# Summit K12 Pacing Materials

## 1st Grade Science

SUMMIT K12

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## Scope and Sequence

Summit K12 has developed an optional year-long scope and sequence for schools and districts who wish to follow a set lesson progression that ensures all TEKS are covered within one school year. Within this framework, all grade-level TEKS have been organized into units of study with suggested time allotments for each TEKS. Each lesson guide includes key concepts, investigations, and activities to facilitate quality instruction for all learners.

Scientific and Engineering Practices and Recurring Themes and Concepts standards are integrated into lessons throughout the course and should be taught within the context of science content standards.

Teachers and administrators should adjust the instructional timeline according to student data and classroom needs. This scope and sequence was designed to be flexible, with extra time built in for concept and spiral review, in-depth discussions and investigations, and extension activities to support learners of all abilities.

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## Introduction

The Summit K12 pacing materials are intended to assist educators in planning and organizing science curriculum according to the Texas Essential Knowledge and Skills for 1st grade. This guide provides a comprehensive timeline and framework based on state standards and serves as an optional resource that teachers and administrators may use in addition to or in support of any district-provided pacing guidelines.

All pacing materials are based on 30-minute class sessions. Please note that actual times will vary depending on scheduling considerations, the number of students, the amount of setup done ahead of time, the depth of class discussions, and your own needs and preferences.

### Year at a Glance

| Reporting Category | # of TEKS | Estimated Time Allotment |
|---|---|---|
| Matter and Its Properties | 3 | 24 days |
| Force, Motion, and Energy | 4 | 31 days |
| Earth and Space | 8 | 54 days |
| Organisms and Environments | 6 | 41 days |
| | | **150 days*** |

**Only 150 days have been planned out of the 180 school days, though this course includes more than enough material to cover the full 180 days of instruction. This was intended to account for beginning of year logistics, district and state testing, field trips, or any other interruptions to the daily cycle of instruction. Pacing should be adjusted according to student assessment data and district instructional priorities.*

# 1st Grade Science Units

**Unit 1:**
- 1.6A: Classify by Physical Properties
- 1.6B: Predicting Changes in Materials

**Unit 2:**
- 1.6C: Parts Make a System

**Unit 3:**
- 1.7A: Explain Pushes and Pulls
- 1.7B: Investigate Pushes and Pulls

**Unit 4:**
- 1.8A: Investigate Heat
- 1.8B: Changes Caused by Heat

**Unit 5:**
- 1.9A: Seasons of the Year

**Unit 6:**
- 1.10A: Soil
- 1.10B: Water Moves Rocks and Soil

**Unit 7:**
- 1.10C: Bodies of Water

**Unit 8:**
- 1.10D: Characteristics of Weather

**Unit 9:**
- 1.11A: Using Rocks, Soil, and Water

**Unit 10:**
- 1.11B: Water Conservation
- 1.11C: Conserving and Protecting Water

**Unit 11:**
- 1.12A: Living and Nonliving
- 1.12B: Interactions and Dependence

**Unit 12:**
- 1.12C: Identify Food Chains

**Unit 13:**
- 1.13A: Animals' External Structures

**Unit 14**
- 1.13B: Life Cycles of Animals
- 1.13C: Young Animals

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## Scope and Sequence

| RC | Unit | TEKS | Suggested Instructional Time | Unit Total |
|---|---|---|---|---|
| RC1: Matter and Its Properties | 1 | **1.6A:** Classify by Physical Properties | 8 days | 16 days |
| | | **1.6B:** Predicting Changes in Materials | 8 days | |
| | 2 | **1.6C:** Parts Make a System | 8 days | 8 days |
| RC2: Force, Motion, and Energy | 3 | **1.7A:** Explain Pushes and Pulls | 8 days | 16 days |
| | | **1.7B:** Investigate Pushes and Pulls | 8 days | |
| | 4 | **1.8A:** Investigate Heat | 8 days | 15 days |
| | | **1.8B:** Changes Caused by Heat | 7 days | |
| RC3: Earth and Space | 5 | **1.9A:** Seasons of the Year | 7 days | 7 days |
| | 6 | **1.10A:** Soil | 8 days | 16 days |
| | | **1.10B:** Water Moves Rocks and Soil | 8 days | |
| | 7 | **1.10C:** Bodies of Water | 5 days | 5 days |
| | 8 | **1.10D:** Characteristics of Weather | 8 days | 8 days |
| | 9 | **1.11A:** Using Rocks, Soil, and Water | 8 days | 8 days |
| | 10 | **1.11B:** Water Conservation | 5 days | 10 days |
| | | **1.11C:** Conserving and Protecting Water | 5 days | |
| RC4: Organisms and Environments | 11 | **1.12A:** Living and Nonliving | 8 days | 16 days |
| | | **1.12B:** Interactions and Dependence | 8 days | |
| | 12 | **1.12C:** Identify Food Chains | 7 days | 7 days |
| | 13 | **1.13A:** Animals' External Structures | 8 days | 8 days |
| | 14 | **1.13B:** Life Cycles of Animals | 5 days | 10 days |
| | | **1.13C:** Young Animals | 5 days | |

# Pacing Guide

In addition to the Scope and Sequence, Summit K12 has also developed a Pacing Guide that can be adapted for teaching the Texas Essential Knowledge and Skills (TEKS) in any preferred order or according to a district provided scope and sequence. The Pacing Guide is arranged by reporting category and includes suggested instructional time for each TEKS, but the actual order of instruction is flexible and should be adjusted according to student needs and district priorities.

Summit K12 suggests introducing the fundamental concepts and principles of science prior to beginning instruction. To assist with this, the Scientific and Engineering Practices (SEPS) section of the LMS provides valuable resources that can be utilized at the teacher's discretion. In addition, SEPS presentations are available to aid in teaching and practicing these skills.

### Individual TEKS Pacing Guides

On pages 8-32, you will find more in depth pacing guides for each individual TEKS. Please note that the time allotment lists the estimated time it may take to complete each activity in the Lesson Guide. Please use your professional judgment to determine which activities are best suited for your students, while keeping in mind the recommended pacing located on page 6.

# Reporting Category 1:
## Matter and Its Properties

*NOTE: The time allotment for each TEKS lists the estimated time it may take to complete each activity in the Lesson Guide. Please use your professional judgment to determine which activities are best suited for your students, while keeping in mind the recommended pacing located on pg. 6.*

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# 1.6A Classify by Physical Properties

| Lesson Section | Activity | Time Allotment |
|---|---|---|
| **Engage**<br>**Suggested Activities* | * Exploring the Investigative Phenomenon: Toy Box Chaos | 30 minutes |
| | Establish Relevance: Objects Card Sort | 15 minutes |
| **Investigate and Learn**<br>**Suggested Activities* | * Activity: How Do We Classify? | 30 minutes |
| | * Investigation: Classifying by Color, Shape, and Texture | 30 minutes |
| | * Investigation: Classifying Objects by Size and Mass | 30 minutes |
| | * Field Investigation: Scavenger Hunt | 60 minutes |
| | E-Book: Classify by Physical Properties | 10 minutes |
| **Apply and Extend** | Investigation: Are All Large Objects Heavy? | 30 minutes |
| | Literacy Connection: Classifying Objects | 30 minutes |
| | Investigation: What I Wonder About Physical Properties | 60 minutes |
| | Writing: Comparing Objects | 45 minutes |
| | Study Guide: Classify by Physical Properties | 30 minutes |
| **Evaluate**<br>**Suggested Activities* | * Explaining the Investigative Phenomenon: Toy Box Chaos | 45 minutes |
| | * Connecting to the Anchoring Phenomenon | 30 minutes |
| | Concept Mastery Assessment | 20 minutes |
| | Vocabulary Mastery | 15 minutes |
| | Engineering Challenge: Design a Toy Shelf | 60 minutes |

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# 1.6B Predicting Changes in Materials

| Lesson Section | Activity | Time Allotment |
|---|---|---|
| **Engage and Establish Relevance**<br><br>**Suggested Activities* | * Exploring the Investigative Phenomenon: Gummy Bears | 30 minutes |
| | Establish Relevance: Heating and Cooling Materials | 15 minutes |
| **Investigate and Learn**<br><br>**Suggested Activities* | * Investigation: Testing the Waters | 30 minutes |
| | * Investigation: Adding and Removing Heat, Part 1 | 30 minutes |
| | * Plan an Investigation: Adding and Removing Heat, Part 2 | 60 minutes |
| | * Activity: Crayon Art | 45 minutes |
| | E-Book: Predicting Changes in Materials | 10 minutes |
| **Apply and Extend** | Literacy Connection: Predicting Changes in Materials | 30 minutes |
| | Activity: The Effects of Heat | 30 minutes |
| | Activity: Predict Changes | 30 minutes |
| | Writing: Was Heat Added or Taken Away? | 30 minutes |
| | Study Guide: Predicting Changes in Materials | 30 minutes |
| **Evaluate**<br><br>**Suggested Activities* | * Explaining the Investigative Phenomenon: Gummy Bears | 30 minutes |
| | * Connecting to the Anchoring Phenomenon | 30 minutes |
| | Concept Mastery Assessment | 20 minutes |
| | Vocabulary Mastery | 15 minutes |
| | Engineering Challenge: Design a Chocolate Surprise | 60 minutes |

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## 1.6C Parts Make a System

| Lesson Section | Activity | Time Allotment |
|---|---|---|
| **Engage**<br>**Suggested Activities* | * Exploring the Investigative Phenomenon: Toy Truck | 30 minutes |
| | Discussion: Whole Objects | 15 minutes |
| **Investigate and Learn**<br>**Suggested Activities* | * Activity: System Models | 45 minutes |
| | * Investigation: Why Doesn't It Work? | 30 minutes |
| | * Engineering Design Process: Build a Toy Robot, Part 1 | 30 minutes |
| | * Engineering Design Process: Build a Toy Robot, Part 2 | 45 minutes |
| | * Engineering Design Process: Build a Toy Robot, Part 3 | 30 minutes |
| | * Engineering Design Process: Build a Toy Robot, Part 4 | 30 minutes |
| | E-Book: Parts Make a System | 10 minutes |
| **Apply and Extend** | Activity: Find Your Match | 30 minutes |
| | Literacy Connection: E-Book Parts Make a System | 30 minutes |
| | Activity: Deconstructing Objects | 30 minutes |
| | Study Guide: Parts Make a System | 30 minutes |
| **Evaluate**<br>**Suggested Activities* | * Explaining the Investigative Phenomenon: Toy Truck | 30 minutes |
| | * Connecting to the Anchoring Phenomenon | 30 minutes |
| | Concept Mastery Assessment | 20 minutes |
| | Vocabulary Mastery | 15 minutes |
| | Performance Task: What is a System? | 30 minutes |

# Reporting Category 2:
## Force, Motion, and Energy

*NOTE: The time allotment for each TEKS lists the estimated time it may take to complete each activity in the Lesson Guide. Please use your professional judgment to determine which activities are best suited for your students, while keeping in mind the recommended pacing located on pg.6.*

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# 1.7A Explain Pushes and Pulls

| Lesson Section | Activity | Time Allotment |
|---|---|---|
| **Engage and Establish Relevance**<br><br>**Suggested Activities* | * Exploring the Investigative Phenomenon: Bike Riding | 30 minutes |
| | Establish Relevance: Cause and Effect | 15 minutes |
| **Investigate and Learn**<br><br>**Suggested Activities* | * Activity: Push and Pull Card Sort | 30 minutes |
| | * Investigation: Push and Pull Scavenger Hunt | 30 minutes |
| | * Investigation: Bowling | 30 minutes |
| | * Investigation: Poms Away | 30 minutes |
| | E-Book: Explain Pushes and Pulls | 10 minutes |
| **Apply and Extend** | Investigation: Domino Effect | 30 minutes |
| | Activity: Push and Pull Riddles | 30 minutes |
| | Literacy Connection: Explain Pushes and Pulls | 30 minutes |
| | Claim, Evidence: Was a Push or Pull Applied? | 30 minutes |
| | Study Guide: Explain Pushes and Pulls | 30 minutes |
| **Evaluate**<br><br>**Suggested Activities* | * Explaining the Investigative Phenomenon: Bike Riding | 30 minutes |
| | * Connecting to the Anchoring Phenomenon | 30 minutes |
| | Concept Mastery Assessment | 20 minutes |
| | Vocabulary Mastery | 15 minutes |
| | Performance Task: Explain Pushes and Pulls | 30 minutes |

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# 1.7B: Investigate Pushes and Pulls

| Lesson Section | Activity | Time Allotment |
|---|---|---|
| **Engage**<br>**Suggested Activities* | * Exploring the Investigative Phenomenon: Pushes and Pulls | 30 minutes |
| | * Establish Relevance: Answering Questions | 30 minutes |
| **Investigate and Learn**<br>**Suggested Activities* | * Model Planning an Investigation: Changing Motion | 90 minutes |
| | * Planning an Investigation: Making Marbles Move | 75 minutes |
| | E-Book: Investigate Pushes and Pulls | 15 minutes |
| **Apply and Extend** | Literacy Connection: Investigate Pushes and Pulls | 30 minutes |
| | Activity: Plan, Plan, Trade | 30 minutes |
| | What I Wonder About: Pushes and Pulls | 45 minutes |
| | Engineering Design Process: Pinball Machine | 60 minutes |
| | Study Guide: Investigate Pushes and Pulls | 30 minutes |
| **Evaluate**<br>**Suggested Activities* | * Explaining the Investigative Phenomenon: Pushes and Pulls | 30 minutes |
| | * Connecting to the Anchoring Phenomenon | 30 minutes |
| | Concept Mastery Assessment | 20 minutes |
| | Vocabulary Mastery | 15 minutes |
| | Performance Task: Force and Dominoes | 30 minutes |

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## 1.8A: Investigate Heat

| Lesson Section | Activity | Time Allotment |
|---|---|---|
| **Engage**<br>**Suggested Activities* | * Exploring the Investigative Phenomenon: Baking a Cake | 30 minutes |
| | Establish Relevance: Baking a Cake | 15 minutes |
| **Investigate and Learn**<br>**Suggested Activities* | * Activity: Concept Attainment - Investigate Heat | 30 minutes |
| | * Activity: Everyday Uses of Heat | 30 minutes |
| | * Field Investigation: Learning Walk - Uses of Heat | 60 minutes |
| | E-Book: Investigate Heat | 10 minutes |
| **Apply and Extend** | Engineering Challenge: Build a Solar Oven | 90 minutes |
| | Writing: Heat Diagram | 30 minutes |
| | Literacy Connection: Investigating Heat | 30 minutes |
| | Study Guide: Investigate Heat | 30 minutes |
| **Evaluate**<br>**Suggested Activities* | * Explaining the Investigative Phenomenon: Baking a Cake | 30 minutes |
| | Connecting to the Anchoring Phenomenon | 15 minutes |
| | Concept Mastery Assessment | 20 minutes |
| | Vocabulary Mastery | 15 minutes |
| | Performance Task: How I Use Heat in My LIfe | 60 minutes |

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## 1.8B: Changes Caused by Heat

| Lesson Section | Activity | Time Allotment |
|---|---|---|
| **Engage**<br>**Suggested Activities* | * Exploring the Investigative Phenomenon: Burger Time | 30 minutes |
| | Establish Relevance: How Does Heat Change Foods and Objects? | 15 minutes |
| **Investigate and Learn**<br>**Suggested Activities* | * Activity: Observing S'mores | 30 minutes |
| | * Investigation: Changing Looks | 45 minutes |
| | * Investigation: How Does Heat Change Eggs? | 45 minutes |
| | E-Book: Changes Caused by Heat | 10 minutes |
| **Apply and Extend** | Activity: What is Happening? | 15 minutes |
| | Planning an Investigation: How Did It Change? | 45 minutes |
| | Writing: What Caused the Plastic on the Toaster to Melt? | 30 minutes |
| | Study Guide: Changes Caused by Heat | 30 minutes |
| **Evaluate**<br>**Suggested Activities* | * Explaining the Investigative Phenomenon: Burger Time | 15 minutes |
| | * Connecting to the Anchoring Phenomenon | 30 minutes |
| | Concept Mastery Assessment | 20 minutes |
| | Vocabulary Mastery | 15 minutes |
| | Performance Task: Melt No More! | 90 minutes |

# Reporting Category 3:
## Earth and Space

*NOTE: The time allotment for each TEKS lists the estimated time it may take to complete each activity in the Lesson Guide. Please use your professional judgment to determine which activities are best suited for your students, while keeping in mind the recommended pacing located on pg. 6.*

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## 1.9A Seasons of the Year

| Lesson Section | Activity | Time Allotment |
|---|---|---|
| **Engage**<br>**Suggested Activities* | * Exploring the Investigative Phenomenon: Changes of Seasons | 30 minutes |
| | Establish Relevance: How Do Seasons Affect Living Things? | 15 minutes |
| **Investigate and Learn**<br>**Suggested Activities* | * Activity: Year Round | 30 minutes |
| | * Activity: What Season is This? | 30 minutes |
| | * Activity: Living in the Seasons | 30 minutes |
| | E-Book: Seasons of the Year | 10 minutes |
| **Apply and Extend** | Activity: Seasons Around the World | 30 minutes |
| | Literacy Connection: Seasons | 30 minutes |
| | Writing: My Seasons Book | 30 minutes |
| | Claim-Evidence: Changes in Nature | 30 minutes |
| | Study Guide: Seasons of the Year | 30 minutes |
| **Evaluate**<br>**Suggested Activities* | * Explaining the Investigative Phenomenon: Changes of Seasons | 30 minutes |
| | Concept Mastery Assessment | 20 minutes |
| | Vocabulary Mastery | 15 minutes |
| | Performance Task: Seasons | 45 minutes |

## 1.10A Soil

| Lesson Section | Activity | Time Allotment |
|---|---|---|
| **Engage**<br>**Suggested Activities* | * Exploring the Investigative Phenomenon: How are Soils Different? | 30 minutes |
| | Discussion: How are Soils Different? | 15 minutes |
| **Investigate and Learn**<br>**Suggested Activities* | * Investigation: What's the Dirt on Soil? | 45 minutes |
| | * Investigation: Dry Soil Versus Wet Soil | 45 minutes |
| | E-Book: Soil | 10 minutes |
| **Apply and Extend** | Literacy Connection: Soil | 30 minutes |
| | Research: Soil All Over Texas | 60 minutes |
| | Activity: My Book About Soil | 30 minutes |
| | Study Guide: Soil | 30 minutes |
| **Evaluate**<br>**Suggested Activities* | * Explaining the Investigative Phenomenon: How are Soils Different? | 15 minutes |
| | * Connecting to the Anchoring Phenomenon | 15 minutes |
| | Concept Mastery Assessment | 20 minutes |
| | Vocabulary Mastery | 15 minutes |
| | Performance Task: Dig It! | 30 minutes |

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## 1.10B Water Moves Rocks and Soil

| Lesson Section | Activity | Time Allotment |
|---|---|---|
| **Engage**<br>**Suggested Activities* | * Exploring the Investigative Phenomenon: Dancing Water | 15 minutes |
| | * Establish Relevance: Experiences with Moving Water | 15 minutes |
| **Investigate and Learn**<br>**Suggested Activities* | * Field Investigation: Signs of Movement | 30 minutes |
| | * Investigation: How Does Rain Move Rocks and Soil? | 60 minutes |
| | * Planning an Investigation: How Does Water Move Rocks and Soil? | 60 minutes |
| | E-Book: Water Moves Rocks and Soil | 10 minutes |
| **Apply and Extend** | Activity: Rocks All Around | 30 minutes |
| | Activity: Water Moves Rocks and Soil | 30 minutes |
| | Literacy Connection: The Force of Moving Water | 30 minutes |
| | Study Guide: Water Moves Rocks and Soil | 30 minutes |
| **Evaluate**<br>**Suggested Activities* | * Explaining the Investigative Phenomenon: Dancing Water | 30 minutes |
| | * Connecting to the Anchoring Phenomenon | 15 minutes |
| | Concept Mastery Assessment | 20 minutes |
| | Vocabulary Mastery | 15 minutes |
| | Performance Task: How Did it Move? | 30 minutes |

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## 1.10C Bodies of Water

| Lesson Section | Activity | Time Allotment |
|---|---|---|
| **Engage**<br>**Suggested Activities* | * Exploring the Investigative Phenomenon: Swimming | 30 minutes |
| | * Establish Relevance: Bodies of Water | 15 minutes |
| **Investigate and Learn**<br>**Suggested Activities* | * Investigation: Water, Water, Everywhere! | 60 minutes |
| | * Investigation: Saltwater vs. Freshwater | 30 minutes |
| | * Argumentation: Water Samples | 90 minutes |
| | E-Book: Bodies of Water | 10 minutes |
| **Apply and Extend** | Literacy Connection: Bodies of Water in Texas | 30 minutes |
| | Literacy Connection: Bodies of Water | 30 minutes |
| | Activity: What Body of Water Is This? | 30 minutes |
| | What I Wonder About: Bodies of Water | 60 minutes |
| | Study Guide: Bodies of Water | 30 minutes |
| **Evaluate**<br>**Suggested Activities* | * Explaining the Investigative Phenomenon: Swimming | 30 minutes |
| | * Connecting to the Anchoring Phenomenon | 30 minutes |
| | Concept Mastery Assessment | 20 minutes |
| | Vocabulary Mastery | 15 minutes |
| | Performance Task: Comparing Water | 30 minutes |

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## 1.10D Characteristics of Weather

* additional time required

| Lesson Section | Activity | Time Allotment |
|---|---|---|
| **Engage**<br>**Suggested Activities* | * Exploring the Investigative Phenomenon: Playground Weather | 30 minutes |
| | * Establish Relevance: Describing Weather | 15 minutes |
| **Investigate and Learn**<br>**Suggested Activities* | * Stations: Weather Stations | 75 minutes |
| | * Activity: Describing and Recording the Weather | 30 minutes* |
| | E-Book: Characteristics of Weather | 10 minutes |
| **Apply and Extend** | Writing: Activities and Weather | 30 minutes |
| | Literacy Connection: Weather | 30 minutes |
| | Activity: What is the Weather? | 30 minutes |
| | Study Guide: Characteristics of Weather | 30 minutes |
| **Evaluate**<br>**Suggested Activities* | * Explaining the Investigative Phenomenon: Playground Weather | 30 minutes |
| | Concept Mastery Assessment | 20 minutes |
| | Vocabulary Mastery | 15 minutes |
| | Performance Task: What Should They Wear? | 30 minutes |

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## 1.11A Using Rocks, Soil and Water

| Lesson Section | Activity | Time Allotment |
|---|---|---|
| **Engage**<br>**Suggested Activities* | * Exploring the Investigative Phenomenon: Tracks Near Water | 30 minutes |
| | * Establish Relevance: Tracks Near Water | 15 minutes |
| **Investigate and Learn**<br>**Suggested Activities* | * Investigation: Resourceful Plants | 30 minutes |
| | * Stations: Resourceful Animals | 55 minutes |
| | * Activity: Resourceful Humans | 30 minutes |
| | * Engineering Design Process: Turtle Ramp | 90 minutes |
| | E-Books: Using Rocks, Soil and Water | 10 minutes |
| **Apply and Extend** | Activity: Using Rocks, Soil, and Water | 30 minutes |
| | Claim Evidence: Bird Nest | 30 minutes |
| | Literacy Connection: Building with Mud | 30 minutes |
| | Study Guide: Using Rocks, Soil, and Water | 30 minutes |
| **Evaluate**<br>**Suggested Activities* | * Explaining the Investigative Phenomenon: Tracks Near Water | 15 minutes |
| | * Connecting to the Anchoring Phenomenon | 15 minutes |
| | Concept Mastery Assessment | 20 minutes |
| | Vocabulary Mastery | 15 minutes |
| | Performance Task: Show and Tell | 30 minutes |

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## 1.11B Water Conservation

| Lesson Section | Activity | Time Allotment |
|---|---|---|
| **Engage**<br>**Suggested Activities* | * Exploring the Investigative Phenomenon: Drought Animation | 30 minutes |
| | * Establish Relevance: Drought | 15 minutes |
| **Investigate and Learn**<br>**Suggested Activities* | * Activity: Waterville | 30 minutes |
| | * Activity: Every Drop Counts | 30 minutes |
| | E-Book: Water Conservation | 10 minutes |
| **Apply and Extend** | STEM Career: Conservation Scientist | 30 minutes |
| | Claim Evidence: Water Conservation | 30 minutes |
| | Study Guide: Water Conservation | 30 minutes |
| **Evaluate**<br>**Suggested Activities* | * Explaining the Investigative Phenomenon: Drought Animation | 30 minutes |
| | * Connecting to the Anchoring Phenomenon | 30 minutes |
| | Concept Mastery Assessment | 20 minutes |
| | Vocabulary Mastery | 15 minutes |
| | * Performance Task: Water Conservation Poster | 30 minutes |

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# 1.11C Conserving and Protecting Water

| Lesson Section | Activity | Time Allotment |
|---|---|---|
| **Engage**<br>**Suggested Activities* | * Exploring the Investigative Phenomenon: Ocean Trash | 15 minutes |
| | * Establish Relevance: Ocean Trash | 15 minutes |
| **Investigate and Learn**<br>**Suggested Activities* | * Field Investigation: Nature Guardians | 30 minutes |
| | * Engineering Design Process: Rain Guardians | 90 minutes |
| | E-Book: Conserving and Protecting Water | 10 minutes |
| **Apply and Extend** | Activity: Conserving and Protecting Water | 30 minutes |
| | Research: Engineering Water Conservation | 30 minutes |
| | Study Guide: Conserving and Protecting Water | 30 minutes |
| **Evaluate**<br>**Suggested Activities* | * Explaining the Investigative Phenomenon: Ocean Trash | 15 minutes |
| | * Connecting to the Anchoring Phenomenon | 15 minutes |
| | Concept Mastery Assessment | 20 minutes |
| | Vocabulary Mastery | 15 minutes |
| | Performance Task: Water Conservation | 30 minutes |

# Reporting Category 4:
## Organisms and Environments

*NOTE: The time allotment for each TEKS lists the estimated time it may take to complete each activity in the Lesson Guide. Please use your professional judgment to determine which activities are best suited for your students, while keeping in mind the recommended pacing located on pg.6.*

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## 1.12A Living and Nonliving

| Lesson Section | Activity | Time Allotment |
|---|---|---|
| **Engage**<br>**Suggested Activities* | * Exploring the Investigative Phenomenon: Starfish | 15 minutes |
| | * Establish Relevance: Pets | 15 minutes |
| **Investigate and Learn**<br>**Suggested Activities* | * Activity: Engineering Design Challenge Introduction | 30 minutes |
| | * Activity: Living and Nonliving Sort | 30 minutes |
| | * Field Investigation: Living and Nonliving Things | 30 minutes |
| | E-Book: Living and Nonliving | 10 minutes |
| **Apply and Extend** | Article: Living and Nonliving | 30 minutes |
| | Activity: Patterns in Living Things | 30 minutes |
| | Study Guide: Living and Nonliving | 30 minutes |
| **Evaluate**<br>**Suggested Activities* | * Explaining the Investigative Phenomenon: Starfish | 15 minutes |
| | * Connecting to the Anchoring Phenomenon | 15 minutes |
| | Concept Mastery Assessment | 20 minutes |
| | Vocabulary Mastery | 15 minutes |
| | Performance Task: Living and Nonliving Mini-book | 30 minutes |

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## 1.12B Interactions and Dependence

| Lesson Section | Activity | Time Allotment |
|---|---|---|
| **Engage**<br>**Suggested Activities* | * Exploring the Investigative Phenomenon: Seeking Shelter | 15 minutes |
| | * Establish Relevance: Interacting with Living and Nonliving Things | 15 minutes |
| **Investigate and Learn**<br>**Suggested Activities* | * Engineering Design Process: Nonliving Terrarium | 30 minutes |
| | * Activity: Responsible Scientists | 30 minutes |
| | * Field Investigation: Terrarium Collection | 30 minutes |
| | * Engineering Design Process: Living Terrarium | 30 minutes |
| | E-Book: Interactions and Dependence | 10 minutes |
| **Apply and Extend** | Connection to STEM Career: Aquarist | 30 minutes |
| | Claim Evidence: Terrariums and Aquariums | 30 minutes |
| | Activity: Interactions and Dependence | 30 minutes |
| | Study Guide: Interactions and Dependence | 30 minutes |
| **Evaluate**<br>**Suggested Activities* | * Explaining the Investigative Phenomenon: Seeking Shelter | 15 minutes |
| | * Connecting to the Anchoring Phenomenon | 15 minutes |
| | Concept Mastery Assessment | 20 minutes |
| | Vocabulary Mastery | 15 minutes |
| | Performance Task: Zoo Placard | 30 minutes |

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## 1.12C Identify Food Chains

| Lesson Section | Activity | Time Allotment |
|---|---|---|
| **Engage**<br>*Suggested Activities* | * Exploring the Investigative Phenomenon: The Catch | 30 minutes |
| | * Establish Relevance: What's the Order? | 15 minutes |
| **Investigate and Learn**<br>*Suggested Activities* | * Activity: Food Chains Sort | 30 minutes |
| | * Field Investigation: Food Chains at School | 30 minutes |
| | * Stations: Food Chains | 60 minutes |
| | E-Book: Identify Food Chains | 10 minutes |
| **Apply and Extend** | Activity: Food Chain Probe | 30 minutes |
| | Argumentation: Food Chain | 30 minutes |
| | Study Guide: Identify Food Chains | 30 minutes |
| **Evaluate**<br>*Suggested Activities* | * Explaining the Investigative Phenomenon: The Catch | 30 minutes |
| | * Connecting to the Anchoring Phenomenon | 30 minutes |
| | Concept Mastery Assessment | 20 minutes |
| | Vocabulary Mastery | 15 minutes |
| | Performance Task: Making a Food Chain | 30 minutes |

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## 1.13A Animals' External Structures

| Lesson Section | Activity | Time Allotment |
|---|---|---|
| **Engage and Establish Relevance**<br><br>**Suggested Activities* | * Exploring the Investigative Phenomenon: Animals of the Savanna | 15 minutes |
| | * Establish Relevance: Animals of the Savanna | 15 minutes |
| **Investigate and Learn**<br><br>**Suggested Activities* | * Investigation: Talented Animals | 30 minutes |
| | * Stations: Animal Structures | 55 minutes |
| | * Activity: Animals on the Move | 30 minutes |
| | * Activity: Structure Showdown | 30 minutes |
| | E-Book: Animals' External Structures | 10 minutes |
| **Apply and Extend** | STEM Career: Zoologist | 30 minutes |
| | Literacy Connection: Animals' External Structures | 30 minutes |
| | Activity: Animals' External Structures | 30 minutes |
| | Study Guide: Animals' External Structures | 30 minutes |
| **Evaluate**<br><br>**Suggested Activities* | * Explaining the Investigative Phenomenon: Animals of the Savanna | 15 minutes |
| | * Connecting to the Anchoring Phenomenon | 15 minutes |
| | Concept Mastery Assessment | 20 minutes |
| | Vocabulary Mastery | 15 minutes |
| | Performance Task: Animals' External Structures | 30 minutes |

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## 1.13B Life Cycles of Animals

| Lesson Section | Activity | Time Allotment |
|---|---|---|
| **Engage**<br>**Suggested Activities* | * Exploring the Investigative Phenomenon: Hatching Chick | 30 minutes |
| | Establish Relevance: Hatching Chick | 15 minutes |
| **Investigate and Learn**<br>**Suggested Activities* | * Investigation: Bird Watching | 30 minutes |
| | * Investigation: Snorkeling | 30 minutes |
| | * Investigation: Safari | 30 minutes |
| | * Engineering Design Process: Owl Box | 90 minutes |
| | E-Book: Life Cycles of Animals | 10 minutes |
| **Apply and Extend** | Activity: Stability and Change in Animal Life Cycles | 30 minutes |
| | Literacy Connection: Animal Sanctuary | 30 minutes |
| | Claim Evidence: Life Cycles | 30 minutes |
| | Study Guide: Life Cycles of Animals | 30 minutes |
| **Evaluate**<br>**Suggested Activities* | * Explaining the Investigative Phenomenon: Hatching Chick | 15 minutes |
| | * Connecting to the Anchoring Phenomenon | 15 minutes |
| | Concept Mastery Assessment | 20 minutes |
| | Vocabulary Mastery | 15 minutes |
| | Performance Task: Scale, Proportion, and Quantity | 30 minutes |

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## 1.13C Young Animals

| Lesson Section | Activity | Time Allotment |
|---|---|---|
| **Engage**<br>**Suggested Activities* | * Exploring the Investigative Phenomenon: Capuchin Family | 30 minutes |
| | Establish Relevance: Capuchin Family | 15 minutes |
| **Investigate and Learn**<br>**Suggested Activities* | * Investigation: Young Animal, Parent Animal | 30 minutes |
| | * Activity: Resemblance Probe | 30 minutes |
| | * Argumentation: Resemblance | 30 minutes |
| | E-Book: Young Animals | 15 minutes |
| **Apply and Extend** | Claim, Evidence: Young Animals | 30 minutes |
| | Activity: Young Animals | 30 minutes |
| | Literacy Connection: Young Animals | 30 minutes |
| | Study Guide: Young Animals | 30 minutes |
| **Evaluate**<br>**Suggested Activities* | * Explaining the Investigative Phenomenon: Capuchin Family | 15 minutes |
| | * Connecting to the Anchoring Phenomenon | 15 minutes |
| | Concept Mastery Assessment | 20 minutes |
| | Vocabulary Mastery | 15 minutes |
| | Performance Task: Patterns | 30 minutes |