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COURSE OVERVIEW

General Science II 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 and General Science I courses, 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 II include the history of science, structure and properties of matter, health and nutrition, types of energy, electricity and magnetism, work, energy, forces, simple machines, balance in nature, natural cycles and resources.

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 and the environment, 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.
- Define science and describe its history.
- Demonstrate a knowledge of the different changes in matter.
- Describe elements and compounds in the terms of atoms and molecules.
- Know how to develop good health habits.
- Explain and give examples of the different types of energy.
- Describe different types of simple machines.
- Discuss the balance in nature regarding the different cycles.

### UNIT 1: SCIENCE AND SOCIETY

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<tr>
<th>Assignment Titles</th>
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<tbody>
<tr>
<td>1. Course Overview</td>
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<tr>
<td>2. Science Today</td>
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<td>3. Post-Renaissance Science</td>
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<td>4. Essay: Mendel</td>
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<td>5. Quiz 1</td>
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<td>6. Today’s Scientist</td>
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<td>10. Limitations</td>
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<td>11. Quiz 3</td>
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<tr>
<td>12. Special Project*</td>
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<td>13. Test</td>
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<td>14. Alternate Test*</td>
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<td>15. Reference</td>
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### UNIT 2: STRUCTURE OF MATTER (PART 1)

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<tr>
<td>1. Properties of Matter (1)</td>
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<td>2. Experiment: Determining Volume and Density</td>
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<td>3. Experiment: Metric Measurements*</td>
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<td>4. Properties of Matter (2)</td>
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<td>5. Quiz 1</td>
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<td>6. Atoms and Molecules</td>
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<td>7. Molecules</td>
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<td>8. Quiz 2</td>
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<td>9. Elements</td>
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<td>10. Compounds</td>
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<td>11. Mixtures</td>
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<td>12. Experiment: Mixtures</td>
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UNIT 3: STRUCTURE OF MATTER (PART 2)

Assignment Titles
1. Matter and Change
2. Experiment: Phase Changes
3. Solutions
4. Chemical Changes
5. Experiment: Forms of Change
6. Nuclear Changes
7. Quiz 1
8. Acids
9. Quiz 2
10. Bases
11. Experiment: Cabbage
12. Quiz 3
13. Salts
14. Quiz 4
15. Special Project
16. Test
17. Alternate Test
18. Reference

UNIT 4: HEALTH AND NUTRITION

Assignment Titles
1. Foods and Digestion
2. Quiz 1
3. Diet
4. Experiment: Food Record
5. Quiz 2
6. Nutritional Diseases
7. Essay: Nutrition
8. Quiz 3
9. Hygiene
10. Quiz 4
11. Special Project
12. Test
13. Alternate Test
14. Reference

UNIT 5: ENERGY (PART 1)

Assignment Titles
1. Mechanical Energy
2. Potential Energy
3. Quiz 1
4. Other Forms of Energy
5. Chemical Energy
6. Atomic Energy
7. Quiz 2
8. Energy Conversion and Entropy
10. Quiz 3
11. Special Project
12. Test
13. Alternate Test
14. Reference

UNIT 6: ENERGY (PART 2)

Assignment Titles
1. Magnetism
2. Experiment: Magnetism
3. Electricity and Magnetism
4. Quiz 1
5. Electricity
6. Electrical Circuits
7. Quiz 2
8. Energy for the Future
9. Experiment: Hot Dog Cooker
10. Quiz 3
11. Special Project
12. Test
13. Alternate Test
14. Reference

UNIT 7: MACHINES (PART 1)

Assignment Titles
1. Distance
2. Essay: Scientists
3. Measuring Distance
4. Quiz 1
5. Force
6. Force Vectors
7. Quiz 2
8. Work
9. Work and Energy
10. Quiz 3
11. Special Project
12. Test
13. Alternate Test
14. Reference
## UNIT 8: MACHINES (PART 2)

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<tr>
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<td>9. Quiz 3</td>
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<td>2. Types of Friction</td>
<td>10. Inclined Plane, Wedge, and Screw</td>
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<tr>
<td>3. Experiment: Friction Investigation</td>
<td>11. Quiz 4</td>
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<td>4. Quiz 1</td>
<td>12. Special Project*</td>
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<td>5. Levers</td>
<td>13. Test</td>
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<td>6. Quiz 2</td>
<td>14. Alternate Test*</td>
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<td>7. Wheel and Axle, Pulleys, and Gears</td>
<td>15. Reference</td>
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<td>8. Experiment: Pencil Sharpener*</td>
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(*) Indicates alternate assignment