Summit K12 Pacing Materials

Kindergarten Science

SUMMIT K12

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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 Kindergarten. 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	1	15 days
Force, Motion, and Energy	3	24 days
Earth and Space	6	52 days
Organisms and Environments	6	47 days
		138 days*

**Only 138 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.*

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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.

Kindergarten Science Units

Unit 1:
- K.6A: Matter and Its Properties

Unit 2:
- K.7A: Magnets

Unit 3:
- K.8A: Light
- K.8B: Light Travels

Unit 4:
- K.9A: Day and Night
- K.9B: The Sky

Unit 5:
- K.10A: Rocks

Unit 6:
- K.10B: Weather and Seasons
- K.10C: Air and Wind

Unit 7:
- K.11A: Rocks, Soil, and Water

Unit 8:
- K.12A: Basic Needs of Plants
- K.12B: Basic Needs of Animals

Unit 9:
- K.13A: Plant Parts
- K.13C: Plant Life Cycle
- K.13D: Plant Likeness

Unit 10:
- K.13B: Animal Parts

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Scope and Sequence

RC	Unit	TEKS	Suggested Instructional Time	Unit Total
RC1:Matter and Its Properties	1	**K.6A:** Matter and Its Properties	15 days	15 days
RC2: Force, Motion, and Energy	2	**K.7A:** Magnets	8 days	8 days
	3	**K.8A:** Light	8 days	16 days
		K.8B: Light Travels	8 days	
RC3: Earth and Space	4	**K.9A:** Day and Night	8 days	16 days
		K.9B: The Sky	8 days	
	5	**K.10A:** Rocks	10 days	10 days
	6	**K.10B:** Weather and Seasons	8 days	16 days
		K.10C: Air and Wind	8 days	
	7	**K.11A:** Rocks, Soil, and Water	10 days	10 days
RC4: Organisms and Environments	8	**K.12A:** Basic Needs of Plants	8 days	16 days
		K.12B: Basic Needs of Animals	8 days	
	9	**K.13A:** Plant Parts	8 days	21 days
		K.13C: Plant Life Cycle	8 days	
		K.13D: Plant Likeness	5 days	
	10	**K.13B:** Animal Parts	10 days	10 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 8-27, 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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K.6A: Matter and Its Properties

Lesson Section	Activity	Time Allotment
Engage **Suggested Activities*	* Exploring the Investigative Phenomenon: Laundry Pile	30 minutes
	Establish Relevance Discussion: The Clothes I Wear	15 minutes
Investigate and Learn **Suggested Activities*	* Investigation: Sight, Color, and Shape	30 minutes
	* Investigation: How Does It Feel?	30 minutes
	* Investigation: What is It Made of?	30 minutes
	* Field Investigation: I Spy With My Little Eye…	30 minutes
	E-Book: Matter and Its Properties	10 minutes
Apply and Extend	Activity: This Object Is…	30 minutes
	Activity: Guess the Object	30 minutes
	Activity: Materials Card Sort	30 minutes
	Writing: Ways to Classify	30 minutes
	Study Guide: Matter and Its Properties	30 minutes
Evaluate **Suggested Activities*	* Explaining the Investigative Phenomenon: Laundry Pile	30 minutes
	Concept Mastery Assessments	20 min each
	Vocabulary Mastery	15 minutes
	Performance Task: Mystery Objects	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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K.7A Magnets

Lesson Section	Activity	Time Allotment
Engage **Suggested Activities*	* Exploring the Investigative Phenomenon: Paper On A Refrigerator	30 minutes
	Discussion: Magnets	15 minutes
Investigate and Learn **Suggested Activities*	* Activity: Exploring Attraction To Magnets	30 minutes
	* Activity: Exploring Magnets	30 minutes
	* Investigation: Magnets	30 minutes
	* Investigation: Magnets and Materials	30 minutes
	E-Book: Magnets	10 minutes
Apply and Extend	Activity: Attracted or Not Attracted	30 minutes
	Writing: Sentence Frames	30 minutes
	Connection: Art With Magnets	30 minutes
	Engineering Challenge: Magnet Tower!	30 minutes
	Study Guide: Magnets	30 minutes
Evaluate **Suggested Activities*	* Explaining The Investigative Phenomenon: Paper On A Refrigerator	45 minutes
	Concept Mastery Assessment	20 minutes
	Vocabulary Mastery	15 minutes
	Performance Task: An Amazing Task	60 minutes

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K.8A Light

Lesson Section	Activity	Time Allotment
Engage **Suggested Activities*	* Exploring the Investigative Phenomenon: In the Dark	30 minutes
	Discussion: How Can We See in the Dark?	15 minutes
Investigate and Learn **Suggested Activities*	* Investigation: Lights Out!	30 minutes
	* Investigation: Appearance Changes	30 minutes
	* Investigation: Location and Light	30 minutes
	* Investigation: Light Shines	30 minutes
	E-Book: Light	10 minutes
Apply and Extend	Activity: Flashlight Hunt	20 minutes
	Activity: Shiny or Not Card Sort	30 minutes
	Writing: My Object	30 minutes
	Activity: Fruit in the Dark	30 minutes
	Art Connection: Picture Reveal	30 minutes
	Study Guide: Light	30 minutes
Evaluate **Suggested Activities*	* Explaining The Investigative Phenomenon: In the Dark	30 minutes
	* Connecting to the Anchoring Phenomenon	30 minutes
	Concept Mastery Assessment	20 minutes
	Vocabulary Mastery	15 minutes
	Performance Task: Explain Amounts of Light	30 minutes

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K.8B Light Travels

Lesson Section	Activity	Time Allotment
Engage **Suggested Activities*	* Exploring the Investigative Phenomenon: Shadows	30 minutes
	Discussion: I Can Make Shadows	15 minutes
Investigate and Learn **Suggested Activities*	* Investigation: All Light, Some Light, No Light	30 minutes
	* Investigation: Shadow Objects	30 minutes
	* Field Investigation: Light Show	30 minutes
	E-Book: Light Travels	10 minutes
Apply and Extend	Activity: Shadow Matching Game	30 minutes
	Art Connection: Shadow Art	30 minutes
	Writing: How Light Travels	30 minutes
	Activity: Objects and Light Card Sort	30 minutes
	Study Guide: Light Travels	30 minutes
Evaluate **Suggested Activities*	Explaining The Investigative Phenomenon: Shadows	20 minutes
	* Connecting to the Anchoring Phenomenon	20 minutes
	Concept Mastery Assessment	20 minutes
	Vocabulary Mastery	15 minutes
	Performance Task: Shadow Puppet	50 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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K.9A Day and Night

Lesson Section	Activity	Time Allotment
Engage **Suggested Activities*	* Exploring the Investigative Phenomenon: Sunrise, Sunset	30 minutes
	Establish relevance: Day and Night in My Life	15 minutes
Investigate and Learn **Suggested Activities*	* Field Investigation: Observable Characteristics of Day	45 minutes
	* Investigation: Observable Characteristics of Night	30 minutes
	* Investigation: Modeling Day and Night	30 minutes
	E-Book: Day and Night	10 minutes
Apply and Extend	Activity: Patterns in the Sky Card Game	30 minutes
	Activity: Day and Night Venn Diagram	30 minutes
	Literacy Connection: Day and Night	30 minutes
	Study Guide: Day and Night	30 minutes
Evaluate **Suggested Activities*	* Explaining The Investigative Phenomenon: Sunrise, Sunset	30 minutes
	* Connecting to the Anchoring Phenomenon	30 minutes
	Concept Mastery Assessment	20 minutes
	Vocabulary Mastery	15 minutes
	Performance Task: Create a Model of Day and Night	45 minutes

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K.9B The Sky

Lesson Section	Activity	Time Allotment
Engage **Suggested Activities*	* Exploring the Investigative Phenomenon: Objects in the Sky	30 minutes
	Establish relevance: Seeing the Sky	15 minutes
Investigate and Learn **Suggested Activities*	* Field Investigation: Objects in the Sky	30 minutes
	* Investigation: Other Objects in the Sky	30 minutes
	* Investigation: Factors That Change the Sky	45 minutes
	E-Book: The Sky	10 minutes
Apply and Extend	Activity: Objects in the Sky	30 minutes
	Connection to STEM Career: Astronomer	30 minutes
	Literacy Connection: The Sky	30 minutes
	Connection to Art: Modeling Patterns in the Sky	30 minutes
	Study Guide: The Sky	30 minutes
Evaluate **Suggested Activities*	* Explaining The Investigative Phenomenon: Objects in the Sky	30 minutes
	* Connecting to the Anchoring Phenomenon	15 minutes
	Concept Mastery Assessment	20 minutes
	Vocabulary Mastery	15 minutes
	Performance Task: Book About the Sky	60 minutes

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K.10A Rocks

Lesson Section	Activity	Time Allotment
Engage **Suggested Activities*	* Exploring the Investigative Phenomenon: Rocks	30 minutes
	Establish Relevance: My Life Rocks!	15 minutes
Investigate and Learn **Suggested Activities*	* Activity: Describing My Rock	30 minutes
	* Investigation: How Can I Describe and Classify Rocks?	30 minutes
	* Field Investigation: This School Rocks!	30 minutes
	* Activity: Classification Stations	30 minutes
	E-Book: Rocks	10 minutes
Apply and Extend **Suggested Activities*	Investigation: Skipping Rocks	30 minutes
	Activity: Rock Matching Game	30 minutes
	Planning an Investigation: Rocks	60 minutes
	Connection to STEM Career: Geologist	30 minutes
	Study Guide: Rocks	30 minutes
Evaluate **Suggested Activities*	* Explaining The Investigative Phenomenon: Rocks	30 minutes
	* Connecting to the Anchoring Phenomenon	30 minutes
	Concept Mastery Assessment	20 minutes
	Vocabulary Mastery	15 minutes
	Performance Task: Classifying Rocks	30 minutes

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K.10B Weather and Seasons

Lesson Section	Activity	Time Allotment
Engage **Suggested Activities*	* Exploring the Investigative Phenomenon: Trees in a Field	30 minutes
	Discussion: Changing Weather and Seasons	15 minutes
Investigate and Learn **Suggested Activities*	* Investigation: Weather for the Day	30 minutes
	* Investigation: Weekly Weather	30 minutes
	* Activity: Seasons	30 minutes
	* Investigation: Winter, Spring, Summer, and Fall	30 minutes
	E-Book: Weather and Seasons	10 minutes
Apply and Extend	Activity: Weather Sort	30 minutes
	Connection to Art: A Tree Over The Seasons	30 minutes
	Literacy Connection: Weather and Seasons Change	30 minutes
	Study Guide: Weather and Seasons	30 minutes
Evaluate **Suggested Activities*	* Explaining The Investigative Phenomenon: Trees in a Field	30 minutes
	* Connecting to the Anchoring Phenomenon	30 minutes
	Concept Mastery Assessment	20 minutes
	Vocabulary Mastery	15 minutes
	Performance Task: Seasonal and Weather Changes	50 minutes

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K.10C Air and Wind

Lesson Section	Activity	Time Allotment
Engage **Suggested Activities*	* Exploring the Investigative Phenomenon: Windsock	30 minutes
	Establish Relevance: Air and Wind	15 minutes
Investigate and Learn **Suggested Activities*	* Investigation: Bubbles	30 minutes
	* Investigation: Pinwheels	30 minutes
	* Investigation: Fan Races	30 minutes
	* Investigation: Windsock	30 minutes
	E-Book: Air and Wind	10 minutes
Apply and Extend	Activity: Predict the Wind	30 minutes
	Activity: Air is All Around Us	30 minutes
	Literacy Connection: Wind Energy	30 minutes
	Study Guide: Air and Wind	30 minutes
Evaluate **Suggested Activities*	* Explaining The Investigative Phenomenon: Windsock	30 minutes
	* Connecting to the Anchoring Phenomenon	30 minutes
	Concept Mastery Assessment	20 minutes
	Vocabulary Mastery	15 minutes
	Performance Task: Demonstrating Wind	45 minutes

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K.11A Rocks, Soil, and Water

Lesson Section	Activity	Time Allotment
Engage **Suggested Activities*	* Exploring the Investigative Phenomenon: Sidewalk	30 minutes
	Establish Relevance: Rocks, Soil and Water	15 minutes
Investigate and Learn **Suggested Activities*	* Investigation: Practical Uses	30 minutes
	* Field Investigation: Campus Walk	30 minutes
	* Investigation: Natural Wall	30 minutes
	E-Book: Rocks, Soil, and Water	10 minutes
Apply and Extend	Activity: Uses of Water	30 minutes
	Activity: Practical Uses—Graphic Organizer	30 minutes
	Literacy Connection: Animals Use Rocks, Soil, and Water	30 minutes
	What I Wonder About: Rocks, Soil, and Water	60 minutes
	Study Guide: Rocks, Soil, and Water	30 minutes
Evaluate **Suggested Activities*	* Explaining The Investigative Phenomenon: Sidewalk	30 minutes
	* Connecting to the Anchoring Phenomenon	30 minutes
	Concept Mastery Assessment	20 minutes
	Vocabulary Mastery	15 minutes
	Performance Task: My Ideas	60 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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K.12A Basic Needs of Plants

* additional time needed

Lesson Section	Activity	Time Allotment
Engage **Suggested Activities*	* Exploring the Investigative Phenomenon: Onion Sprouts	30 minutes
	* Establish Relevance: What Do Plants Need to Grow?	15 minutes
Investigate and Learn **Suggested Activities*	* Field Investigation: Plants at School	30 minutes
	* Investigation: Lima Beans, Parts 1 and 2	60 minutes *
	* Investigation: Plant Detectives	40 minutes
	E-Book: Basic Needs of Plants	10 minutes
Apply and Extend	Literacy Connection: Plant Needs	30 minutes
	Writing: Plants	30 minutes
	What I Wonder About: Plants	60 minutes
	Study Guide: Basic Needs of Plants	30 minutes
Evaluate **Suggested Activities*	* Explaining The Investigative Phenomenon: Onion Sprouts	30 minutes
	* Connecting to the Anchoring Phenomenon	20 minutes
	Concept Mastery Assessment	20 minutes
	Vocabulary Mastery	15 minutes
	Performance Task: What Does My Plant Need to Survive?	30 minutes

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K.12B Basic Needs of Animals

Lesson Section	Activity	Time Allotment
Engage **Suggested Activities*	* Exploring the Investigative Phenomenon: Birds	30 minutes
	Establish Relevance: Birds	15 minutes
Investigate and Learn **Suggested Activities*	* Activity: Concept Attainment—Wants and Needs	30 minutes
	* Investigation: Animal Needs	30 minutes
	* Engineering Challenge: Animal Shelters	90 minutes
	E-Book: Basic Needs of Animals	10 minutes
Apply and Extend	Activity: Animal Needs Odd One Out	30 minutes
	Literacy Connection: Animal Needs	30 minutes
	Connection to STEM Career: Veterinarians	30 minutes
	What I Wonder About: How Animals Get Food	60 minutes
	Study Guide: Basic Needs of Animals	30 minutes
Evaluate **Suggested Activities*	* Explaining The Investigative Phenomenon: Birds	30 minutes
	* Connecting to the Anchoring Phenomenon	15 minutes
	Concept Mastery Assessment	20 minutes
	Vocabulary Mastery	15 minutes
	Performance Task: What Does An Animal Need?	30 minutes

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K.13A Plant Parts

Lesson Section	Activity	Time Allotment
Engage **Suggested Activities*	* Exploring the Investigative Phenomenon: Apple Trees	30 minutes
	Establish Relevance: Plant Parts	15 minutes
Investigate and Learn **Suggested Activities*	* Investigation: Plant Parts	30 minutes
	* Field Investigation: Plant Parts	30 minutes
	* Investigation: Lima Beans, Part 3	30 minutes
	* Investigation: Plant Parts Model	30 minutes
	E-Book: Plant Parts	10 minutes
Apply and Extend **Suggested Activities*	Activity: Card Sort	30 minutes
	Activity: Complete the Picture	30 minutes
	Writing: Plant Parts	30 minutes
	Article: Botanist Ynés Mexia	30 minutes
	Study Guide: Plant Parts	30 minutes
Evaluate **Suggested Activities*	* Explaining The Investigative Phenomenon: Apple Trees	30 minutes
	* Connecting to the Anchoring Phenomenon	30 minutes
	Concept Mastery Assessment	20 minutes
	Vocabulary Mastery	15 minutes
	Performance Task: Plant Parts	30 minutes

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K.13B Animal Parts

Lesson Section	Activity	Time Allotment
Engage **Suggested Activities*	* Exploring the Investigative Phenomenon: Pandas	30 minutes
	Establish Relevance: How Do You Use Your Structures?	15 minutes
Investigate and Learn **Suggested Activities*	* Investigation: Animal Parts	30 minutes
	* Activity: Animal Parts Card Sort	20 minutes
	* Investigation: Animal Parts and Environments	30 minutes
	E-Book: Animal Parts	10 minutes
Apply and Extend	Literacy Connection: Animal Parts	20 minutes
	Writing: Animal Parts	30 minutes
	What I Wonder About: Animal Parts	60 minutes
	Connection to STEM Career: Zoologist	20 minutes
	Study Guide: Animal Parts	30 minutes
Evaluate **Suggested Activities*	* Explaining The Investigative Phenomenon: Pandas	30 minutes
	* Connecting to the Anchoring Phenomenon	20 minutes
	Concept Mastery Assessment	20 minutes
	Vocabulary Mastery	15 minutes
	Performance Task: Animal Parts Diagram	30 minutes

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K.13C Plant Life Cycle

** additional time needed*

Lesson Section	Activity	Time Allotment
Engage **Suggested Activities*	* Exploring the Investigative Phenomenon: Soybean Life Cycle	30 minutes
	* Establish Relevance: What Is A Life Cycle?	15 minutes
Investigate and Learn **Suggested Activities*	* Activity: Plant Life Cycles	30 minutes
	* Investigation: Lima Beans, Part 4	30 minutes
	* Investigation: Comparing Plant Life Cycles	30 minutes
	* Planning an Investigation: Seeds	60 minutes*
	E-Book: Plant Life Cycle	10 minutes
Apply and Extend	Activity: Plant Life Cycle Card Game	30 minutes
	What I Wonder About: Plant Life Cycles	60 minutes
	Writing: Plum Life Cycle	30 minutes
	Activity: Plant Life Cycle Changes	30 minutes
	Study Guide: Plant Life Cycles	30 minutes
Evaluate **Suggested Activities*	* Explaining The Investigative Phenomenon: Soybean Life Cycle	30 minutes
	* Connecting to the Anchoring Phenomenon	15 minutes
	Concept Mastery Assessment	20 minutes
	Vocabulary Mastery	15 minutes
	Performance Task: Plant Life Cycles	30 minutes

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K.13D Plant Likeness

Lesson Section	Activity	Time Allotment
Engage **Suggested Activities*	* Exploring the Investigative Phenomenon: Pine Trees	30 minutes
	* Establish Relevance: Parent Plant and Young Plant	15 minutes
Investigate and Learn **Suggested Activities*	* Activity: Concept Attainment - Resemblance	30 minutes
	* Investigation: Young Plant, Parent Plant	30 minutes
	* Investigation: What Does My Parent Plant Look Like?	30 minutes
	E-Book: Plant Likeness	10 minutes
Apply and Extend	What I Wonder About: Parent Plants and Young Plants	60 minutes
	Writing: Parent Plant Predictions	20 minutes
	Connection to STEM Career: Botanist	30 minutes
	Literacy Connection: Plant Likeness	30 minutes
	Study Guide: Plant Likeness	30 minutes
Evaluate **Suggested Activities*	* Explaining The Investigative Phenomenon: Pine Trees	30 minutes
	* Connecting to the Anchoring Phenomenon	30 minutes
	Concept Mastery Assessment	20 minutes
	Vocabulary Mastery	15 minutes
	Performance Task: Plant Likeness Minibook	30 minutes