



# monarch

2017 - 2018 Curriculum Catalog

General Science I

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## General Science I Course Overview

General Science I is a basic intermediate course intended to expose students to the designs and patterns in God's physical universe. This course expands on the Science 600 course, providing a set of basic scientific skills and a broad survey of the major areas of science. Some of the areas covered in General Science I include the scientific method, overview of the four major areas of science, mathematics in science, astronomy, the atmosphere, natural cycles, weather and climate, human anatomy and physiology, and careers in science.

The course seeks to develop the student's ability to be aware of and participate in scientific inquiry. The units contain experiments and projects to capitalize on the students' natural curiosity. The student will explore, observe, and manipulate everyday objects and materials in their environment. Students at this level should show understanding of interrelationships between organisms, recognize patterns in systems, and expand their knowledge of cellular dimensions of living systems. Collectively, this should help students develop and build on their subject-matter knowledge base.

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

- Use their main senses for observation of the world around them.
- Demonstrate a knowledge of the different tools and methods used in science.
- Calculate and convert units in the metric system.
- Discuss historical and current views on astronomy.
- Describe the atmosphere and the weather around the earth.
- Demonstrate a basic knowledge of the different systems in the human body.

Unit 1: What is Science?	
Assignments	
General Science I	1. Course Overview
	2. Tools of a Scientist 1
	3. Tools of a Scientist 2
	4. Quiz 1: Tools of a Scientist
	5. Methods of a Scientist 1
	6. Methods of a Scientist 2
	7. Quiz 2: Methods of a Scientist
	8. The Scientist
9. The Four Major Areas of Science	
10. Quiz 3: Work of a Scientist	
11. Careers in Science	
12. Quiz 4: Careers in Science	
13. Special Project*	
14. Test	
15. Alternate Test*	
16. Reference	

Unit 2: Perceiving Things	
Assignments	
General Science I	1. Measurement: The Metric System
	2. Measurement: Size and Distance
	3. Measurement: Area
	4. Measurement: Volume
	5. Measurement: Mass and Density
	6. Quiz 1: Measurement
	7. Graphs: Uses, Bar, and Line
8. Graphs: Pictographs and Pie Charts	
9. Experiment: Making Graphs	
10. Quiz 2: Graphing Data	
11. Special Project*	
12. Test	
13. Alternate Test*	
14. Reference	

Unit 3: Earth in Space (1)		
Assignments		
General Science I	1. Stargazing	8. Astronomers
	2. Star Charts	9. Essay: Galileo*
	3. Experiment: Constellations	10. Quiz 3: Astronomers
	4. Quiz 1: Stargazing	11. Special Project*
	5. Astronomy	12. Test
	6. Experiment: Astrolabe*	13. Alternate Test*
	7. Quiz 2: Astronomy	14. Reference

Unit 4: Earth in Space (2)		
Assignments		
General Science I	1. The Sun's Energy	8. Quiz 3: The Moon
	2. Quiz 1: The Sun's Energy	9. Eclipses
	3. The Sun's Family	10. Quiz 4: Eclipses
	4. Outer Planets	11. Special Project*
	5. Asteroids and Comets	12. Test
	6. Quiz 2: The Sun's Family	13. Alternate Test*
	7. The Moon	14. Reference

Unit 4: Earth in Space (2)		
Assignments		
General Science I	1. The Sun's Energy	8. Quiz 3: The Moon
	2. Quiz 1: The Sun's Energy	9. Eclipses
	3. The Sun's Family	10. Quiz 4: Eclipses
	4. Outer Planets	11. Special Project*
	5. Asteroids and Comets	12. Test
	6. Quiz 2: The Sun's Family	13. Alternate Test*
	7. The Moon	14. Reference

Unit 5: The Atmosphere		
Assignments		
General Science I	1. Structure of the Atmosphere	8. Pollution
	2. Solar Effects	9. Quiz 3: Pollution
	3. Experiment: The Greenhouse	10. Special Project*
	4. Quiz 1: Structure of the Atmosphere	11. Test
	5. Water Cycle	12. Alternate Test*
	6. Other Natural Cycles	13. Reference
	7. Quiz 2: Natural Cycles	

Unit 6: Weather		
Assignments		
General Science I	1. Elements of Weather	8. Quiz 2: Weather in Motion
	2. Wind	9. Weather Forecasting
	3. Pressure	10. Quiz 3: Weather Forecasting
	4. Experiment: Dew Point	11. Special Project*
	5. Quiz 1: Elements of Weather	12. Test
	6. Weather in Motion	13. Alternate Test*
	7. Fronts	14. Reference

Unit 7: Climate		
Assignments		
General Science I	1. Climate: General	7. Quiz 3: Regional Climate Types and Distribution of Climate Types
	2. Quiz 1: Climate: General	8. Special Project*
	3. Climate: Worldwide	9. Test
	4. Quiz 2: Climate: Worldwide	10. Alternate Test*
	5. Regional Climate Types	11. Reference
	6. Distribution of Climate Types in the World	

Unit 8: The Human Anatomy (Part 1)		
Assignments		
General Science I	1. Human Building Blocks	8. Project: Human Brain*
	2. Experiment: Cheek Cell	9. Senses
	3. Quiz 1: Human Building Blocks	10. Quiz 3: Human Nervous System and Senses
	4. Human Framework	11. Special Project*
	5. Skin	12. Test
	6. Quiz 2: Human Framework	13. Alternate Test*
	7. Human Nervous System	14. Reference

Unit 9: The Human Anatomy (Part 2)		
Assignments		
General Science I	1. The Respiratory System	8. The Excretory System
	2. Quiz 1: The Respiratory System	9. Quiz 4: The Excretory System
	3. The Circulatory System	10. The Endocrine System
	4. Experiment: Heart Rate	11. Quiz 5: The Endocrine System
	5. Quiz 2: The Circulatory System	12. Special Project*
	6. The Digestive System--Part 1	13. Test
	7. The Digestive System--Part 2	14. Alternate Test*
	8. Quiz 3: The Digestive System	16. Reference

Unit 10: Working In Science		
Assignments		
General Science I	1. Scientists at Work	12. The Medical Scientist at Work
	2. Experiment: Red Celery	13. Nervous and Endocrine Systems
	3. Famous Scientists	14. Circulatory and Respiration Systems
	4. Quiz 1: Scientists at Work	15. Digestive and Excretory Systems
	5. The Astronomer at Work	16. Quiz 4: The Medical Scientist at Work and Body Systems
	6. Planets	17. Special Project*
	7. Quiz 2: The Astronomer at Work	18. Test
	8. The Meteorologist at Work	19. Alternate Test*
	9. Studying the Weather	20. Reference
	10. Studying Climates	
	11. Quiz 3: The Meteorologist at Work	

(\*) Indicates alternative assignment