

# **TEKS For Field Trip Activities**

## **Grades 5-8**

### **Adaptation Artistry**

#### **Grades 5-8**

## **TEKS**

### **Grade 6**

§112.26. Science, Grade 6, Adopted 2021.

(b) Knowledge and skills.

(1) Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:

(A) ask questions and define problems based on observations or information from text, phenomena, models, or investigations;

(B) use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems;

(C) use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards;

(G) develop and use models to represent phenomena, systems, processes, or solutions to engineering problems

(2) Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:

(A) identify advantages and limitations of models such as their size, scale, properties, and materials;

(B) analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations;

(5) Recurring themes and concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:

(A) identify and apply patterns to understand and connect scientific phenomena or to design solutions;

(B) identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems;

(C) analyze how differences in scale, proportion, or quantity affect a system's structure or performance;

(D) examine and model the parts of a system and their interdependence in the function of the system;

(12) Organisms and environments. The student knows that interdependence occurs between living systems and the environment. The student is expected to:

(A) investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as availability of light and water, range of temperatures, or soil composition;

(B) describe and give examples of predatory, competitive, and symbiotic relationships between organisms, including mutualism, parasitism, and commensalism; and

(C) describe the hierarchical organization of organism, population, and community within an ecosystem.

(13) Organisms and environments. The student knows that organisms have an organizational structure and variations can influence survival of populations. The student is expected to:

(A) describe the historical development of cell theory and explain how organisms are composed of one or more cells, which come from pre-existing cells and are the basic unit of structure and function;

(B) identify and compare the basic characteristics of organisms, including prokaryotic and eukaryotic, unicellular and multicellular, and autotrophic and heterotrophic; and

(C) describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change.

## **Ants on a Twig Lesson Plan**

### **Grades 5-8**

## **TEKS Correlations**

### **5th Grade**

#### **Science**

##### **(b) Knowledge and skills.**

(1) Scientific investigation and reasoning. The student conducts classroom and outdoor investigations following home and school safety procedures and environmentally appropriate and ethical practices. The student is expected to:

(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; and

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

(2) Scientific investigation and reasoning. The student uses scientific practices during laboratory and outdoor investigations. The student is expected to:

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

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

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

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

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

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

(4) Scientific investigation and reasoning. The student knows how to use a variety of tools and methods to conduct science inquiry. The student is expected to 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.

(9) Organisms and environments. The student knows that there are relationships, systems, and cycles within environments. The student is expected to:

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

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

(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;

(10) Organisms and environments. The student knows that organisms have structures and behaviors that help them survive within their environments. The student is expected to:

(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; and

(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.

# Harris Creek Trail Scavenger Hunt

5<sup>th</sup> - 8<sup>th</sup> Grade

## TEKS

### Grade 6

§112.26. Science, Grade 6, Adopted 2021.

(b) Knowledge and skills.

(1) Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:

- (A) ask questions and define problems based on observations or information from text, phenomena, models, or investigations;
- (B) use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems;
- (C) use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards;
- (D) use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices,

pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals;

(E) collect quantitative data using the International System of Units (SI) and qualitative data as evidence; Middle School §112.B. April 2022 Update Page 16 of 27

(F) construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data;

(G) distinguish between scientific hypotheses, theories, and laws.

(2) Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:

(A) identify advantages and limitations of models such as their size, scale, properties, and materials;

(B) analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations;

(5) Recurring themes and concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:

(A) identify and apply patterns to understand and connect scientific phenomena or to design solutions;

(B) identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems;

(C) analyze how differences in scale, proportion, or quantity affect a system's structure or performance;

(D) examine and model the parts of a system and their interdependence in the function of the system;

(10) Earth and space. The student understands the rock cycle and the structure of Earth. The student is expected to:

(C) describe how metamorphic, igneous, and sedimentary rocks form and change through geologic processes in the rock cycle.

(11) Earth and space. The student understands how resources are managed. The student is expected to:

(A) research and describe why resource management is important in reducing global energy, poverty, malnutrition, and air and water pollution, and

(B) explain how conservation, increased efficiency, and technology can help manage air, water, soil, and energy resources.

(12) Organisms and environments. The student knows that interdependence occurs between living systems and the environment. The student is expected to:

(A) investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as availability of light and water, range of temperatures, or soil composition;

(B) describe and give examples of predatory, competitive, and symbiotic relationships between organisms, including mutualism, parasitism, and commensalism; and



(C) describe the hierarchical organization of organism, population, and community within an ecosystem.

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(C) describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change.

## **Prey vs. Predator**

### **5<sup>th</sup>-8<sup>th</sup> Grades**

# TEKS

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- (B) identify and compare the basic characteristics of organisms, including prokaryotic and eukaryotic, unicellular and multicellular, and autotrophic and heterotrophic; and
  
- (C) describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change.

# English Language Arts and Reading

## Grade 6

### §110.21. Implementation of Texas Essential Knowledge and Skills for English Language Arts and Reading, Middle School, Adopted 2017.

#### (b) Knowledge and skills.

(1) Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:

(A) listen actively to interpret a message, ask clarifying questions, and respond appropriately;

(B) follow and give oral instructions that include multiple action steps;

(C) give an organized presentation with a specific stance and position, employing eye contact, speaking rate, volume, enunciation, natural gestures, and conventions of language to communicate ideas effectively; and

(D) participate in student-led discussions by eliciting and considering suggestions from other group members, taking notes, and identifying points of agreement and disagreement

(3) Developing and sustaining foundational language skills: listening,

speaking, reading, writing, and thinking--fluency. The student reads grade-level text with fluency and comprehension. The student is expected to adjust fluency when reading grade-level text based on the reading purpose.

(12) Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:

(A) generate student-selected and teacher-guided questions for formal and informal inquiry;

(B) develop and revise a plan;

(C) refine the major research question, if necessary, guided by the answers to a secondary set of questions;

(D) identify and gather relevant information from a variety of sources.