

Coloma Community Schools Science Curriculum Summary for 5th Grade

The following science curriculum was designed by a team of teachers from Berrien County and adapted by Coloma teachers to address the specific needs of our students. All 5th grade science teachers are required to teach the following Standards and Benchmarks. (Teachers may want to make a copy of this document at the beginning of the school year and check off as each benchmark is taught.)

| Strand III: Using Scientific Knowledge in Life Science | | |
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| Standard | Benchmark | Assessment Required |
| III.1.1 Cells - All students will apply an understanding of cells to the functioning of multicellular organisms, including how cells grow, develop and reproduce | Demonstrate evidence that all parts of living things are made up of cells | |
| III.2.1 Organization of Living Things – All students will use classification systems to describe groups of living things. | Compare and classify organisms into major groups on the basis of their structure. | Classifying Organisms (See Benchmark Assessment) |
| III.2.4 “ | Explain how selected systems and processes work together in animals. | |
| III.5.1 Ecosystems – All students will explain how parts of an ecosystem are related and how they interact. | Describe common patterns of relationships among populations. | |
| III.5.3 “ | Predict the effects of changes in one population in a food web on other populations. | Letter to the Editor (See Benchmark Assessment) |
| III.5.4 “ | Describe the likely succession of a given ecosystem over time. | |
| Strand IV: Using Scientific Knowledge in Physical Science | | |
| IV.1.1 Matter and Energy – All students will measure and describe the things around us. | Describe and compare objects in terms of mass, volume, and density. | Finding Mass and Volume (See Benchmark Evaluation) |
| IV.1.2 Matter and Energy – All students will measure and describe the things around us. | Explain when length, mass, weight, density, area, volume or temperature are appropriate to describe the properties of an object or substance. | |
| IV.1.3 Matter and Energy – All students will measure and describe the things around us. | Classify substances as elements, compounds, or mixtures and justify classifications in terms of atoms and molecules | |

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| IV.1.4 Matter and Energy – All students will measure and describe the things around us. | #4. Describe the arrangement and motion of molecules in solids, liquids, and gases. | Ice Cube Melting (See Benchmark Assessment) |
| IV. 2.1 Changes in Matter – All students will investigate, describe and analyze ways in which matter changes. | Describe common physical changes in matter: evaporation, condensation, sublimation, thermal expansion and contraction. | |
| IV.2.3 Changes in Matter – All students will explain how visible changes in matter are related to atoms and molecules. | Explain physical changes in terms of the arrangement and motion of atoms and molecules. | |
| IV.2.4 Changes in Matter – All students will explain how changes in matter are related to changes in energy and how living things and human technology changes matter and transform energy. | Describe common energy transformations in everyday situations. | |
| IV.3.5 Motion of Objects – All students will describe how things around us move, explain why things move as they do, and demonstrate and explain how we control the motion of objects. | Design strategies for moving objects by application of forces, including the use of simple machines. | Marble Maze. (This will require detailed instructions and a rubric.) |
| IV.4.1 Waves and Vibrations – All students will describe sounds and sound waves. | Explain how sound travels through different media. | |
| Strand V: Using Scientific Knowledge in Earth Science | | |
| V.1.2 Geosphere – all students will describe and explain how the earth’s features change over time. | Explain how rocks are formed. | Classifying Rocks and Minerals. (See Benchmark Attachment.) |
| V.2.4 Hydrosphere – All students will analyze the relationships between human activities with the hydrosphere. | Describe the origins of pollution in the hydrosphere. | |
| V.3.2 Atmosphere and Weather – All students will explain what causes different kinds of weather. | Describe the composition and characteristics of the atmosphere. | |
| V.3.4 Atmosphere and Weather – All students will analyze the relationships between human activities and the atmosphere. | Describe health effects of polluted air. | |