

## Alignment with Tennessee's Science Standards

This document evaluates the state's Education Standards for Science to determine alignment with content found in Cogno board games. Grades 3-8 were analyzed.



### Highlighting Key

Indicates a significant amount of material addresses the standard

Indicates a moderate amount of material is present to develop student understanding of the standard

### Third Grade

#### LIFE SCIENCE STANDARDS

##### Interactions Between Living Things and Their Environment

<b>D</b>		Examine an object's characteristics to determine if the object is living or nonliving.
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##### Food Production and Energy for Life

<b>A</b>	<b>SF</b>	Identify the basic needs of plants and animals.
<b>A</b>	<b>SF</b>	Recognize that animals obtain their food by eating plants or other animals.
<b>A</b>	<b>SF</b>	Recognize that plants use sunlight, water, and air for photosynthesis.

##### Diversity and Adaptation Among Living Things

<b>D</b>		Provide specific examples of differences among plants of the same kind.
<b>A</b>	<b>E</b>	Identify groups of similar organisms (i.e., plants and animals).
<b>D</b>		Specify the features that enable a plant or animal to survive in its environment.
<b>A</b>	<b>E</b>	Identify an organism that belongs in a specific environment.
<b>A</b>	<b>E</b>	Identify the characteristics that enable a specific plant and/or animal to survive in its environment.

#### EARTH SCIENCE STANDARDS

##### Earth and Its Place in the Universe

<b>D</b>		Recognize that planets are major features of the universe.
<b>A</b>	<b>SC</b>	Identify the components of the solar system (e.g., planets, moon).

<b>A</b>	<b>SC</b>	Identify objects found in the day or nighttime sky.
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## PHYSICAL SCIENCE STANDARDS

### Forces and Motion

<b>I</b>		Describe the relationship between the amount of force applied to an object and the distance the object moves.
<b>A</b>	<b>ME</b>	Identify that an unbalanced force is needed to change the direction of an object.
<b>D</b>		Recognize that objects move differently on different surfaces.
<b>D</b>		Recognize that magnets can move objects without touching them.

### Energy

<b>A</b>	<b>ME</b>	Identify the source of the Earth's heat and light energy.
<b>A</b>	<b>ME</b>	Identify how sounds are produced.

## Fourth Grade

## LIFE SCIENCE STANDARDS

### Food Production and Energy for Life.

<b>D</b>		Explain that animals must obtain food and use food for energy.
<b>A</b>	<b>SF</b>	Compare how various animals obtain and use food for energy.
<b>D</b>		Compare how specific animals obtain oxygen (e.g., gills, lungs).
<b>A</b>	<b>SF</b>	Match the animal with their means of obtaining oxygen.

### Diversity and Adaptation Among Living Things

<b>D</b>		Classify animals according to their characteristics.
<b>A</b>	<b>E</b>	Match a plant or animal adaptation to a particular environmental condition.

## EARTH SCIENCE STANDARDS

### Earth and Its Place in the Universe

<b>D</b>		Identify and order the planets in the solar system by their distance from the sun.
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### Earth Features

<b>I</b>		Identify the earth's layers.
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## PHYSICAL SCIENCE STANDARDS

### Forces and Motion

<b>A</b>	<b>ME</b>	Recognize the effects of gravity.
<b>A</b>	<b>ME</b>	Select factors that have the greatest effect on the motion of an object.
<b>A</b>	<b>ME</b>	Determine how speed affects distance traveled over time.

### Structure and Properties of Matter

<b>A</b>	<b>M</b>	Determine how various types of matter change state.
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### Energy

<b>A</b>	<b>ME</b>	Identify different forms of energy.
<b>I</b>		Describe how light behaves when it strikes different surfaces.

## *Fifth Grade*

### LIFE SCIENCE STANDARDS

#### Diversity and Adaptation Among Living Things

<b>D</b>		Compare how plants are adapted to different environments (e.g., palm tree, fir tree, and cactus).
<b>A</b>	<b>E</b>	Compare how organisms adapt to different environments.
<b>A</b>	<b>E</b>	Identify adaptations that enhance the survival of organisms in an environment.
<b>A</b>	<b>E</b>	Determine which organisms are likely to survive in a particular environment.

### EARTH SCIENCE STANDARDS

#### Earth and Its Place in the Universe

<b>A</b>	<b>SC</b>	Identify the force that pulls objects toward the Earth.
<b>A</b>	<b>SC</b>	Recognize that the appearance of an object in the sky is affected by its size, motion, and distance from the Earth.

### PHYSICAL SCIENCE STANDARDS

#### Forces and Motion

<b>D</b>		Explain the effect that gravity has on objects found on earth.
<b>A</b>	<b>ME</b>	Identify the effect that gravity has on objects found on or near the earth's surface.
<b>D</b>		Explain the relationships among mass, force, and distance traveled.
<b>I</b>		Explain the relationship between slope and the amount of force.
<b>A</b>	<b>ME</b>	Determine the effect of slope and friction on the speed of an object.

## Structure and Properties of Matter

<b>A</b>	<b>M</b>	Recognize the law of conservation of matter.
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## Energy

<b>A</b>	<b>ME</b>	Differentiate between potential and kinetic energy.
<b>A</b>	<b>ME</b>	Identify ways that energy is transferred.
<b>D</b>		Explore and describe the uses of magnets.

## Sixth Grade

### LIFE SCIENCE STANDARDS

#### Diversity and Adaptation Among Living Things

<b>D</b>		Explain how the relationship between the form and function of an organism is associated with survival in a given environment.
<b>A</b>	<b>DA</b>	Identify adaptations that enhance the survival of organisms in an environment.
<b>A</b>	<b>DA</b>	Determine which organisms are likely to survive in a particular environment.

### EARTH SCIENCE STANDARDS

#### Earth and Its Place in the Universe

<b>D</b>		Differentiate among the components of the universe.
<b>A</b>	<b>EU</b>	Categorize the components of the universe (i.e., stars, planets, comets, asteroids, and meteors).
<b>D</b>		Identify the pull of gravity as the force that holds the planets and their moons in orbit.
<b>A</b>	<b>EU</b>	Identify the force that pulls objects toward the Earth.

### PHYSICAL SCIENCE STANDARDS

#### Energy

*The student will investigate energy and its uses.*

<b>D</b>		Explain how magnets are involved in the production of electricity.
<b>I</b>		Understand the law of conservation of energy.

## *Eighth Grade*

### LIFE SCIENCE STANDARDS

#### Diversity and Adaptation Among Living Things

*The student will understand that living things have characteristics that enable them to survive in their environment.*

<b>A</b>	<b>DA</b>	Identify similarities and differences among organisms.
<b>A</b>	<b>DA</b>	Classify plants and animals into groups according to their features.
<b>A</b>	<b>DA</b>	Use a simple classification key to identify an unknown organism.

### EARTH SCIENCE STANDARDS

#### Earth Resources

*The student will investigate the properties, uses, and conservation of earth's resources.*

<b>A</b>	<b>ER</b>	Identify various energy sources.
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### PHYSICAL SCIENCE STANDARDS

#### Forces and Motion

*The student will investigate the effects of force on the movement of objects.*

<b>D</b>		Determine the speed of an object based on the distance and amount of time traveled.
<b>D</b>		Differentiate between speed and velocity.
<b>A</b>	<b>FM</b>	Recognize that forces cause changes in speed and/or direction of motion.
<b>D</b>		Describe how Newton's three laws of motion explain the movement of objects.
<b>A</b>	<b>FM</b>	Recognize the relationship between mass, force, and acceleration.
<b>A</b>	<b>FM</b>	Identify Newton's three laws of motion and relate the first two laws to the concepts of inertia and momentum.
<b>D</b>		Distinguish between mass and weight.
<b>D</b>		Describe the relationship among distance, size, mass, and gravitational force of objects.
<b>A</b>	<b>FM</b>	Identify the relationship between the mass of objects, the distance between them, and the amount of gravitational attraction.

Please note that use of these standards does not imply this state's endorsement of Cogno.