

How to use this pacing guide:

This is intended to be a guide for pacing instruction and a tool to assist teachers in combining standards in meaningful ways to help their students master them.

The length recommended for each unit is based on prioritization of standards leading to college and career readiness. It is included to aid in planning and to provide more consistency from class to class across the district to minimize the effects of students' mobility within Tulsa Public Schools. Grade level teams within a school should meet at the beginning of the year to assign each unit more specific dates.

Units take a total of 32 weeks. The remaining time in the school year can be divided and devoted to **buffer periods**.

Buffer periods allow time between units for re-teaching, enriching, and extending learning. That time may also be used for pre-assessing students' understanding of the next unit's standards to better plan instruction. Grade level teams should allow for buffer periods between units to accommodate students' rate of learning, and to accommodate changes to the school calendar.

Vocabulary includes only those words that are essential to the unit, and should be added to by school teams based on students' needs.

In science, the Process Standards, the processes or "how" students learn about the content standards, which are "what" students learn, are incorporated into the Content Standard. Process standards that are especially challenging or critical may also be briefly taught in isolation so that students are better able to use them to explore content standards.

Pacing Calendar	
Unit Title	Number of Weeks for Unit
Engineering Design	4
Motion and Stability: Forces & Interactions	4
Energy	5
From Molecules to Organisms: Structures and Processes	5
Earth's Systems	7
Earth and Human Activity	7

Unit 1	
Title of Unit: Engineering Design	Number of Weeks for this Unit: 4
Standard(s):	
<ul style="list-style-type: none"> • K-2-ETS1-1. Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. • K-2-ETS1-2. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem. • K-2-ETS1-3. Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs. 	
Vocabulary Essential for this Unit:	
data	drawing predictions
describe model	problem solving
discover	observe
strengths	weaknesses

Unit 2 (Physical Science)			
Title of Unit: Motion and Stability: Forces and Interactions	Number of Weeks for this Unit: 4		
Content Standard(s):			
<ul style="list-style-type: none"> • K-PS2-1. Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object. <ul style="list-style-type: none"> ○ Clarification Statement: Examples of pushes or pulls could include a string attached to an object being pulled, a person pushing an object, a person stopping a rolling ball, and two objects colliding and pushing on each other. [Assessment Boundary: Assessment is limited to different relative strengths or different directions, but not both at the same time. Assessment does not include non-contact pushes or pulls such as those produced by magnets.] • K-PS2-2. Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull.* <ul style="list-style-type: none"> ○ Clarification Statement: Examples of problems requiring a solution could include having a marble or other object move a certain distance, follow a particular path, and knock down other objects. Examples of solutions could include tools such as a ramp to increase the speed of the object and a structure that would cause an object such as a marble or ball to turn. [Assessment Boundary: Assessment does not include friction as a mechanism for change in speed.] 			
Vocabulary Essential for this Unit:			
describe	magnet	pull	rough
discover	magnetic	push	slide
friction	nonmagnetic	ramp	smooth
investigate	observe	roll	speed

Unit 3 (Physical Science)		
Title of Unit: Energy	Number of Weeks for this Unit: 5	
Content Standard(s):		
<ul style="list-style-type: none"> • K-PS3-1. Make observations to determine the effect of sunlight on Earth’s surface. <ul style="list-style-type: none"> ○ Clarification Statement: Examples of Earth’s surface could include sand, soil, rocks, and water [Assessment Boundary: Assessment of temperature is limited to relative measures such as warmer/cooler.] • K-PS3-2. Use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area.* <ul style="list-style-type: none"> ○ Clarification Statement: Examples of structures could include umbrellas, canopies, and tents that minimize the warming effect of the sun. 		
Vocabulary Essential for this Unit:		
cooler	shine	temperature
effect	sunlight	warmer
rocks	soil	water
sand	surface	

Unit 4 (Life Science)			
Title of Unit: From Molecules to Organisms: Structures and Processes	Number of Weeks for this Unit: 5		
Content Standard(s):			
<ul style="list-style-type: none"> • K-LS1-1. Use observations to describe patterns of what plants and animals (including humans) need to survive. <ul style="list-style-type: none"> ○ Clarification Statement: Examples of patterns could include that animals need to take in food but plants do not; the different kinds of food needed by different types of animals; the requirement of plants to have light; and, that all living things need water. 			
Vocabulary Essential for this Unit:			
animal	light	meat	soil
flower	living	mouth	vegetables
food	magnifying glass	plant	water
growth			

Unit 5 (Earth Science)

Title of Unit: Earth's Systems

Number of Weeks for this Unit: 7

Content Standard(s):

- **K-ESS2-1. Use and share observations of local weather conditions to describe patterns over time.**
 - Clarification Statement: Examples of qualitative observations could include descriptions of the weather (such as sunny, cloudy, rainy, and warm); examples of quantitative observations could include numbers of sunny, windy, and rainy days in a month. Examples of patterns could include that it is usually cooler in the morning than in the afternoon and the number of sunny days versus cloudy days in different months. [Assessment Boundary: Assessment of quantitative observations limited to whole numbers and relative measures such as warmer/cooler.]
- **K-ESS2-2. Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.**
 - Clarification Statement: Examples of plants and animals changing their environment could include a squirrel digs in the ground to hide its food and tree roots can break concrete.

Vocabulary Essential for this Unit:

air	fall	spring	warm
cloudy	night	summer	water
day	questions	sunny	weather
earth	rainy	temperature	winter
experiment	seasons	thermometer	

Unit 6 (Earth Science)

Title of Unit: Earth and Human Activity

Number of Weeks for this Unit: 7

Content Standard(s):

- **K-ESS3-1. Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.**
 - Clarification Statement: Examples of relationships could include that deer eat buds and leaves, therefore, they usually live in forested areas; and, grasses need sunlight so they often grow in meadows. Plants, animals, and their surroundings make up a system.
- **K-ESS3-2. Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather.***
 - Clarification Statement: Emphasis is on local forms of severe weather.
- **K-ESS3-3. Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.***
 - Clarification Statement: Examples of human impact on the land could include cutting trees to produce paper and using resources to produce bottles. Examples of solutions could include reusing paper and recycling cans and bottles.

Vocabulary Essential for this Unit:

forest	recycling	storms
forecasting	reduce	system
meadow	relationship	water
model	reuse	weather