



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

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

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

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

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

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

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

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

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

(*) Indicates alternative assignment