



# monarch

2017 - 2018 Curriculum Catalog

Science 300

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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 God’s 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 course seeks to develop the student’s ability to understand and participate in scientific inquiry. The units contain experiments and projects designed to build on children’s natural curiosity. The student 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 most healthy 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.

Unit 1: You Grow and Change	
Assignments	
Science 300	1. Course Overview
	2. Your Body Breathes Air
	3. The Body Needs Oxygen
	4. Experiment: Breathing Patterns
	5. Experiment: Your Lungs*
	6. Quiz 1
	7. Your Body Digests Food
	8. Experiment: Taste Test
	9. Quiz 2
	10. Your Body Exercises and Rests
11. Experiment: Taking Your Pulse	
12. Project: Bone Numbers*	
13. Quiz 3	
14. Your Body is Different from an Animal	
15. Quiz 4	
16. Special Project*	
17. Review Game	
18. Test	
19. Alternate Test*	
20. Reference	

Unit 2: Plants	
Assignments	
Science 300	1. Plant Parts
	2. Experiment: Root Hairs
	3. Experiment: Study a Stem*
	4. Quiz 1
	5. Plant Growth
	6. Experiment: Grow Some Plants
	7. Quiz 2
	8. Plant Changes
	9. Experiment: Watch Bean Seeds Grow
10. Experiment: Plant a Piece of Potato*	
11. Experiment: Bean Plant*	
12. Quiz 3	
13. Special Project*	
14. Review Game	
15. Test	
16. Alternate Test*	
17. Reference	

Unit 3: Animals: Growth and Change		
Assignments		
Science 300	1. Animals and The Environment	11. Quiz 2
	2. Experiment: Hourly Temperature Changes	12. How Animals Grow and Change
	3. Experiment: Heat Energy Comparison*	13. Project: Sow Bug Environment
	4. Project: Desert Locations*	14. Quiz 3
	5. Quiz 1	15. Special Project*
	6. How Animals are Different	16. Review Game
	7. Animal Structures	17. Test
	8. Project: Vertebrate Chart	18. Alternate Test*
	9. Eating and Breathing	19. Reference
	10. Project: Sort Birds by Type*	

Unit 4: You Are What You Eat		
Assignments		
Science 300	1. How to Build a Healthy Body	10. How to Form Good Health Habits
	2. How to Build a Healthy Body-2	11. Caring for the Eyes and Body
	3. Quiz 1	12. Quiz 3
	4. How to Plan for Healthy Eating	13. Special Project*
	5. Project: Breakfast Chart	14. Review Game
	6. Project: Lunch Chart*	15. Test
	7. Project: Dinner Chart*	16. Alternate Test*
	8. Project: Chart Totals*	17. Reference
	9. Quiz 2	

Unit 5: Properties of Matter		
Assignments		
Science 300	1. Chemistry and Robert Boyle	11. Experiment: Mass Measurement
	2. Experiment: Be a Chemist	12. Experiment: Melting Ice Cubes*
	3. Properties of Matter	13. Chemical Changes
	4. Experiment: Volume	14. Quiz 2
	5. Experiment: Think about Mass*	15. Special Project*
	6. Experiment: Is Air Matter?*	16. Review Game
	7. Project: Matter List*	17. Test
	8. Experiment: Is Water Matter?*	18. Alternate Test*
	9. Quiz 1	19. Reference
	10. Physical Changes	

Unit 6: Sounds and You		
Assignments		
Science 300	1. What is Sound?	11. How Do You Hear Sounds?
	2. Experiment: Vibrations	12. Experiment: Think About Hearing
	3. Quiz 1	13. Report: How Animals Hear*
	4. How Does Sound Travel?	14. Quiz 3
	5. How Are Different Sounds Made?	15. Special Project*
	6. Experiment: Sound Patterns	16. Review Game
	7. Report: Read and Write About Sound	17. Test
	8. Experiment: High and Low Sounds	18. Alternate Test*
	9. Experiment: Loud or Soft?*	19. Reference
	10. Quiz 2	

Unit 7: Time and Seasons		
Assignments		
Science 300	1. How the Earth Moves	9. Quiz 2
	2. Experiment: The Earth	10. Why Seasons Change
	3. Experiment: Night	11. Quiz 3
	4. Experiment: The Earth's Rotation*	12. Special Project*
	5. Quiz 1	13. Review Game
	6. Why Time Changes	14. Test
	7. Experiment: Different Times	15. Alternate Test*
	8. Report: Months*	16. Reference

Unit 8: Rocks and Their Change		
Assignments		
Science 300	1. How Rocks are Formed: By Heat	10. Report: Mount Rushmore
	2. Rocks Formed by Volcanoes	11. Rocks are Used for Enjoyment
	3. How Rocks are Formed: By Pressure	12. Quiz 3
	4. Experiment: Bubbling Grains of Rock	13. Special Project*
	5. Quiz 1	14. Review Game
	6. Rocks are Changed by Wind and Water	15. Test
	7. Rocks are Changed by Heat and Plants	16. Alternate Test*
	8. Quiz 2	17. Reference
	9. Rocks are Used for Building	

Unit 9: Heat Energy		
Assignments		
Science 300	1. Heat Energy (Part 1)	10. Experiment: Changing Liquid to Gas
	2. Experiment: Feeling Friction	11. Quiz 2
	3. Experiment: Oxygen and Fire	12. Heat Energy Affects Our Lives
	4. Heat Energy (Part 2)	13. Quiz 3
	5. Experiment: Static Electricity*	14. Special Project*
	6. Quiz 1	15. Review Game
	7. What Heat Energy Is and Does	16. Test
	8. Experiment: Water Molecules	17. Alternate Test*
	9. Movement of Heat Energy	18. Reference

Unit 10: Review		
Assignments		
Science 300	1. Physical Change: Change in Man	10. Experiment: How Sound Travels
	2. Physical Change: Change in Plants	11. Experiment: Temperature Comparisons
	3. Physical Change: Change in Animals	12. Quiz 3
	4. Quiz 1	13. Special Project*
	5. The Earth	14. Review Game
	6. Seasons and Times	15. Test
	7. Project: Rock Collection	16. Alternate Test*
	8. Quiz 2	17. Reference
	9. Sounds and Energy	

(\* ) Indicates alternative assignment