

## 4TH GRADE

### *LIFE*

**LF 4:1** Explain how variations in physical characteristics can give organisms an advantage and how environmental change can produce changes in food webs.

**LF 4:3** Identify key components of the appropriate reproductive system and understand the importance of personal hygiene.

### *EARTH/SPACE*

**ES 4:2** Explain how fossils provide evidence of the history of the Earth.

**ES 4:3** Compare and contrast characteristics and predictable patterns of movement of the Sun, Moon and Earth.

### *PHYSICAL*

**PH 4:1** Compare different forms of energy and describe how temperature relates to energy.

**PH 4:2** Demonstrate a magnetic field and explain how objects are affected by the strength of the magnet and the distance from the magnet.

**PH 4:3** Design and create simple circuits and an electromagnet, and classify objects as good or poor conductors of heat and electricity.

**PH 4:4** Compare and contrast states of matter and explain how matter can change from one state to another.



## 5TH GRADE

### *LIFE*

**LF 5:1** Classify organisms based on anatomical features.

**LF 5:2** Identify key components of and explain the purpose of the human reproductive and endocrine systems.

**LF 5:3** Identify selected body systems and explain how they work together to perform specific activities.

**LF 5:4** Distinguish between inherited and acquired traits and explain the influence of the environment and genetics on the individual.

**LF 5:5** Explain how physical characteristics, behavioral characteristics, and environmental events affect survival of organisms.

### *EARTH/SPACE*

**ES 5:1** Explain how the Earth's position and motion cause the seasons and define a year.

**ES 5:2** Design a model that describes the position and relationship of the Sun, the planets, and other objects of the solar system and explain how gravity affects them.

### *PHYSICAL*

**PH 5:1** Describe what happens when two forces (balanced or unbalanced) act upon an object.

**PH 5:2** Describe the motion of an object in terms of distance, time, and direction and illustrate how motion can be represented on graph.

**PH 5:3** Demonstrate an understanding that scientific inquiry and reasoning involves observing, questioning, investigating, recording, and developing solutions to problems by comparing and contrasting the impact of contact and non-contact forces on the motion of an object.

## 6TH GRADE

### *SCIENTIFIC INVESTIGATION*

**SI 6:1** Demonstrate an understanding that scientific inquiry and reasoning involves observing, questioning, investigating, recording, and developing solutions to problems.

### *PHYSICAL*

**PH 6:1** Explain states of matter.

**PH 6:2** Explain radiation, conduction, and convection and how heat is transferred from one place to another.

**PH 6:3** Identify kinetic and potential energy and explain the transformation between the two in simple mechanical systems.

### *LIFE*

**LF 6:1** Classify organisms based on their source of energy and distinguish among ways in which organisms obtain energy.

**LF 6:2** Describe how all organisms (including humans) can alter the environment and predict possible consequences of overpopulation.

### *EARTH/SPACE*

**ES 6:1** Explain plate tectonic movement, layers of the Earth, and how a compass relates to the magnetic field of the Earth.

**ES 6:2** Use minerals and the rock cycle to compare and contrast the formation of rock types.

**ES 6:3** Compare and classify soils, explain how soils are formed, and relate the importance of soils to people.

**ES 6:4** Explain how fossils provide important evidence of how life and environmental conditions have changed over time.



*“Together We’re  
A Powerful Team”*

## SCIENCE CORE CURRICULUM 2011/2012

The curriculum area represented in this brochure is aligned directly to Michigan's academic core curriculum. If you would like any additional information or have questions, contact your building principal or district office.

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## KINDERGARTEN

### *LIFE*

**LF K:1** Classify familiar objects as living or non-living, and justify the decision.

**LF K:2** Identify the five senses, the body part related to the sense, and tell a use for each.

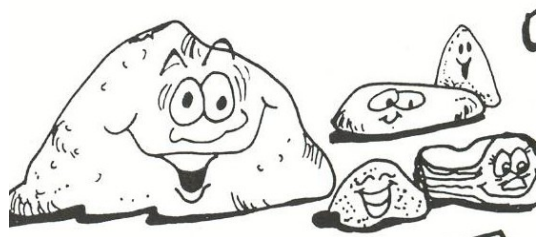
### *EARTH/SPACE*

**ES K:1** Identify Earth materials that occur in nature, rocks, sand, soil and water.

### *PHYSICAL*

**PH K:1** Compare the position and motion of an object in relation to other objects.

**PH K:2** Explain that a force is a push or pull and demonstrate those forces on objects.



## 1ST GRADE

### *LIFE*

**LF 1:1** Discriminate between the young and the adult of given plants and animals based on inherited characteristics.

**LF 1:2** Identify the needs and life cycles of animals.

### *EARTH/SPACE*

**ES 1:1** Describe weather conditions and identify the role of the Sun as it affects our weather.

### *PHYSICAL*

**PH 1:1** Classify objects by observable attributes and explain that objects have physical properties and may exist in different states.

### *SCIENCE PROCESSES*

**SP 1:1** Compare the position and motion of an object in relation to other objects.

## 2ND GRADE

### *LIFE*

**LF 2:1** Identify the needs of plants, describe the life cycle of flowering plants, and identify characteristics of plants that are passed from parents to young.

### *EARTH/SPACE*

**ES 2:1** Compare and contrast major features in the Earth's surface (oceans, lakes, rivers, mountains, valleys, and plains).

**ES 2:2** Identify sources, uses, properties, and movements of water.

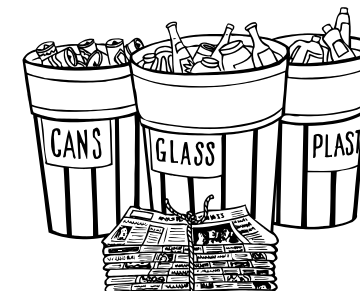
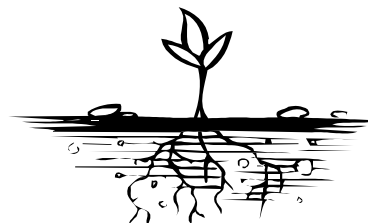
### *PHYSICAL*

**PH 2:1** Classify objects by observable attributes and measure length, volume, and weight of objects.

**PH 2:2** Classify objects as single substances or mixtures.

### *SCIENCE PROCESSES*

**SP 2:1** Demonstrate an understanding that scientific inquiry and reasoning involves observing, questioning, investigating, recording, and developing solutions to problems by using measurement tools to investigate the natural world.



## 3RD GRADE

### *LIFE*

**LF 3:1** Classify plants and relate characteristics and functions of observable parts that allow them to live in their environment.

**LF 3:2** Classify animals and relate characteristics and functions of observable structures that allow them to live in their environment.

**LF 3:3** Relate characteristics and functions of observable structures of plants and animals that allow them to live in their environment.

### *EARTH/SPACE*

**ES 3:1** Identify and describe different types of materials from the Earth and their uses.

**ES 3:2** Identify and describe changes in the Earth's surface caused by natural occurrences.

**ES 3:3** Identify and classify renewable and nonrenewable natural resources and describe the human impact on the environment.

### *PHYSICAL*

**PH 3:1** Explain the properties of light and sound and how people perceive these forms of energy.

**PH 3:2** Compare and contrast the motion of objects in terms of speed, direction, and the forces exerted on the object.