

# Science – 5<sup>th</sup> Grade

## Focused TEKS

### Investigation



**5.1(A)** demonstrate safe practices and the use of safety equipment as outlined in Texas Education Agency-approved safety standards during classroom and outdoor investigations using safety equipment, including safety goggles or chemical splash goggles, as appropriate, and gloves, as appropriate

**5.1(B)** make informed choices in the conservation, disposal, and recycling of materials

**5.2(A)** describe, plan, and implement simple experimental investigations testing one variable

**5.2(B)** ask well defined questions, formulate testable hypotheses, and select and use appropriate equipment and technology

**5.2(E)** demonstrate that repeated investigations may increase the reliability of results

**5.4(A)** collect, record, and analyze information using tools, including calculators, microscopes, cameras, computers, hand lenses, metric rulers, Celsius thermometers, prisms, mirrors, balances, spring scales, graduated cylinders, beakers, hot plates, meter sticks, magnets, collecting nets, and notebooks; timing devices; and materials to support observations of habitats or organisms such as terrariums and aquariums

### Analysis and Reasoning



**5.2(C)** collect and record information using detailed observations and accurate measuring

**5.2(D)** analyze and interpret information to construct reasonable explanations from direct (observable) and indirect (inferred) evidence

**5.2(F)** communicate valid conclusions in both written and verbal forms

**5.2(G)** construct appropriate simple graphs, tables, maps, and charts using technology, including computers, to organize, examine, and evaluate information

**5.3(A)** analyze, evaluate, and critique scientific explanations by using evidence, logical reasoning, and experimental and observational testing

**5.3(B)** draw or develop a model that represents how something that cannot be seen such as the Sun, Earth, and Moon system and formation of sedimentary rock works or looks

**5.3(C)** connect grade-level appropriate science concepts with the history of science, science careers, and contributions of scientists

# Science – 5<sup>th</sup> Grade

## Focused TEKS

# Matter and Energy



5.5(A) classify matter based on measurable, testable, and observable physical properties  
\*\*\*Readiness Standard (Tested 3x)



**HELPS WITH...**

6.6(A) compare metals, nonmetals, and metalloids using physical properties such as luster, conductivity, or malleability

6.6(B) calculate density to identify an unknown substance  
\*\*\*Supporting Standards (Tested 1x each)



5.5(B) demonstrate that some mixtures maintain physical properties of their ingredients such as iron filings and sand and sand and water

5.5(C) identify changes that can occur in the physical properties of the ingredients of solutions such as dissolving salt in water or adding lemon juice to water

3.5(C) predict, observe, and record changes in the state of matter caused by heating or cooling

\*\*\*Supporting Standards (Tested 1x each)



**HELPS WITH...**

6.5(A) know that an element is a pure substance represented by a chemical symbol and that a compound is a pure substance represented by a chemical formula

\*\*\*Supporting Standard (Tested 1x)

**DID YOU KNOW...**



*These 4 Fifth Grade TEKS for Science help support 30% of the success for Category 1 Matter and Energy in 8<sup>th</sup> Grade!*

# Science – 5<sup>th</sup> Grade

## Focused TEKS

### Energy, Force, & Motion

$E=mc^2$



5.6(A) explore the uses of energy, including mechanical, light, thermal, electrical, and sound energy

5.6(B) demonstrate that the flow of electricity in closed circuits can produce light, heat, or sound

5.6(C) demonstrate that light travels in a straight line until it strikes an object and is reflected or travels through one medium to another and is refracted

\*\*\*Readiness Standards (Tested 2x each)



**HELPS WITH...**

6.9(C) demonstrate energy transformations such as energy in a flashlight battery changes from chemical energy to electrical energy to light energy

\*\*\*Supporting Standard (Tested 1x)



5.6(D) design a simple experimental investigation that tests the effect of force on an object

3.6(B) demonstrate and observe how position and motion can be changed by pushing and pulling objects such as swings, balls, and wagons

\*\*\*Supporting Standards (Tested 1x each)



**HELPS WITH...**

6.8(B) identify and describe the changes in position, direction, and speed of an object when acted upon by unbalanced forces

**DID YOU KNOW...**

*These 5 Fifth Grade TEKS for Science help support 30% of the success for Category 2 Energy, Force, & Motion in 8<sup>th</sup> Grade!*



# Science – 5<sup>th</sup> Grade

## Focused TEKS

### Earth Materials



✓ 5.7(A) explore the processes that led to the formation of sedimentary rocks and fossil fuels

5.7(B) recognize how landforms such as deltas, canyons, and sand dunes are the result of changes to Earth's surface by wind, water, or ice



**HELPS WITH...**

6.10(B) describe how plate tectonics causes major geological events such as ocean basin formation, earthquakes, volcanic eruptions, and mountain building

\*\*\*Readiness Standard (Tested as 8.9B 2x)

✓ 4.7(A) examine properties of soils, including color and texture, capacity to retain water, and ability to support the growth of plants

4.7(C) identify and classify Earth's renewable resources, including air, plants, water, and animals; and nonrenewable resources, including coal, oil, and natural gas; and the importance of conservation

3.7(B) investigate rapid changes in Earth's surface such as volcanic eruptions, earthquakes, and landslides



**HELPS WITH...**

8.9(C) interpret topographic maps and satellite views to identify land and erosional features and predict how these features may be reshaped by weathering

\*\*\*Readiness Standard (Tested 2x)

**DID YOU KNOW...**



*These 5 Fifth Grade TEKS for Science help support 50% of the success for Category 3 Earth Materials in 8<sup>th</sup> Grade!*

# Science – 5<sup>th</sup> Grade

## Focused TEKS

### Objects in the Sky



 5.8(B) explain how the Sun and the ocean interact in the water cycle

4.8(B) describe and illustrate the continuous movement of water above and on the surface of Earth through the water cycle and explain the role of the Sun as a major source of energy in this process

 **HELPS WITH...**

8.10(A) recognize that the Sun provides the energy that drives convection within the atmosphere and oceans, producing winds

\*\*\*Supporting Standard (Tested 1x)

8.10(C) identify the role of the oceans in the formation of weather systems such as hurricanes

\*\*\*Supporting Standard (Tested 1x)

 4.8(A) measure, record, and predict changes in weather

5.8(A) differentiate between weather and climate

 **HELPS WITH...**

8.10(B) identify how global patterns of atmospheric movement influence local weather using weather maps that show high and low pressures and fronts

\*\*\*Supporting Standard (Tested 1x)

**DID YOU KNOW...**



*These 4 Fifth Grade TEKS for Science help support 30% of the success for Category 3 Objects in the Sky in 8<sup>th</sup> Grade!*

# Science – 5<sup>th</sup> Grade

## Focused TEKS

### Objects in the Sky



5.8(C) demonstrate that Earth rotates on its axis once approximately every 24 hours causing the day/night cycle and the apparent movement of the Sun across the sky

4.8(C) collect and analyze data to identify sequences and predict patterns of change in shadows, seasons, and the observable appearance of the Moon over time.



**HELPS WITH...**

8.7(A) model and illustrate how the tilted Earth rotates on its axis, causing day and night, and revolves around the Sun, causing changes in seasons

\*\*\*Readiness Standard (Tested 2x)

8.7(B) demonstrate and predict the sequence of events in the lunar cycle

\*\*\*Readiness Standard (Tested 2x)



5.8(D) identify and compare the physical characteristics of the Sun, Earth, and Moon.

3.8(D) identify the planets in Earth's solar system and their position in relation to the Sun



**HELPS WITH...**

8.8(A) describe components of the universe, including stars, nebulae, and galaxies, and use models such as the Hertzsprung-Russell diagram for classification

\*\*\*Readiness Standard (Tested 2x)

**DID YOU KNOW...**



*These 4 Fifth Grade TEKS for Science help support 40% of the success for Category 3 Objects in the Sky in 8<sup>th</sup> Grade!*



# Science – 5<sup>th</sup> Grade

## Focused TEKS

### The Environment



✓ 5.9(A) observe the way organisms live and survive in their ecosystem by interacting with the living and nonliving components

5.9(B) describe the flow of energy within a food web, including the roles of the Sun, producers, consumers, and decomposers

! HELPS WITH...

6.12(E) describe biotic and abiotic parts of an ecosystem in which organisms interact

7.5(B) diagram the flow of energy through living systems, including food chains, food webs, and energy pyramids

\*\*\* Supporting Standards (Tested 1x each)

✓ 5.9(C) predict the effects of changes in ecosystems caused by living organisms, including humans, such as the overpopulation of grazers or the building of highways

5.9(D) identify fossils as evidence of past living organisms and the nature of the environments at the time using models

3.9(A) observe and describe the physical characteristics of environments and how they support populations and communities of plants and animals within an ecosystem

! HELPS WITH...

8.11(B) explore how short- and long-term environmental changes affect organisms and traits in subsequent populations \*\*\* Readiness Standard (Tested 2x)

DID YOU KNOW...



These 5 Fifth Grade TEKS for Science help support 30% of the success for Category 4 The Environment in 8<sup>th</sup> Grade!

# Science – 5<sup>th</sup> Grade

## Focused TEKS

### The Organism



5.10(A) compare the structures and functions of different species that help them live and survive in a specific environment such as hooves on prairie animals or webbed feet in aquatic animals

5.10(B) differentiate between inherited traits of plants and animals such as spines on a cactus or shape of a beak and learned behaviors such as an animal learning tricks or a child riding a bicycle



**HELPS WITH...**

7.11(C) identify some changes in genetic traits that have occurred over several generations through natural selection and selective breeding

7.12(B) identify the main functions of the systems of the human organism

7.12(D) differentiate between structure and function in plant and animal cell organelles  
\*\*\*Supporting Standards (Tested 1x each)



3.10(B) investigate and compare how animals and plants undergo a series of orderly changes in their diverse life cycles such as tomato plants, frogs, and lady beetles



**HELPS WITH...**

7.14(B) compare the results of uniform or diverse offspring from asexual or sexual reproduction

\*\*\*Supporting Standard (Tested 1x each)

**DID YOU KNOW...**



*These 3 Fifth Grade TEKS for Science help support 35% of the success for Category 4 The Organism in 8<sup>th</sup> Grade!*