxygen
4. Experiment: Breathing Patterns
5. Experiment: Your Lungs
6. Quiz 1: Your Body Breathes Air
7. Your Body Digests Food
8. Experiment: Taste Test
9. Quiz 2: Your Body Digests Food
10. Your Body Moves
11. Experiment: Taking Your Pulse
12. Project: Bone Numbers
13. Quiz 3: Your Body Moves
14. Your Body Thinks
15. Quiz 4: Your Body Thinks
16. Special Project
17. Test
18. Alternate Test
19. Glossary and Credits

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Unit 2: Plants

Assignments

1. Plant Parts
2. Project: Root Hairs
3. Experiment: Study a Stem
4. Quiz 1: Plant Parts
5. Plant Growth
6. Experiment: Grow Some Plants
7. Quiz 2: Plant Growth
8. Plant Changes
9. Experiment: Watch the Seeds Grow
10. Experiment: Plant a Piece of Potato
11. Experiment: Bean Plant
12. Quiz 3: Plant Changes
13. Special Project
14. Test
15. Alternate Test
16. Glossary and Credits

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Unit 3: Animals

Assignments

1. Animals are Different
2. Insects and Spiders
3. Project: Metamorphosis
4. Fish
5. Project: Aquarium
6. Quiz 1: Animals
7. Amphibians
8. Reptiles
9. Birds
10. Project: Vertebrates
11. Quiz 2: Animals
12. Mammals
13. Special Mammals
14. Project: Marsupials
15. Quiz 3: Animals
16. Special Project
17. Test
18. Alternate Test
19. Glossary and Credits

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Unit 4: Body Health

Assignments

1. Healthy Foods
2. Unhealthy Foods
3. Quiz 1: Healthy and Unhealthy Foods
4. Plan for Healthy Eating
5. Project: Breakfast Chart
6. Project: Lunch Chart
7. Project: Dinner Chart
8. Project: Chart Totals
9. Quiz 2: How to Plan for Healthy Eating
10. Healthy Teeth
11. Exercise
12. Quiz 3: A Healthy Body
13. Special Project
14. Test
15. Alternate Test
16. Glossary and Credits

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Unit 5: Properties of Matter

Assignments

1. Chemistry and Matter
2. Experiment: Be a Chemist
3. Properties of Matter
4. Project: Volume
5. Experiment: Is Air Matter?
6. Project: Matter
7. Experiment: Is Water Matter?
8. Quiz 1: Matter
9. Physical Changes
10. Experiment: Mass
11. Experiment: Melting Ice Cubes
12. Chemical Changes
13. Quiz 2: Changes in Matter
14. Special Project
15. Test
16. Alternate Test
17. Glossary and Credits

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Unit 6: Sound

Assignments

1. Sounds are Made
2. Experiment: Vibrations
3. How Does Sound Travel?
4. Properties of Sound
5. Experiment: Sound Patterns
6. Report: Sound
7. Experiment: Pitch
8. Experiment: Loudness
9. Quiz 1: Sound
10. Sounds are Heard
11. Experiment: Hearing Sounds
12. Report: How Animals Hear
13. Quiz 2: Sound
14. Special Project
15. Test
16. Alternate Test
17. Glossary and Credits

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Unit 7: Time and Seasons

Assignments

1. How the Earth Moves
2. Experiment: The Earth
3. Experiment: Night
4. Experiment: Rotation
5. Quiz 1: How the Earth Moves
6. Why Time Changes
7. Project: Different Times
8. Report: Months
9. Why Seasons Change
10. Quiz 2: Time and Seasons
11. Special Project
12. Test
13. Alternate Test
14. Glossary and Credits

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Unit 8: Rocks and Their Change

Assignments

1. Igneous Rocks
2. Volcanoes
3. Sedimentary Rocks
4. Experiment: Limestone
5. Metamorphic Rocks
6. Quiz 1: How Rocks Are Formed
7. Rocks Change: Water and Wind
8. Rocks Change: Temperature and Plants
9. Quiz 2: Rocks Are Changed
10. Building With Rocks
11. Report: Mount Rushmore
12. Enjoying Rocks
13. Project: Famous Rocks
14. Quiz 3: How Rocks Are Used
15. Special Project
16. Test
17. Alternate Test
18. Glossary and Credits

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Unit 9: Heat Energy

Assignments

1. Heat and Temperature
2. Movement of Heat Energy
3. Experiment: Water Molecules
4. Experiment: Changing Liquid to a Gas
5. Quiz 1: Heat Energy
6. Friction and Fire
7. Experiment: Friction
8. Experiment: Oxygen and Fire
9. Electricity and the Sun
10. Experiment: Static Electricity
11. Quiz 2: Heat Energy
12. Problems with Heat Energy
13. Quiz 3: Heat Energy
14. Special Project
15. Test
16. Alternate Test
17. Glossary and Credits

Science 300

Unit 10: Review

Assignments

1. Your Body
2. Plants
3. Animals
4. Quiz 1: Review
5. Matter and Rocks
6. Project: Rock Collection
7. Seasons and Times
8. Quiz 2: Review
9. Sounds and Energy
10. Experiment: How Sound Travels
11. Experiment: Temperature Comparisons
12. Quiz 3: Review
13. Special Project
14. Test
15. Alternate Test
16. Glossary and Credits

(*) Indicates alternative assignment

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