Clarenceville School District

Scope and Sequence for Science

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| Kindergarten **Essential Content** | GRADE 1 **Essential Content** | GRADE 2 **Essential Content** |
| 1. Understand the processes of science: observing; questioning; predicting; creating; communicating; measuring; collecting data; and interpreting data; experimenting. | 1. Understand the processes of science: observing; questioning; predicting; defining; creating; designing; modeling; communicating; applying; measuring; collecting data; organizing; presenting and interpreting data; hypothesizing; experimenting; controlling variables. | 1. Understand the processes of science: observing; questioning; predicting; defining; creating; designing; modeling; communicating; applying; measuring; collecting data; organizing; presenting and interpreting data; hypothesizing; experimenting; controlling variables. |
| 2. Introduce the characteristics of animals: types and habitat. | 2. Introduce the characteristics of animals: habitats; movement; needs. | 2. Recognize groups of animals and their characteristics: mammals; reptiles; amphibians; insects; fish; birds; invertebrates. |
| 3. Introduce characteristics of plants: types; parts; needs. | 3. Introduce the characteristics of plants: needs; uses. | 3. Introduce the feeding relationships within a food chain: interdependence; predator-prey. |
| 4. Understand the need of conserving natural resources: pollution; reduce; recycle; reuse. | 4. Understand the need for conserving natural resources: pollution; reuse; recycle; reduce. | 4. Understand the critical attributes of ancient animals (dinosaurs): types; names; fossils; extinction. |
| 5. Understand the critical attributes of the five senses: sight; touch; hearing; smell; taste; safety. | 5. Explore the attributes of the five senses: sight; sound; smell; taste; touch. | 5. Develop ideas about the importance of the Sun: day/night; source of energy. |
| 6. Observe weather changes: four seasons; seasonal weather; types of weather; clothing; charting; safety. | 6. Observe weather changes: four seasons; seasonal weather; (temperature (Celsius, Fahrenheit) clothing; safety; charting. | 6. Develop an understanding of weather: causes; effects; types; safety; climate; temperature. |
| 7. Recognize major earth features: land; ocean; mountains; lakes. | 7. Recognize major earth features: land; mountains; oceans; lakes; rivers; deserts. | 7. Understand the water cycle: effects on living things; evaporation; condensation, and precipitation. |
| 8. Introduce the concept of outer space: sun; moon; astronauts. | 8. Introduce solar system: sun; planets; moon; space travel. | 8. Introduce the critical attributes of matter: liquids; solids; gas; changes of state; measurement. |
| 9. Introduce the changes in matter: freezing; melting. | 9. Introduce the states of matter: liquids; solids; gas. | 9. Introduce the concept of electricity and magnetism: uses; sources; safety; magnetic poles and forces. |
|  | 10. Introduce force and motion: push and pull; motion; levers; incline plane; uses of machines. | 10. Understand the critical attributes of light: sources; shadows; color; reflection. |

May 2004

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| Grade 3 **Essential Content** | GRADE 4 **Essential Content** | GRADE 5 **Essential Content** |
| 1. Understand the processes of science: observing; questioning; predicting; defining; creating; designing; modeling; communicating; applying; measuring; collecting data; organizing; presenting and interpreting data; hypothesizing; experimenting; controlling variables. | 1. Understand the processes of science: observing; questioning; inferring; predicting; defining; creating; designing; modeling; communicating; applying; measuring; collecting data; organizing; presenting and interpreting data; hypothesizing; experimenting; controlling variables. | 1. Understand the processes of science: observing; questioning; inferring; predicting; defining; creating; designing; modeling; communicating; applying; measuring; collecting data; organizing; presenting and interpreting data; hypothesizing; experimenting; controlling variables. |
| 2. Understand the critical attributes of a plant’s physical structure: leaf; stem; root; cells. | 2. Understand the critical attributes of vertebrates: physical characteristics; reproduction. | 2. Understand critical attributes of plant growth: seeds; structures; life cycle; survival. |
| 3. Understand plant processes: making food; reproduction; life cycles; photosynthesis; seeds; pollination. | 1. Understand the critical attributes of animal adaptation: survival; colors & shapes; instincts and learned behaviors. | 3. Understand how plants acquire energy from the sun: photosynthesis. |
| 4. Understand variety of plant habitats and their role in these various biomes: food webs. | 1. Understands the critical attributes of ecosystems: living; non-living; relationships to each other; biomes; oceans; grasslands; rainforest; forest; deserts; pollution; 3R’s. | 4. Understand the critical attributes of weather: air pressure; atmosphere; fronts; wind; weather instruments; maps. |
| 5. Recognize major features of Earth: land; mountains; volcano; earthquakes. | 5. Understand the critical attributes of Earth, Moon & Sun: causes of the seasons; eclipses; solar; lunar; tides. | 1. Understand the critical attributes of weathering: weathering process; watershed; erosion; soil layering; glaciers. |
| 6. Reinforce classification skills of common objects based on observable traits: streak; hardness; luster; light; smell. | 6. Understands the critical attributes of the planets: position; orbits; rotation; revolution. | 6. Understand how materials taken from the earth are used in our daily lives. |
| 7. Introduce rock cycle: soil; sedimentary; metamorphic; igneous; rock. | 7. Understands the critical attributes of matter; properties; states; physical changes; measurement. | 7. Understand the critical attributes of resources and pollution: relationship to environment; air; land; water. |
| 8. Understand impact of the Earth’s severe weather: tornado; hurricane; blizzard; flood; drought, thunderstorm, lightening, high winds. | 8. Understands the critical attributes of sound and light: waves; pitch; loudness; reflection; color. | 8. Understand the relationship between force and motion: speed; force; inertia. |
| 9. Recognize water cycle: Michigan’s watershed; conservation. |  | 9. Understand the critical attributes of simple and complex (compound) machines: levers; wheel and axle; forces; resistance; fulcrum. |
| 10. Understand simple machines: push and pull; levers; incline planes; wheel and axle; pulley; uses of machines. |  | 10. Understand the critical attributes of electrical current: open and closed circuits; insulators; conductors; electrical devices; sources; safety considerations. |
|  |  | 11. Understand the critical attributes of magnetism: magnetic field; poles. |

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