

Eighth Grade Science Standards

Science Essential Standards:

Quarter 1:

1. **G8.1S.C1.PO2:** I can use multiple resources to help me develop a testable hypothesis. - **5 Days**
2. **G8.1S.C2.PO5:** I can keep a record of observations, notes, sketches, questions, and ideas using written or computer logs. (Teacher Assessed) - **5 Days**
3. **G8.1S.C3.PO6:** I can identify errors that can occur when conducting a scientific experiment. - **5 Days**
4. **G8.1S.C4.PO1:** I can state the results of an experiment. (Teacher Assessed) - **5 Days**
5. **G8.RST.03:** I can precisely follow a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks. - **10 Days**
6. **G8.1S.C3.PO1:** I can identify relationships in data from looking at graphs and data tables. - **5 Days**
7. **G8.1S.C3.PO3:** I can identify positive and negative relationships between variables, and also when there is no relationship between them. - **5 Days**
8. **G8.1S.C4.PO2:** I can choose a line graph, double-bar graph, stem and leaf plot, and histogram when appropriate. - **5 Days**
9. **G8.1S.C4.PO5:** I can communicate the results and conclusion of the investigation. - **5 Days**
10. **G8.1S.C3.PO4:** I can formulate a future investigation based on existing data. - **5 Days**
11. **G8.4S.C2.PO1:** I can explain the purpose of cell division: growth and repair, reproduction. - **10 Days**
12. **G8.RST.07:** I can visually represent quantitative or technical information from written text. - **10 Days**
13. **G8.4S.C2.PO3:** I can use a Punnett square to represent dominant and recessive alleles in an organism. - **5 Days**
14. **G8.RST.04:** I can discover the meanings of symbols, key terms, and other technical context. - **5 Days**
15. **G8.4S.C4.PO2:** I can explain how organisms can survive when the external environment is unfavorable. - **10 Days**
16. **G8.4S.C4.PO5:** I can analyze why organisms hibernate and migrate and why plants become dormant. - **10 Days**
17. **G8.4S.C4.PO6:** I can describe each of the following factors that allow for the survival of living organisms: protective coloration, beak design, seed dispersal, pollination. - **10 Days**
18. **G8.RST.01:** I can use specific evidence to support my understanding of the text. - **5 Days**
19. **G8.4S.C4.PO4:** I can compare symbiotic and competitive relationships in an ecosystem. - **10 Days**

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Quarter 2:

1. **G8.5S.C1.PO6:** I can explain how the periodic table is organized. - **40 Days**
2. **G8.RST.04:** I can discover the meanings of symbols, key terms, and other technical context. - **5 Days**
3. **G8.5S.C1.PO4:** I can classify matter in terms of elements, compounds and mixtures. - **10 Days**
4. **G8.5S.C1.PO7:** I can explore how energy transfers can effect the physical and chemical properties of matter. - **10 Days**
5. **G8.RST.07:** I can visually represent quantitative or technical information from written text. - **5 Days**
6. **G8.5S.C1.PO1:** I can identify different kinds of matter. - **10 Days**
7. **G8.3S.C1.PO2:** I can identify solutions for an environmental risk caused from chemicals released into the environment. - **10 Days**
8. **G8.5S.C1.PO2:** I can identify characteristics of matter based on their chemical properties: reactivity, pH, and oxidation (corrosion). - **5 Days**
9. **G8.5S.C1.PO3:** I can identify if a chemical reaction has occurred if there is: precipitate formation, gas generated, change in color, or absorption or release of heat. - **10 Days**

Quarter 3:

1. **G8.5S.C2.PO1:** I can demonstrate velocity as the rate of change of position over time. - **10 Days**
2. **G8.RST.07:** I can visually represent quantitative or technical information from written text. - **5 Days**
3. **G8.5S.C2.PO2:** I can identify the conditions under which an object will continue in its state of motion. - **5 Days**
4. **G8.5S.C2.PO3:** I can describe how the acceleration of a body is dependent on it's mass and the net applied force. - **10 Days**
5. **8.RST.09:** I can compare and contrast information from various sources to that of a written text. - **10 Days**
6. **G8.5S.C2.PO4:** I can describe forces as interactions between bodies. - **5 Days**
7. **G8.2S.C1.PO2:** I can evaluate the effects of Mendelian Genetics and Newton's Laws on society. - **5 Days**
8. **G8.3S.C2.PO4:** I can compare the risks and benefits of technological advances. - **5 Days**
9. **G8.2S.C1.PO1:** I can identify the major contributions of Watson and Crick, Franklin, Darwin, Carver, Priestly, Bacon, and Newton. - **5 Days**
10. **G8.2S.C2.PO2:** I can describe how scientific knowledge changes as new data is collected and new discoveries are made, and that sometimes current theories are altered to accommodate these discoveries. - **5 Days**
11. **G8.3S.C2.PO2:** I can compare numerous solutions to fill a need or solve a problem. - **5 Days**

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Quarter 4:

1. **GAP.HS.5S.C1.PO5:** Describe the properties of electric charge and the conservation of electric charge. - **45 Days**
2. **GAP.HS.5S.C1.PO8:** Explain the details of atomic structure (e.g., electron configuration, energy levels, isotopes). - **45 Days**
3. **GAP.HS.5S.C3.PO1:** Describe the following ways in which energy is stored in a system (mechanical, electrical, chemical, nuclear). - **45 Days**
4. **GAP.HS.5S.C3.PO7:** Explain how molecular motion is related to temperature and phase changes. - **45 Days**
5. **GAP.HS.5S.C5.PO1:** Describe various ways in which matter and energy interact (e.g., photosynthesis, phase change). - **45 Days**
6. **G8.RST.07:** I can visually represent quantitative or technical information from written text. - **25 Days**
7. **G8.RST.09:** I can compare and contrast information from various sources to that of a written text. - **25 Days**

Science Yearly Standards:

- ★ **8.RST.10:** I can independently and proficiently read and comprehend scientific and technical text in the 8th grade level.

Science Additional Standards:

1. **G8.1S.C2.PO3:** Conduct a controlled investigation to support or reject a hypothesis. **(Month 1)**
2. **G8.1S.C4.PO3:** Present analyses and conclusions in clear, concise formats. **(Month 1)**
3. **G8.1S.C4.PO4:** Write clear, step-by-step instructions for conducting investigations / or operating equipment. **(Month 1)**
4. **G8.2S.C2.PO4:** Explain why scientific claims may be questionable if based on very small samples of data, biased samples, or samples for which there was no control. **(Month 1)**
5. **G8.2S.C2.PO3:** Defend the principle that accurate record keeping, openness, and replication are essential for maintaining an investigator's credibility with other scientists and society. **(Month 1)**
6. **G8.1S.C3.PO2:** Form a logical argument about a correlation between variables or sequence of events (e.g., construct a cause-and- effect chain that explains a sequence of events). **(Month 1)**

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7. **G8.1S.C1.PO1**: Formulate questions based on observations that lead of the development a hypothesis. **(Month 1)**
8. **G8.1S.C3.PO5**: Explain how evidence supports the validity and reliability of a conclusion. **(Month 1)**
9. **G8.1S.C3.PO7**: Critique scientific reports from periodicals, television, or other media. **(Month 1)**
10. **G8.1S.C3.PO8**: Formulate new questions based on the results of a previous investigation. **(Month 1)**
11. **G8.1S.C1.PO3**: Generate a hypothesis that can be tested. **(Month 1)**
12. **G8.2S.C2.PO1**: Apply the following scientific processes to other problem solving of decision making situations: observation, predicting, questioning, organizing data, communicating, inferring, comparing, generating hypotheses, measuring, identifying variables, classifying. **(Month 1)**
13. **G8.1S.C2.PO2**: Design a controlled investigation to support or reject a hypothesis. **(Month 1)**
14. **G8.1S.C4.PO1**: Communicate the results of an investigation. **(Month 1)**
15. **G8.4S.C2.PO2**: Explain the basic principles of heredity using the human examples of: eye color, widow's peak, blood type. **(Month 2)**
16. **G8.4S.C4.PO1**: Explain how an organism's behavior allows it to survive in an environment. **(Months 2 & 3)**
17. **G8.4S.C4.PO3**: Determine characteristics of organisms that could change over several generations. **(Months 2 & 3)**
18. **G8.5S.C1.PO5**: Classify mixtures as being homogeneous or heterogeneous. **(Month 4 & 5)**
19. **G8.5S.C2.PO5**: Create a graph devised from measurements of moving objects and their interactions, including: position-time graphs and velocity-time graphs. **(Month 7)**
20. **G8.3S.C1.PO1**: Analyze the risk factors associated with natural, human induced, and/or biological hazards, including: waste, disposal of industrial chemicals, and greenhouse gases. **(Month 7)**
21. **G8.3S.C2.PO1**: Propose viable methods of responding to an identified need or problem. **(Month 9)**
22. **G8.3S.C2.PO3**: Design and construct a solution to an identified need or problem using simple classroom materials. **(Month 9)**
23. **G8.2S.C1.PO3**: Evaluate the impact of a major scientific development occurring within the past decade. **(Month 9)**
24. **G8.2S.C4.PO4**: Evaluate career opportunities related to life and physical sciences. **(Month 9)**