

CURRICULUM MAP SCIENCE – GRADE FOUR

Embedded throughout the year are the following:

Science and Technology

1. Explain how technology from different areas (e.g., transportation, communication, nutrition, healthcare, agriculture, entertainment and manufacturing) has improved human lives.
2. *Investigate how technology and inventions change to meet peoples' needs and wants.*
3. Describe, illustrate and evaluate the design process used to solve a problem.

Scientific Inquiry

1. Select the appropriate tools and use relevant safety procedures to measure and record length, weight, volume, temperature and area in metric and English units.
2. Analyze a series of events and/or simple daily or seasonal cycles, describe the patterns and infer the next likely occurrence.
3. Develop, design and conduct safe, simple investigations or experiments to answer questions.
4. *Explain the importance of keeping conditions the same in an experiment.*
5. Describe how comparisons may not be fair when some conditions are not kept the same between experiments.
6. Formulate instructions and communicate data in a manner that allows others to understand and repeat an investigation or experiment.

Scientific Ways of Knowing

1. Differentiate fact from opinion and explain that scientists do not rely on claims or conclusions unless they are backed by observations that can be confirmed.
2. Record the results and data from an investigation and make a reasonable explanation.
3. Explain discrepancies in an investigation using evidence to support findings.
4. Explain why keeping records of observations and investigations is important.

**CURRICULUM MAP
SCIENCE – GRADE 4**

1st Nine Weeks	2nd Nine Weeks
<p>Scientific Inquiry 1. Select the appropriate tools and use relevant safety procedures to measure and record length, weight, volume, temperature and area in metric and English units.</p> <p>Life Science <i>1. Compare the life cycles of different plants including germination, maturity, reproduction and death.</i> <i>2. Relate plant structures to their specific functions (e.g., growth, survival and reproduction).</i> 3. Classify common plants according to their characteristics (e.g., growth, survival and reproduction). 5. Describe how organisms interact with one another in various ways (e.g., many plants depend on animals for carrying pollen or dispersing seeds).</p>	<p>Earth and Space 1. Explain that air surrounds us, takes up space, moves around us as wind, and may be measured using barometric pressure. 2. Identify how water exists in the air in different forms (e.g., in clouds, fog, rain, snow and hail). 3. Investigate how water changes from one state to another (e.g., freezing, melting, condensation and evaporation). <i>4. Describe weather by measurable quantities such as temperature, wind direction, wind speed, precipitation and barometric pressure.</i> <i>5. Record local weather information on a calendar or map and describe changes over a period of time (e.g., barometric pressure, temperature, precipitation symbols and cloud conditions).</i> <i>6. Trace how weather patterns generally move from west to east in the United States.</i> <i>7. Describe the weather which accompanies cumulus, cumulonimbus, cirrus and stratus clouds.</i></p>

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3rd Nine Weeks	4th Nine Weeks
<p>Earth and Space</p> <p><i>8. Describe how wind, water and ice shape and reshape Earth's land surface by eroding rock and soil in some areas and depositing them in other areas producing characteristic landforms (e.g., dunes, deltas and glacial moraines).</i></p> <p>9. Identify and describe how freezing, thawing and plant growth reshape the land surface by causing the weathering of rock.</p> <p><i>10. Describe evidence of changes on Earth's surface in terms of slow processes (e.g., erosion, weathering, mountain building and deposition) and rapid processes (e.g. volcanic eruptions, earthquakes and landslides).</i></p> <p>Life Science</p> <p>4. Observe and explore that fossils provide evidence about plants that lived long ago and the nature of the environment at that time.</p>	<p>Physical Science</p> <p><i>1. Identify characteristics of a simple physical change (e.g., heating or cooling can change water from one state to another and the change is reversible).</i></p> <p><i>2. Identify characteristics of a simple chemical change. When a new material is made by combining two or more materials, it has chemical properties that are different from the original materials (e.g., burning paper, vinegar and baking soda).</i></p> <p>3. Describe objects by the properties of the materials from which they are made and that these properties can be used to separate or sort a group of objects (e.g., paper, glass, plastic and metal).</p> <p>4. Explain that matter has different states (e.g., solid, liquid and gas) and that each state has distinct physical properties.</p> <p>5. Compare ways the temperature of an object can be changed (e.g., rubbing, heating and bending of metal).</p>