Norfolk Public Schools
The cornerstone of a proudly diverse community

5th Grade

Learning In Place

Phase IV
May 18 – June 5, 2020

Name:	
School:	
Grade Level:	Teacher:

NPS Curriculum & Instruction

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Social Studies Learning in Place Plans
Fifth Grade: May 18 - 22

Learning Experience 1	Learning Experience 2
Virginia has changed in many different ways since the 1600s when Europeans first arrived to settle. Complete the "VIRGINIA TODAY" map showing different ways Virginia has changed. After completing map, respond to the following prompt on a sheet of paper: During the twentieth century and beyond, Virginia changed from a rural, agricultural society to a more urban, industrialized society. Explain how each of the symbols on your map supports this.	Ashburn, VA is considered "The Center of the Internet". Read and answer the questions for the infographic "WELCOME TO ASHBURN, VA!"

Social Studies Learning in Place Plans
Fifth Grade: May 26 - 29

Learning Experience 1	Learning Experience 2
Virginia's economy has changed very much since Jamestown was established in 1607. Create a timeline that shows how the economy has changed since 1607 until today. You may use the template provided or create your own. Questions to ask yourself while completing the timeline: - What did they produce large amounts of to sell to Europe in the 1600s? - Who contributed to the economy and when did they arrive? - What product was discovered in the southwest area of Virginia and created a new industry? - What economic changes happened after the Civil War? - What was Virginia's economy like in 2000? What about today?	Photo Analysis: Study the attached photograph "Cotton Bales, Norfolk" and answer the questions under the photo on a sheet of paper. Remember when analyzing a photo ask yourself: - What do I see? - When/where could this photo have been taken? - Why would someone take this photo? - What objects/people do I see?

Social Studies Learning in Place Plans
Fifth Grade: June 1 - 5

Learning Experience 1	Learning Experience 2
Virginia exports agricultural and manufactured products, including tobacco, poultry, coal and large ships. Many of these large ships are built at Newport News Shipbuilding in Newport News, VA, which is the largest shipbuilding yard in the world. At the Newport News Shipbuilding yard, they build both military and non-military ships. Read and answer the questions for the infographic "The Virginia-Class."	Complete the Virginia Economics Review Questions using what you learned during the learning experiences dated from the week of April 27th through now.

VIRGINIA TODAY

MAP LEGEND

DIRECTIONS: 1. Read each box below. Make a simple symbol for each fact.

2. Create a map legend to show what your selected symbols represent.

3. Add symbols to the map to show the areas where each industry is associated.

During the 20th century, Northern Virginia experienced growth due to an increase in the number of federal jobs in the region.	In the late 20th century and early 21st century, Northern Virginia and the Coastal Plain (Tidewater) region have grown due to computer technology.
Access to deepwater ports and proximity to the Chesapeake Bay and the Atlantic Ocean make shipbuilding, fishing, crabbing, and oyster harvesting possible.	Today, coal from the Appalachian coalfields is less crucial to Virginia's economy since there has been a shift to other sources of energy.

ASHBURN, VIRGINIA
The Center of the Internet

ASHBURN resides in the 2nd fastest growing county in the US, just 30 miles west of DC.

Washington, D.C.- Birthplace of the Internet

2012-2013 COLOCATION GROWTH

Dallas, TX 24%
Houston, TX 14%
Seattle, WA 27%
New York, NY 12%
Washington DC ...11%

...and yet, Intelishift grew 70%

ASHBURN VIRGINIA Loudoun County

Intelishift weathered Hurricane Sandy

The largest storm-related power outage in history!
100% Guaranteed Uptime

70% of the world's Internet traffic passes successfully through ASHBURN, VA.

✓ ASHBURN is the communications gateway to Europe.

✓ Largest Internet peering point in North America.

JUST PASSING THROUGH!
48 petabytes of data pass through ASHBURN'S Data Center Alley every day from Walmart traffic alone!

NO traffic jams in ASHBURN!

2.2 trillion Google searches every day.

THE UNITED STATES is the SAFEST data center location worldwide.

ASHBURN is SAFE and celebrated as technologically advanced.

90% of the world's data was created in the past 2 years ALONE!

Storage needs to support the growth will increase.

Worldwide:
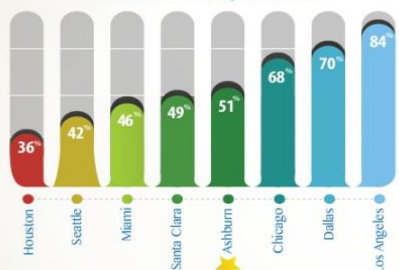1.8 Zettabytes of data was created in 2011
That is equal to every U.S. citizen

Medical Devices
RFID Readers
Cameras
Sensors in Clothing
Smart Buildings

tweeting 3X per minute for 26,976 years.

WHO CREATES ALL THAT DATA?...   IT'S NOT JUST PEOPLE!

ASHBURN IS THE 4TH LARGEST data center density in the US.

Houston	Seattle	Miami	Santa Clara	Ashburn	Chicago	Dallas	Los Angeles
36th	42nd	46th	49th	51st	68th	70th	84th

9 OUT OF 10 TOP GLOBAL CDNs
...are located in ASHBURN.

Comprehension Questions for Ashburn, VA Infographic

Directions: Read and analyze the infographic for Ashburn, Va.   Answer the following questions.

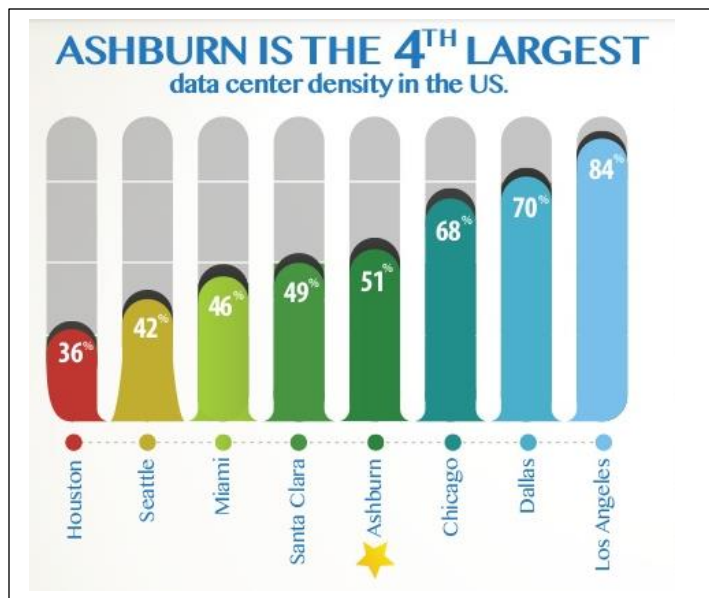1. Where is Ashburn located? (Hint…find the section about the county Ashburn is in.)

_____

_____

2. Infer: How could this location contribute to Ashburn's success in technology?

_____

_____

3. Look at this image from the graphic.

ASHBURN IS THE 4TH LARGEST
data center density in the US.

84%
70%
68%
51%
49%
46%
42%
36%

Houston   Seattle   Miami   Santa Clara   Ashburn   Chicago   Dallas   Los Angeles
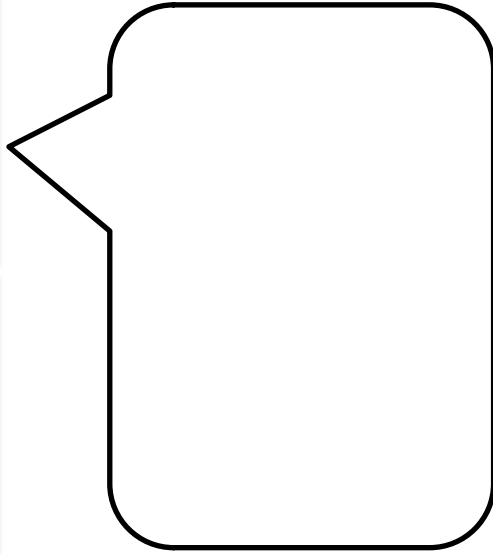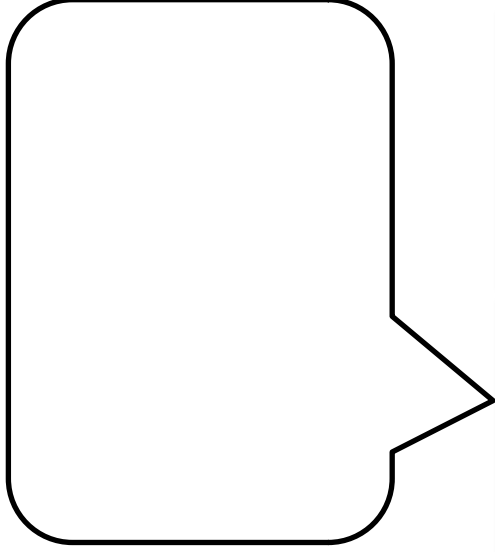
What cities have higher data center density than Ashburn?

_____

_____

4. Who and what creates all the data that is collected?

_____

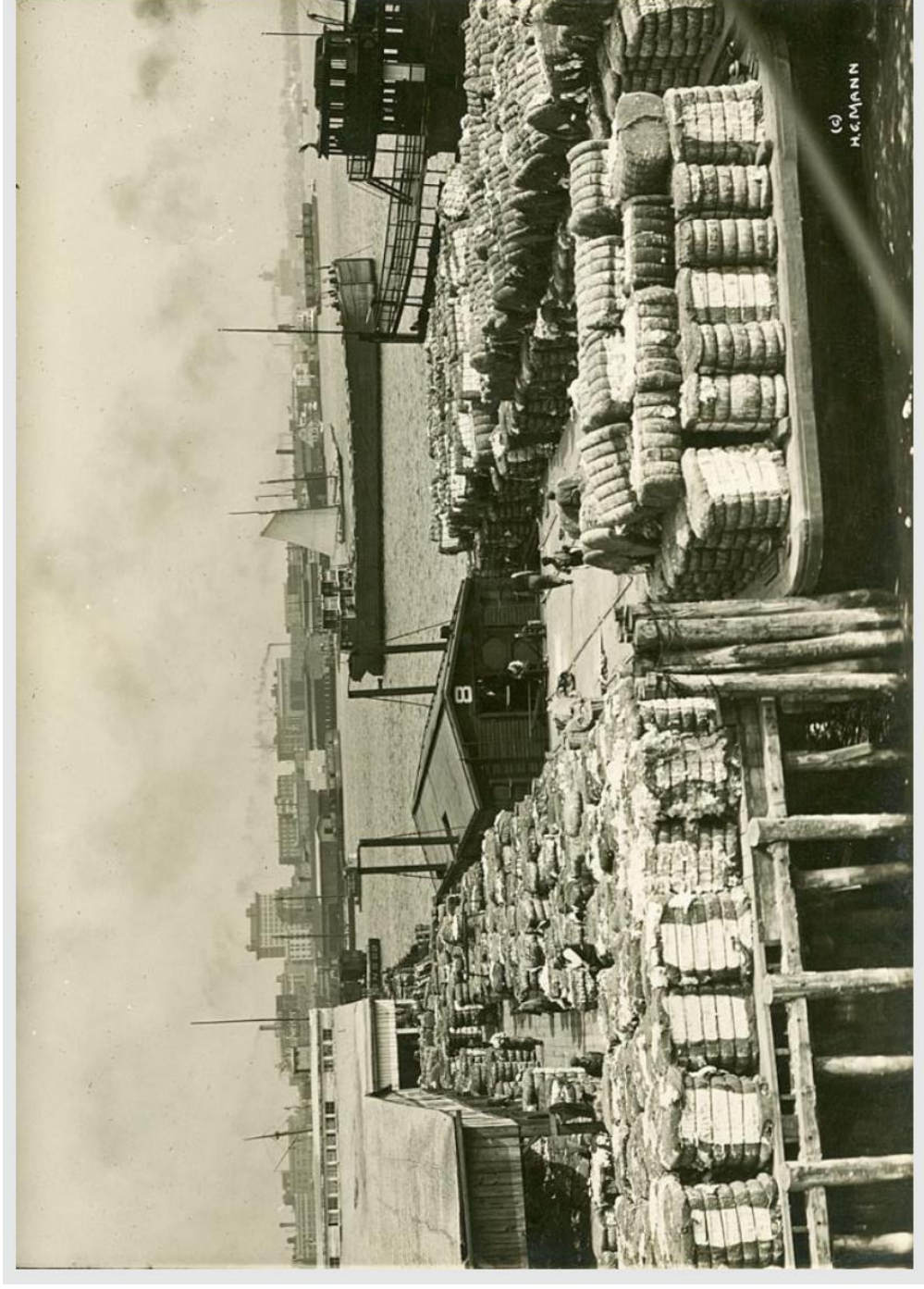_____

Timeline Title:
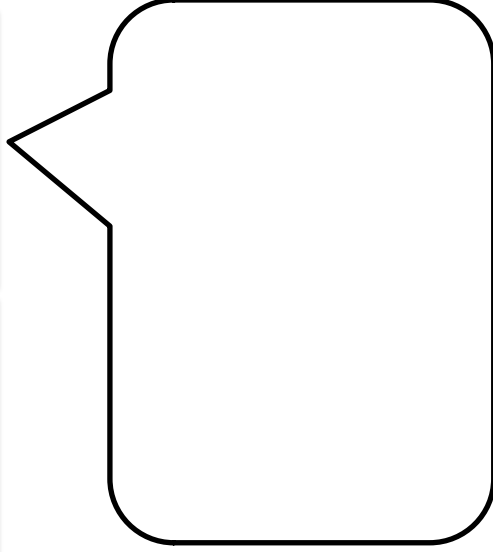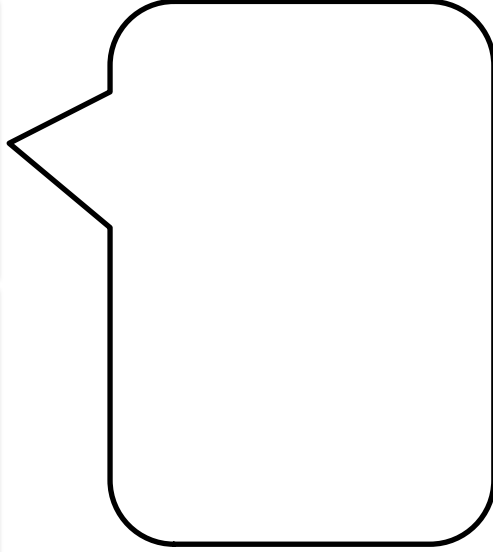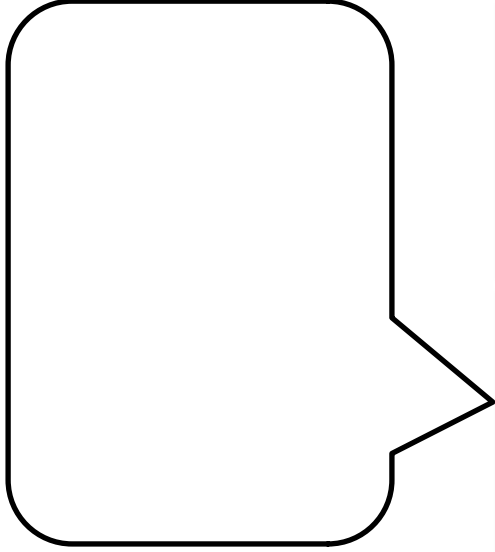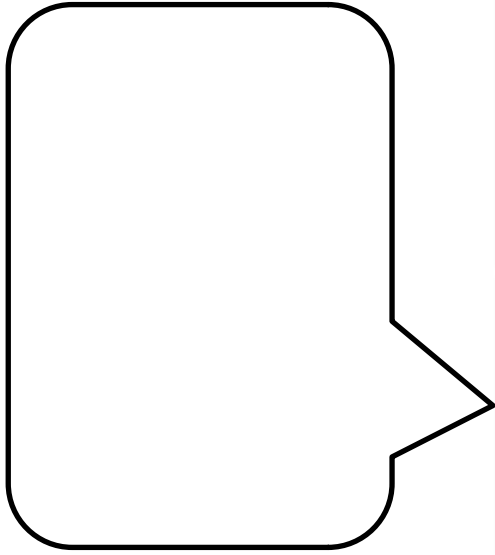
Cotton Bales, Norfolk

1. Observe: What do you see in the photograph? List the people, objects, and activities you can clearly see in the photograph.

2. Infer: When and where do you think this photograph was taken? Why are these people here, doing what they are doing? Why was the photograph taken?

3. Identify something in this picture that you would call "old." Identify something in this picture that you would call "new." Explain.

4. How do you think they are going to transport these cotton bales and where are they going to send them to?

5. What would be a good title for the photo?

6. Write a question you would like to ask the people in the photo, if they were still alive today?

THE *VIRGINIA*-CLASS

AMERICA'S NEW FAST ATTACK SUBMARINES

Using expertise from more than half a century of building submarines, **NEWPORT NEWS SHIPBUILDING** and **GENERAL DYNAMICS ELECTRIC BOAT** are constructing the newest fast attack submarines – the *Virginia*-class, the most advanced submarine in the world, ready for 21st century missions.

TOMAHAWK MISSILES,
Vertical Launch tubes or large diameter payload tubes, starting on *North Dakota* (SSN 784), MK-48 torpedoes and unmanned undersea vehicles are among many of the **ADVANCED WEAPONS** of the *Virginia*-class.

STATISTICS

REPLACES:
LOS ANGELES-CLASS

DISPLACEMENT:
APPROX. 7,800 TONS

LENGTH: 377 FEET

BEAM: 34 FEET

The submarines have a pair of extendable **"PHOTONICS MASTS"** outside the pressure hull. Each contains high-resolution **CAMERAS** with light-intensification and infrared sensors, an infrared laser rangefinder, and more.

MILLIONS OF PARTS

come from 5,000 Suppliers across all **50 STATES.**

SILENT POWER

One **NUCLEAR REACTOR** designed to last the life of the ship quietly powers the submarine for speeds of 25+ knots (28+ mph).

10,000

THOUSANDS of shipbuilders at **NEWPORT NEWS SHIPBUILDING** and **ELECTRIC BOAT** build each frame and compartment with attention to every detail.

MULTI-MISSION READY

- Launches **TOMAHAWK** missiles at targets ashore
- Conducts **surveillance** on both land and sea
- Detects and destroys threats to a carrier or expeditionary strike group
- Deploys Special Forces

A versatile torpedo room can accomodate a large crew of **SPECIAL OPERATIONS FORCES** for prolonged deployments. The class includes large lock-in/lock out chambers for divers.
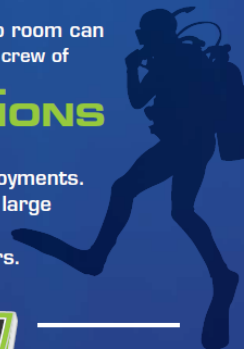
Virginia-class submarines and their crews can stay submerged for up to **THREE MONTHS** and dive in excess of **800 FEET**

TEAMING ARRANGEMENT

NEWPORT NEWS SHIPBUILDING is teamed with **GENERAL DYNAMIC ELECTRIC BOAT** to build *Virginia*-class submarines. Newport News Shipbuilding builds the stern, habitability & machinery spaces, torpedo room, sail and bow. Electric Boat builds the pressure hull, engine room and control room. Newport News Shipbuilding and Electric Boat each perform work on the reactor plant as well as alternate on the final assembly, test, outfit and delivery.

100 ft.

200 ft.

300 ft.

400 ft.

500 ft.

Questions for the Infographic: "The Virginia-Class"

1. Scan over and read the headings, subheadings and pictures on this infographic. What is the main idea of this infographic?

2. Who builds the Virginia-Class Fast Attack Submarines and where are they built?

3. How long can the Virginia-Class submarine stay submerged and how does it get its power?

4. "Thousands of shipbuilders at Newport News Shipbuilding and Electric Boat build each frame and compartment of the submarine with attention to every detail." How would this benefit Virginia's economy?

Virginia Economics Review Questions

1. Why does the federal government have a significant impact on Virginia's economy?
   a. The government built a large railroad hub in Virginia.
   b. There were multiple inland ports created in Virginia to ship goods overseas.
   c. Many federal workers live/or work in Virginia.
   d. A large shipbuilding industry in Virginia was created after the Civil War.

2. Which areas of Virginia have grown during the late 20th century and early 21st century due to computer technology?
   a. Northern Virginia and the Appalachian Plateau
   b. Coastal Plain (Tidewater) region and Shenandoah Valley
   c. Areas near the Chesapeake Bay and the Appalachian Plateau
   d. Northern Virginia and the Coastal Plain (Tidewater) region

3. The picture above shows a major part of Virginia's economy known as-
   a. Mechanization
   b. Tourism
   c. Manufacturing
   d. Technology

4. Working in private health care, in public schools and on military bases are examples of which important industry in Virginia's economy?
   a. Manufacturing industry
   b. Service industry
   c. Agricultural industry
   d. Transportation industry

5. Currently, what is Virginia's most valuable source of agricultural income?
   a. Tobacco
   b. Chemical goods
   c. Apples
   d. Livestock and livestock products

6. How does Virginia's transportation system contribute to the commonwealth's role in the global economy?
   a. It increases the number of jobs in private health care systems.
   b. It helps agricultural industry by shipping livestock.
   c. It decreases opportunities for tourism around the state.
   d. It moves raw materials to factories and finished products to markets.

7. Which 2 bodies of water make shipbuilding, fishing, crabbing and oyster harvesting possible for Virginia's economy?

Atlantic Ocean	Lake Drummond	Chesapeake Bay	Pacific Ocean

8. Which 2 factors make agriculture an important industry in Virginia?

Fertile Soil	Transportation System	Favorable Climate	Tourism

NPS Learning in Place English
Grade: Fifth Grade

	Monday	Tuesday	Wednesday	Thursday	Friday
Week 10	Preview the article *Who Wants a Spiny Snack?* Be sure to check the title, headings, photos, captions, and the diagram. Make a list of each text feature and jot down notes about why the author may have included it. Read the article *Who Wants a Spiny Snack?* Annotate the text while you read.	Reread paragraphs 1 – 3 of *Who Wants a Spiny Snack?* Review the **Text Structures Anchor Chart.** Decide what text structure the author mainly used. Draw the correct graphic organizer from the anchor chart in your journal and fill in the information from those paragraphs.	Reread paragraphs 4-7 of *Who Wants a Spiny Snack?* Review the **Text Structures Anchor Chart.** Decide what text structure the author mainly used. Draw the correct graphic organizer from the anchor chart in your journal and fill in the information from those paragraphs.	Reread paragraphs 8-10 of *Who Wants a Spiny Snack?* Review the **Text Structures Anchor Chart.** Decide what text structure the author mainly used. Draw the correct graphic organizer from the anchor chart in your journal and fill in the information from those paragraphs.	Reread *Who Wants a Spiny Snack?* and answer the questions. In your journal, write down 2 surprising facts that you learned from the article. Write the main idea of the article and give 3 facts from the article to support it.
Week 11	**Memorial Day**	Read *The Wailing Well* Complete the Story Plot graphic organizer (rollercoaster). *Use the information in the graphic organizer to write a summary about the story.* ***Remember, the summary tells only the main parts of the story, not the details.*	Read *Saturday at the Amusement Park* Annotate the text while you read. Complete the graphic organizer, using what you already know to make predictions about John's Day.	Reread *Saturday at the Amusement Park* Review the making predictions graphic organizer. Write a conclusion to the story using your prediction and what you think will happen with John and his cousin.	Read *Brady's Secret* Annotate the text while you read. Answer the questions that follow at the end of the story.
Week 12	Read *Why are People Afraid of Spiders?* Annotate the text while you read. Review the **Text Structures Anchor Chart.** Decide what text structure	Reread *Why are People Afraid of Spiders?* Answer the questions below the passage. Be sure to go back to the text, reread, and justify your answers.	Read *Animal Sanctuary* Annotate the text while you read. Review the **Text Structures Anchor Chart.** Decide what text structure the author mainly used. Draw the	Reread *Animal Sanctuary* Answer the questions below the passage. Be sure to go back to the text, reread, and justify your answers.	Write a five-paragraph essay *(introduction, 3 body paragraphs, & a closing)* about your experience being home from school this year. Tell how you felt, what you did, and your hopes

the author mainly used. Draw the correct graphic organizer from the anchor chart in your journal and fill in the information from those paragraphs.	Are you afraid of spiders? Why or why not? Explain, using evidence from the text.	correct graphic organizer from the anchor chart in your journal and fill in the information from those paragraphs.	If you were a wild animal, would you rather be in a zoo or an animal shelter? Explain your answers giving specific reasons with details.	for the future. **Go through the entire writing process (plan, draft, revise, edit).**

Read 14.2	Read a book of choice and record it on the reading log each day.
Materials	All reading materials are included, pens/pencils, paper

Annotate Text While You Read

Read ✱ Think ✱ Stop ✱ Jot

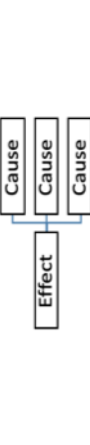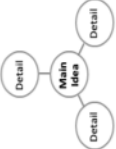- **Underline** or ==highlight== the important/key ideas. (Who? Where? When? Did what? Why? How?)
- **Circle** or record words or phrases that are confusing or unknown to you.
- **Jot** notes restating the author's ideas. (Summarize, Question, Sketch, Explain)

Text Structure Anchor Chart

Text Structure	Author gives...	Key Words	Graphic Organizer
Chronological/ Sequence	A main topic supported by details presented in time order; a sequence of events or ordered steps in a process	first, second, last, before, until, on (date), not long after, after, at the same time, at (time), by then, following, finally, by, lastly, 1, 2, 3,....	First → Then → Next → Finally
Cause and Effect	Reasons why something happens or exists	since, because, this led to / leads to, on account of, due to, may be due to, as a result of, for this reason, consequently, then, so, therefore, thus so that, in order to	Effect → Cause, Cause, Cause
Problem Solution	A problem, its causes, and its solution(s)	one reason for that, a solution, try, attempt, have solved this problem, by, a problem, has caused, so, to / in order to	Problem → Solution
Compare and Contrast	Likenesses and differences between two or more subjects or topics	one reason for that, a solution, try, attempt, have solved this problem, by, a problem, has caused, so, to / in order to	Subject 1 / Subject 2 (Venn diagram)
Descriptive/ Main Idea and Supporting Details	A list or set of characteristics, such as attributes, facts, and details about a general or specific topic	for example, to begin with, in front, beside, near, has/have, is/are, eats, lives, looks, some characteristics are, for instance	Main Idea / Detail (web diagram)

READ 14.2 READING LOG

Date	Number of Pages Read	Title	#summary
3-12-20	10	*Cinderella*	#mistreatedgirlmeetsprincelosesshoeandliveshappilyeverafter

ReadWorks®

Who Wants a Spiny Snack?

This article is provided courtesy of the American Museum of Natural History.

## Not many animals! How the spiny puffer stays safe in the ocean

1 A shark glides through the warm water, searching for its next meal. It spots an ordinary brown fish swimming slowly in the clear waters ahead.

2 But as the shark approaches, PUFF-PUFF-PUFF! The fish puffs out into a round, spiny ball. The startled shark swims away. The pufferfish is safe for now - at least until the next shark or big fish swims by.

3 The ocean can be a dangerous place for small fish like the puffer. Its waters are full of predators like sharks, squid, and bigger fish that eat small fish. But pufferfish have adaptations that protect them from predators.

4 All animals have adaptations to stay alive. An adaptation is a body part or behavior that helps an animal live in its environment. Predators have adaptations that help them hunt. A shark's powerful, torpedo-shaped tailfin and sharp teeth are two adaptations.

5 Other animals have adaptations that provide protection from predators. These animals may be fast enough to escape predators. Or they might use camouflage, special patterns or colors that help them hide in their environment.
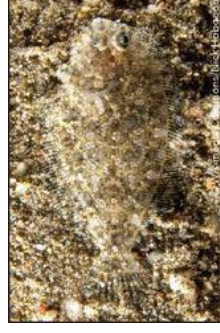
Can you find the flounder?

6 But some animals don't run or hide. They have bodies that are hard to eat. Just picture the sharp spines of a porcupine, hedgehog, or sea urchin. Few predators are large or tough enough to make a meal of those animals!

AMERICAN MUSEUM ọ NATURAL HISTORY

Porcupines have long sharp spines that protect them.
© NPS

7 Some toads and snakes have their own way to discourage predators. They puff themselves up to look larger. The bigger an animal, the harder it is to catch and eat. Pufferfish combine both of these adaptations. They puff up AND they have long, sharp spines.


A pufferfish's skin is hard and covered with sharp spines.
© iStockPhoto/GlobalP

8

Swimming along, a pufferfish looks like any other fish. But when it is threatened, it swells up suddenly like a big balloon. When this happens, it's easy to see why some people call it balloonfish. But this fish is no soft, squishy balloon. Its skin becomes rigid, with sharp spines sticking out in all directions. Usually these spines lie flat against the side of the fish. When the fish puffs up, the outer skin stretches out and pulls the spines up.

How does the pufferfish make this amazing transformation?

---

9 Despite its nickname, it doesn't blow itself up with air like a balloon. Instead, it fills up with water. The fish pumps a huge amount of water through its mouth into its stomach. Filled with water, its stomach becomes almost one hundred times larger. The stomach can expand like this because it's usually crumpled into many tiny folds. As water rushes in, the stomach unfolds. To make room for the swelling stomach, other organs like the liver and intestines are pushed to the side.

spine, stomach

water flow

© AMNH
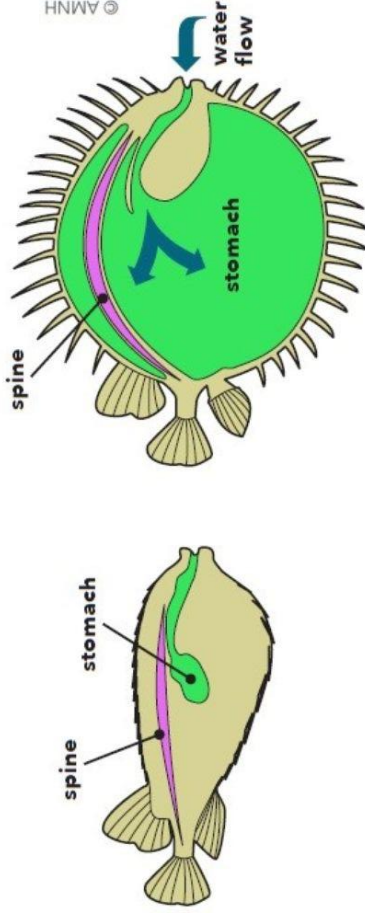
10 A spiny puffer can change from an ordinary-looking fish into a menacing spiny ball in a few seconds. Then only the biggest animals dare to eat it. The ocean may be full of dangers, but adaptations like sharp spines and puffing up help keep the puffer safe.

ReadWorks®

Name: _____ Date: _____

1. At the beginning of the text, what does the fish do when the shark approaches?

A. It puffs out into a round, spiny ball.

B. It swims away, startled.

C. It swims slowly, searching for a meal.

D. It attacks the shark with its spines.

2. What does the author describe in this text?

A. why different kinds of sharks have different adaptations

B. the different predators that are likely to hunt porcupines

C. what happens when a predator eats a spiny pufferfish

D. how a pufferfish puffs up into a round spiny ball

3. Read these sentences from the text.

"Some toads and snakes have their own way to discourage predators. They puff themselves up to look larger. The bigger an animal, the harder it is to catch and eat. Pufferfish combine both of these adaptations. They puff up AND they have long, sharp spines."

Based on this evidence, why might a pufferfish puff itself up?

A. to try and convince a predator that the pufferfish is a toad or a snake

B. to be able to hunt, catch, and eat other fish more easily

C. to prepare itself to fight off a predator's attack

D. to make the pufferfish appear difficult to catch and eat

4. Why might the author have included the images of the flounder and the porcupine?

A. to force the reader to decide which animal looks more like the pufferfish

B. to show the reader examples of different animals with adaptations that protect them from predators

C. to suggest that the flounder and the porcupine would probably be better than a pufferfish at fighting off predators

D. to prove that animals that live on land and animals that live in the ocean are very different from each other

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ReadWorks®

5. What is the main idea of this text?

A. The ocean can be a dangerous place for small fish like the pufferfish because its waters are full of predators.

B. Predators like sharks have adaptations that help them hunt other animals.

C. Many animals have sharp spines, including porcupines, hedgehogs, sea urchins, and pufferfish.

D. Adaptations like sharp spines and puffing up help keep pufferfish safe from predators.

6. Read these sentences from the text.

"Swimming along, a pufferfish looks like any other fish. But when it is threatened, it swells up suddenly like a big balloon."

Why might the author have compared the pufferfish to a balloon with this simile?

A. to hint to the reader that balloons also swell up when they are threatened

B. to imply that balloons also look like normal fish when they are not blown up

C. to help the reader understand what a pufferfish looks like as it swells up

D. to suggest that pufferfish and balloons are similar in lots of ways

7. Choose the answer that best completes the sentence.

Predators have adaptations that help them hunt. _____, a shark's powerful, torpedo-shaped tailfin and sharp teeth are two adaptations.
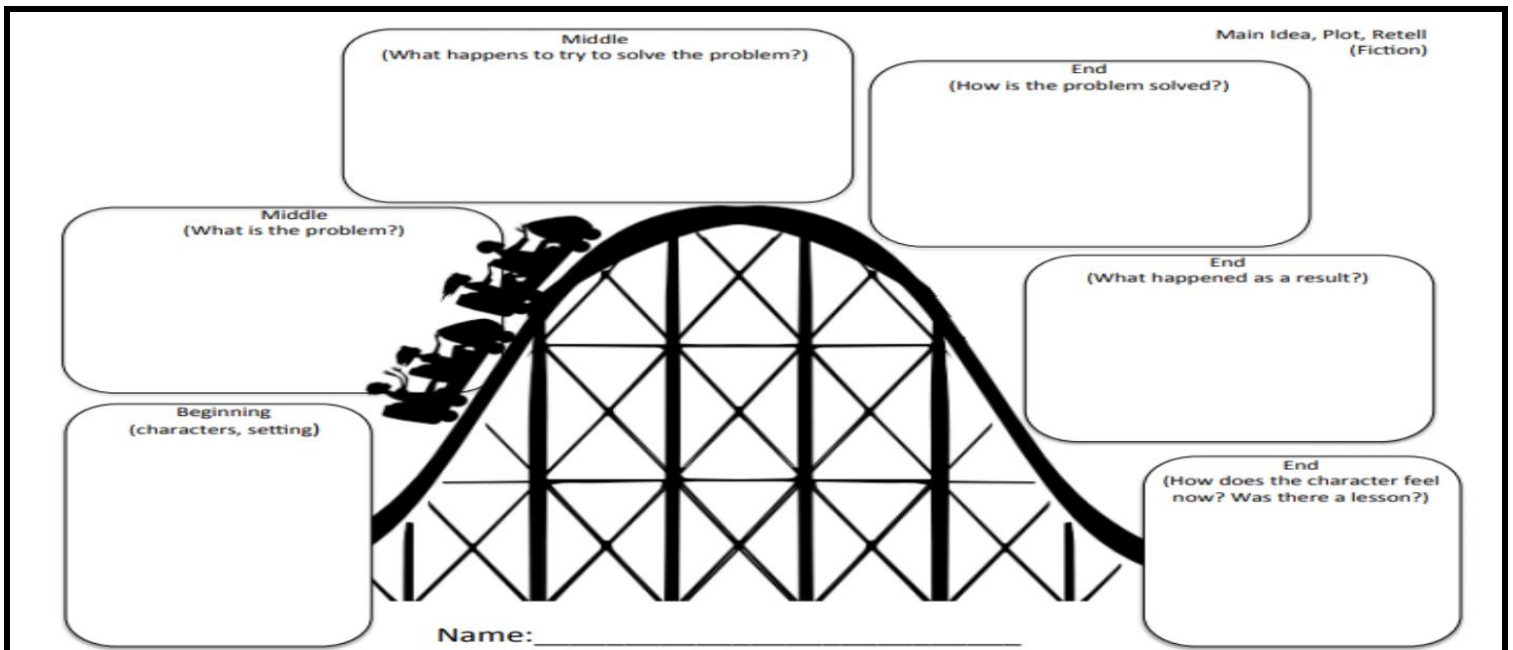
A. However

B. For example

C. As a result

D. At first

8. What is an adaptation?

9. What is the purpose of a pufferfish's spines? Support your answer with evidence from the text.

10. Why might a large predator and a small animal that it eats have different adaptations?

Middle
(What happens to try to solve the problem?)

End
(How is the problem solved?)

Middle
(What is the problem?)

End
(What happened as a result?)

Beginning
(characters, setting)

End
(How does the character feel now? Was there a lesson?)

Name:_____

Story Summary:

_____
_____
_____
_____
_____
_____
_____

Wailing Well by Kelly Hashway

"I dare you!" Eric said. Charlie couldn't pass up a dare. She was the toughest kid in the fifth grade. She wasn't going to let a little thing like fear ruin her reputation.

"No problem." Charlie shoved her hands in her pockets before anyone could notice they were shaking. So what if there was a kid-hungry troll living in the well on the abandoned lot? She could take a quick peek and run before it climbed up to eat her— right?

"You don't have to do this," Alyson said. "Yeah, Charlotte. We'll understand if you're too scared," Eric taunted. Charlie hated being called Charlotte. It sounded so girly.

"I'm not scared of a silly story." She pushed through the crowd of kids and marched to the abandoned lot. Her palms were sweaty. No one went near the "Wailing Well." A stray cat had jumped on the edge of it and something pulled it into the well. It happened so fast that no one saw what did it. But now a horrible wailing came from the well. Charlie wasn't sure who had come up with the troll theory, but she hoped that was all it was—a theory.

Wailing came from the well and Charlie froze. "Scared?" Eric yelled. Charlie was scared, but she wouldn't admit it, especially to Eric. "You're the one that's scared. Why else would you dare people to look in the well? You're too chicken to do it yourself!" "Look with her, Eric," Alyson said. "Yeah," the other kids said.

"Fine." Eric walked over to Charlie. He gulped, and for the first time, Charlie realized he wasn't so tough. He put on a good show, but he was all talk. She wondered if he thought the same about her.

Charlie grabbed Eric's sleeve and charged at the well. Something hairy moved inside. Yellow eyes glowed up at her. The wailing was replaced by a scratching sound, like nails on rock. The creature was climbing up to get them! Eric screamed and ran back to the bus stop.

The sun peeked out from behind the clouds, and Charlie squinted at the creature. She cranked the bucket, lowering it into the well. She heard a soft thump and cranked the bucket back up. "Are you crazy?" Eric yelled. Charlie pulled a gray kitten out of the bucket. "The cat didn't get pulled into the well. It fell. It got hurt, too. That's why it was wailing." "What are you going to do with it?" Alyson asked. "Bring it to the vet," Charlie said. "I'll put up some fliers, and if no one claims it, I'll keep it."

She scratched the top of the kitten's head and it purred. "What will you name it?" Alyson asked. "Troll," Charlie and Eric both said.

Saturday at the Amusement Park

"I think this is supposed to be fun," John thought, but he couldn't get his heart to stop pounding. From the moment they arrived at the amusement park, he was regretting letting his cousin persuade him to come. His intense fear of heights usually meant that he stayed clear of the roller coasters. Somehow his bossy cousin convinced him that spending the day at the amusement park was a great idea. "Oh, come on, John. Don't look so scared. This is going to be great," Dale said. "OK, yeah, I'm cool," John said in a voice that was a little more shaky than he would have liked. "What do you want to do first?" Dale asked. "Ummm…what about the games? Maybe we can try and win a stuffed animal for your sister." "Yeah right. If we're ever going to get on the Rocket Blaster we need to head there right away. The line gets really long. Hurry!"

Based on the passage, predict whether you think John will enjoy the day.

EVIGENCE	What you already know:

+   **=**

PREDICTION

Conclusion:

_____

_____

_____

Brady's Secret   **Quiz**

Brady was doing anything but jumping for joy that the beginning of school was right around the corner. He was about to enter fifth grade and at the end of fourth grade he started having problems seeing the dry erase board and would have to squint to see what the teacher was writing. His vision also began getting fuzzy afterschool as well when he was doing his homework and he even struggled seeing clearly when he was playing soccer with his friends. Brady had many concerns about not being able to see things clearly. He had always received straight A's in school, and he took pride in turning in quality homework. If he was unable to copy notes correctly that his teachers were writing on the dry erase board, how would he be able to study at night and complete his assignments correctly? Brady didn't want to tell anyone he was struggling to see. He did small things like sit in the front row in class and ask friends for copies of their notes; but he never let anyone know that he was having problems with his vision. His science teacher had noticed he was looking quite distraught trying to copy his notes and asked Brady if something was wrong. Brady was embarrassed and told him that he was fine. Brady has always been good at everything he put his mind to and no matter how hard he tried he wasn't able to make seeing any easier. At home, Brady was really struggling with the small print on the computer screen while he was researching for a report. He had to make the font on his report much bigger than usual just to see what he had written. Brady's mother walked by his bedroom and noticed that he had enlarged the computer screen and she stated, "Okay Brady, that's it; we are going to Dr. Wisear's office first thing Monday morning and have him check your eyes." Monday rolled around and Brady was dreading the thought of possibly getting glasses. When he arrived at Dr. Wisear's office; he was relieved to learn that many kids his age wore glasses and that there were thousands of different styles to choose from. After the appointment Brady and his mother went to the optical store and Brady chose glasses that were similar to those of one of his favorite television stars. After the appointment his mother said he could take the rest of the day off; but Brady insisted that he go back to school as he was extremely excited to check out his new vision and copy down notes from the back row.

Answer the following questions about this story:

1. Choose three character traits to describe Brady, use examples from the text to explain why you chose each trait.

2. Explain why you think Brady didn't want to admit his vision problems to anyone.

3. Write another possible title for this passage other than "Brady's Secret".

4. Create a cause/effect graphic organizer that shows at least two sets of causes & effects from this story.

Why Are People Afraid of Spiders?

1. Humans are a resilient species. We have survived war, disease, flood, and famine. We have journeyed far, from the dark depths of the oceans to the perilous peaks of the tallest mountains, and even to the moon. So how can a creature small and fragile enough to die beneath a toddler's shoe reduce so many of us to a quivering mess, screaming from atop a table for someone else to take care of the problem? Why do so many people suffer from arachnophobia, the fear of spiders?

2. Spiders are predators and, in many cases, they use their bites to overpower their prey. The majority of spiders are no real threat to humans, their bites simply causing red, irritated skin. The dangerous exceptions in the United States are the black widow and brown recluse spiders. The black widow secretes one of the most powerful venoms of any animal. Within 20 minutes, victims may suffer muscle cramps, stomach pain, faintness, vomiting, and even trouble breathing. Brown recluse venom, more powerful than a rattlesnake's, can damage cells and tissues. Remember, this is just in the United States; worldwide there are about 200 spiders with a serious, potentially deadly bite.

3. To make matters worse, spiders -kind of unavoidable. Afraid of clowns? Skip the circus. Scared of drowning? Don't go swimming. Petrified of spiders? You're out of luck. There are roughly 40,000 species of these eight-legged pests. They inhabit every continent on Earth except Antarctica. There are spiders capable of capturing and eating birds and lizards, such as the largest spider on the planet, the foot-long Goliath birdeater. Some, like the ant-mimicking jumping spider, use the wolf-in-sheep's-clothing trick to ambush their prey. Some have the ability to develop new hunting strategies. Some spiders are social, living in webs with as many as 50,000 others. Spiders, spiders, spiders, SPIDERS!

4. Perhaps the best explanation for arachnophobia may be the simple fact that spiders are as bizarre as aliens: eight legs, eight eyes, web-making spinnerets in their rears. The females of some species, such as the black widow, eat the male at the end of their time together. The females go on to lay as many as 3,000 eggs. Humans instinctively fear what is different, and spiders are, to say the least.

5. Superior intelligence and determination have carried humanity to the top of the food chain. There are approximately seven billion of us. We are, it would appear, unstoppable. Do not be surprised, however, when you hear anyone from a small child to a full-grown man shriek, "Aaaah! A spider!"

1. **What does the word 'resilient' mean as it is used in the first paragraph?**
A being, having or containing a great number
B able to regain strength, health or success after a bad event
C having or showing wisdom
D showing anger or violence

2. **What is the purpose of spider venom, according to the passage?**
A to attract a mate
B to defend against predators
C to weaken prey
D to preserve food

3. **In paragraph 1, the word 'perilous' means**
A surrounded by vegetation
B impossible to reach
C beautiful
D dangerous

4. **Use of the words 'dark depths' and 'perilous peaks' is**
A alliteration.
B hyperbole.
C onomatopoeia.
D personification.

5. **According to the passage, the black widow's bite can cause all of the following symptoms except**
A shortness of breath.
B fainting.
C muscle cramps.
D memory loss.

6. **A good subheading for paragraph 4 would be**
A 'From an Egg It Hatches.'
B 'Freaks of Nature.'
C 'Spinning Here and There.'
D 'Arachnophobia.'

Animal Sanctuary

Tobey had always liked zoos. It was great to see animals that didn't live around his house. Around his house he could see cows or horses, but he couldn't see zebras or lions. He could see cardinals and blue jays, but he couldn't see monkeys or gators. Zoos were a great and fascinating way to spend his weekend learning about animals.

Today, he was trying to experience something a little different. He'd learned that near his house there was an animal shelter. It wasn't a regular shelter, though. He'd been to those before, where you could adopt dogs, cats, and even an occasional pot-bellied pig or goat. This place he was going to had lions and tigers and bears. It wasn't any regular shelter. As he arrived, he was surprised, because he heard lions even from the parking lot.

The place was small, but nicely kept. It was clean and the volunteers working at the entry were very helpful. He and his family toured the place at their own pace, examining the cages and habitats the animals lived in. Tobey was immediately struck by the differences between this place and a zoo.

Zoos had beautiful habitats set up for each animal, but you could not get near the animals at all. At this shelter, he was almost close enough to reach out and touch the animals, even if there were two fences between him and the animals. There weren't as many people, either, so it seemed like a more personal experience. The paths were narrow and covered with trees that made the animals feel more at home and gave them shade. It was interesting to stare a lion in the eyes when you could almost reach out and touch it. It was fun to watch the bears pace back and forth and wiggle their lips at you with great expressions. They were silly creatures. Then there were leopards lazing in the midday heat and monkeys grooming themselves. It was a very neat experience.

The best part about the place was the stories. Each animal had a story posted up on the side of their cage. Each had been rescued from abuse or taken when they were no longer wanted. These were hard luck stories with a happy ending. Someone at this shelter had stepped up to take care of the animals, and now Tobey could enjoy meeting them and learn from them.

When it was finally time to go, they all thanked the volunteers and made a donation. Shelters always needed money, food for animals, and help. It made them feel good to be helping out any way they could. It was a great place, and Tobey couldn't wait to return.

1. Why do these types of animal shelters/sanctuaries exist?

_____

_____

_____

2. What is different about this animal shelter compared to the other ones Tobey has seen?

A. they have wild animals, not just dogs and cats

B. this one is very far away

C. this one is free

D. this one has only injured animals

3. What kind of animals does the shelter NOT have?

A. zebras

B. lions

C. tigers

D. bears

4. Which of the following is NOT a reason why Tobey likes this shelter better than a zoo?

A. they can get closer to the animals

B. there is a rescue story for each animal

C. they have better snacks at the shelter

D. there are less people so it's nicer and quieter

5. How does Tobey feel at the end of the story?

A. He thinks the zoo is nicer.

B. He is scared to come back.

C. He is sad to leave.

D. He is happy to donate money to a good cause.

6. After reading this story, how do you feel about animal sanctuaries? Do you think they are ALL good? Explain your answer.

_____

_____

_____

_____

Norfolk Public Schools
Science Learning in Place Plan: Grade 5 Lessons

Week 10: May 18 – 22, 2020 (Review: Light and Sound)

Monday	Tuesday	Wednesday	Thursday	Friday
Students will read the Interactive Notebook Passage entitled **"Light Waves"** and answer questions for paragraphs 1 - 5. Students will justify their thinking by highlighting evidence from the text.	Students will reread the Interactive Notebook Passage entitled **"Light Waves"** and answer questions for paragraphs 6 - 10. Students will justify their thinking by highlighting evidence from the text. On a separate sheet of paper students will divide the page into 10 sections and illustrate each paragraph based on information that was learned.	Students will read the Interactive Notebook Passage entitled **"Sound Waves"** and answer questions for paragraphs 1 – 3. Students will justify their thinking by highlighting evidence from the text.	Students will reread the Interactive Notebook Passage entitled **"Sound Waves"** and answer questions for paragraphs 4 - 6. Students will justify their thinking by highlighting evidence from the text. On a separate sheet of paper students will complete paragraph illustrations.	Students will read and complete the **Colorful Lights** Scientific Method Task Card. Students will observe the image of the sound wave on the **Science Talk** page. Form a list of essential vocabulary to describe the image and explain what they observed a paragraph including a topic sentence, 5 detail sentences, and essential vocabulary.

Week 11: May 25 – 29, 2020 (Review: Plant Adaptations and Food Webs)

Monday	Tuesday	Wednesday	Thursday	Friday
Students will read the Interactive Notebook Passage entitled **"Food Webs"** and answer questions for paragraphs 1 – 3. Students will justify their thinking by highlighting evidence from the text.	Students will reread the Interactive Notebook Passage entitled **"Food Webs"** and answer questions for paragraphs 4 - 5. Students will justify their thinking by highlighting evidence from the text. On a separate sheet of paper students will complete paragraph illustrations.	Who Can Go with the Flow? Pg. 156 – 157 ▪ Active Reading ▪ Red Arrow Question ▪ Why would a stiff plant not grow will in a fast-moving stream?	Who Can Take the Heat? Pg. 158 – 159 ▪ Active Reading ▪ Red Arrow Question ▪ Why would a dessert plant be more likely to have spines that a plant in an environment such as a rain forest?	Who Can Take the Cold? Pg. 160 – 161 ▪ Active Reading ▪ Red Arrow Question ▪ Describe the adaptations of the Antarctic Pearlwort and the Prairie Crocus?

### Week 12: June 1 – 5, 2020 (Review: Solar System)

Monday	Tuesday	Wednesday	Thursday	Friday
The Sun-Earth-Moon System Pg. 300 – 301 ▪ Active Reading ▪ How Do They Move?	Seasons Pg. 302 – 303 ▪ Active Reading ▪ Home Sweet Home	Moon Phases Pg. 318 – 319 ▪ Active Reading ▪ Do the Math!	Planets Near and Far Pg. 330 – 331 ▪ Active Reading ▪ Do the Math!	Sum it Up! -- Pg. 308 Space Exploration You Decide -- Pg. 341

Light Waves

There are many different kinds of waves. Waves are the way energy moves from place to place. **Sound waves** let us hear someone talking as sound waves move from our mouth to someone's ear. **Light waves** let us see when it's dark as light waves move from a light bulb to a dark room to our eyes.

The Basic Parts of a Transverse Wave

Light reaches us on **transverse waves.** As we can see in Diagram 1, the high point of a transverse wave is called the **crest** while the low point is called the **trough.** Waves can be measured in **wavelengths.** A wavelength is the difference between one wave crest (or trough) to the next wave crest (or trough). Wavelength can be measured from any point on a wave as long as it is measured to the same point on the next wave.
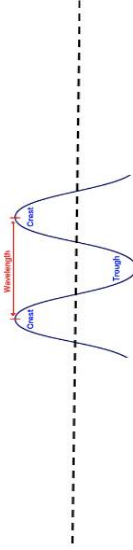
How Light Travels

Scientists have discovered that light travels in both waves and as tiny particles called **photons.** In both wave and particle (photon) form, light is energy. Light waves travel in straight paths called **rays.** Unlike sound, where waves have to travel through matter to be heard, light waves do not have to travel through matter to be seen. Instead, rays travel in a straight path until they hit an object. A ray's straight path is the *path* of light. Parallel rays grouped together represent a *beam* of light.

Opaque, Transparent, and Translucent

When a light wave hits an object it will either bounce off (**reflection**), bend (**refraction**), pass through (**transmitted**), or be **absorbed** as heat. Some objects transmit light waves better than others. **Opaque** materials do not allow light waves to pass through. Reynolds wrap is an example of an opaque material. **Translucent** materials allow light to pass through but not in a straight path. Wax paper is an example of a translucent material. **Transparent** materials allow light waves to pass through easily. Clear glass is an example of a transparent material.

The Visible Spectrum

Light waves, as compared to sound waves, are extremely fast. In fact, it only takes light from the Sun less than eight and a half minutes to travel 150 million kilometers or 93 million miles to Earth. Light waves move as **transverse waves** (See Diagram 1) and can move through a vacuum (empty space) at a speed of approximately 186,000 miles per second.

Light has both magnetic and electric fields. Scientists call this **electromagnetic radiation** (light). Sunlight consists of the entire electromagnetic spectrum. The only difference between the different types of electromagnetic radiation is the amount of energy. The wavelengths we can see with our eyes makes up a very small part of the electromagnetic radiation spectrum. We see visible light as the colors of the rainbow. These "visible" waves make up the **visible spectrum.**

Each of these visible waves is a different **wavelength** and our eye sees each one as a different color. The longest wave that we can see is called the color **red.** The shortest wave that we can see is called the color **violet.** The waves that make up the visible spectrum are **red, orange, yellow, green, blue, and violet (ROYGBV).**
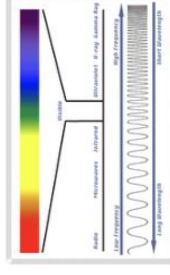
Frequency

Electromagnetic radiation (light energy from the Sun) can be identified by its wavelength as well as the **frequency** of its wavelength. The frequency is the number of waves passing a given point in one second. If the frequency increases, the amount of energy increases. In the visible light spectrum (see Diagram 2), violet has the greatest frequency and the most energy. The red wavelength has the lowest frequency and the lowest amount of energy.

Reflection of Light
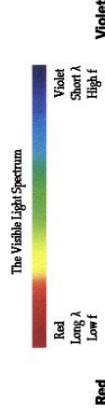
As we can see in the diagram, black and white are not seen on the **visible spectrum.** That's because black is not actually a color. Black is the total absence of color or reflected light. We see black when a material, such as a driveway, absorbs all the visible light and no light is reflected back. White is not a color either. White is actually a reflection of all the colors of the visible light spectrum. In fact visible light, or the mix of ROYGBV, is sometimes referred to as **white light.**

Refraction of Light

To see the different colors that make up white light, we need to use a **prism.** When white light passes through a glass prism, it **bends** and changes direction. This bending of light is called **refraction.** Each of the waves in the visible light spectrum bends differently, so we see different colors. Water droplets in the atmosphere act as tiny "natural" **prisms** when sunlight passes through them we see a rainbow!

Sound Waves

Sound is a form of energy that is all around us. All sound energy is produced by **vibrations** (a back-and-forth motion). All vibrating objects produce sound. Place your fingers on your windpipe. When you speak, you can feel the vibrations from the sound of your voice.

Sound travels in **compression (or longitudinal) waves**. A **sound wave** can be described as a disturbance moving through a solid, liquid, or gas (matter). Compression waves are made up of areas of increased pressure called **compressions** (like the bunched-up part of a slinky as it moves) and areas of decreased pressure called **rarefactions** (like the stretched part of a slinky as it moves). One **wavelength** of a sound wave is easiest to measure from one compression (or rarefaction) to the next; however, wavelength can be measured at any point in the wave as long as it is measured to the same point on the next wave.

Compression (Longitudinal) Wave
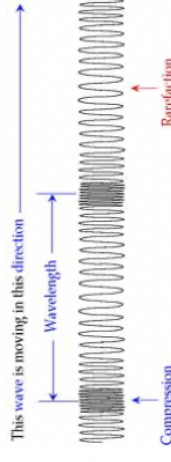
Notice in the diagram above that the molecules of matter move backward and forward in the direction in which the sound wave is traveling.

The amount of energy a wave carries is called the **amplitude** of the wave. As amplitude (energy) increases, the intensity and **volume** of the sound increases. A loud sound is made when many molecules are vibrated with a lot of force. A softer sound is made when fewer molecules are vibrated with less force.

For every sound you hear, some object is vibrating and producing **compression waves**. When an object vibrates very quickly the number of vibrations per minute increase and its sound becomes **higher**. When this same object vibrates more **slowly** the number of vibrations per minute decrease and its sound becomes **lower**.

We call the number of wavelengths in a unit of time its **frequency** and the highness or lowness of sound its **pitch**. Longer, larger objects tend to vibrate slower than shorter, smaller objects. This is why a trombone (larger, longer) has a lower pitch while a flute (smaller, shorter) has a higher pitch.

SOL 5.3 Light Waves

Paragraph 1
- What are waves?
- What are waves made up of?

Paragraph 2
- What are the three basic parts of a wave?
- What is the difference between a crest and a trough?
- How are waves measured?

Paragraph 3
- What have scientists discovered?
- What is light?
- How do light waves travel?
- How are light waves different from sound waves?
- How do rays travel?
- What do you call a ray's straight path?
- What do parallel rays grouped together represent?

Paragraph 4
- What four things can a light ray do when it hits an object?
- Which materials transmit light waves better than others?

Paragraph 5
- Which is faster: speed of sound or speed of light?
- How do light waves move?

Paragraph 6
- What is electromagnetic radiation?
- What do we call these visible waves?
- What color is the longest wave?
- What color is the shortest wave?
- What are the colors of the visible spectrum of light (in order)?

Paragraph 7
- What color is the longest wave?
- What color is the shortest wave?
- What are the colors of the visible spectrum of light (in order)?

Paragraph 8
- What is the relationship between frequency and the amount of energy?
- What color wavelength has the greatest amount of energy?
- What color wavelength has the least amount of energy?

Paragraph 9
- Why isn't black a color?
- Why isn't white a color?

Paragraph 10
- What can we use to see the different colors that make up white light?
- What happens to white light when it passes through a glass prism?
- What is the "bending of light" called?
- How do water droplets become tiny prisms after a rainstorm?

SOL 5.2 Sound Waves

Paragraph 1
- What is sound?
- How is sound produced?

Paragraph 2
- How does sound travel?
- How can a sound wave be described?
- How can a compression wave be described?

Paragraph 3
- *Think!* How would you create a model or diagram of a compression wave?

Paragraph 4
- What is the name of the energy sound waves carry?
- How does a sound become louder?
- How does a sound become softer?

Paragraph 5
- What makes a sound lower?
- What do we call the number of vibrations in a unit of time?
- What do we call the highness or lowness of sound?

Paragraph 6
- What is the difference between frequency and pitch?

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Colorful Lights

Anissa wants to conduct an experiment.

Anissa's question:
Do different colors of light affect plant growth?

Anissa's Hypothesis:
If I grow bean plants under yellow, red, and blue lightbulbs, then the bean plant under the yellow lightbulb will grow the tallest.

Anissa's Experiment:
Draw an image of her setup. Label the drawing.
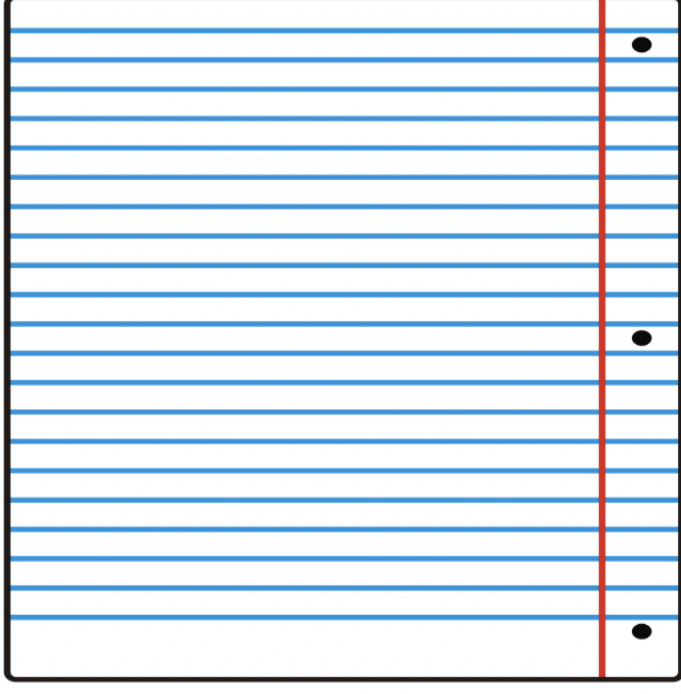
Procedure:
Create the steps Anissa should follow to conduct a fair experiment.

Science Talk

Food Webs
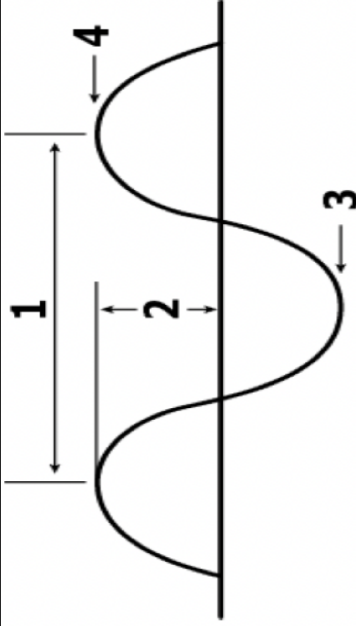
We have learned that within a community of living things, energy is passed from one organism to another through a **food chain**. Some food chains are long and some are short, but **all food chains begin with a producer.**

A simple food chain might begin with grass **(producer)** which is eaten by a grasshopper **(consumer)**, which is eaten by a frog **(consumer)** which eventually dies and is broken down by worms **(decomposers)**.

Food chains are not always so simple, however. In an **ecosystem** where living and nonliving things interact, food chains can become very complex. When food chains overlap, they are called **food webs.** Let's investigate a possible food web that could begin with an oak tree.

An oak tree produces its own food energy through the process of **photosynthesis.** Caterpillars living on the tree eat the tree's leaves for energy. Also living on the tree are beetles that eat the tree's bark for energy. Cardinals then eat the caterpillars for energy while robins eat the beetles. Squirrels eat the tree's acorns and at night become dinner for owls. As you can see, in a food web many living organisms are connected to one another **by the foods they eat and what eats them.**

What an organism eats and what eats it is called its **niche.** No two organisms fill the exact same niche, or role, in a community. In the oak tree food web, each organism has a special but very different niche in the community. For example, the caterpillars, beetles, and squirrels have different niches in the community because they eat different parts of the tree. In turn, they are eaten by different animals in the community. During its lifetime, however, an organism's niche may change. This means **that what it eats and what eats it** may change over time. How do you think the niches in the oak tree food web might change over time?

Essential Vocabulary:

Explain what you observed in the diagram above.

SOL 4.5 Food Webs

Paragraph 1
- What do you know about a food chain?
- How do all food chains begin?

Paragraph 2
- What is the role of the consumer?
- What is the role of the decomposer?

Paragraph 3
- Why can food chains become complex or complicated?

Paragraph 4
- How does an oak tree produce its food energy?
- What is photosynthesis?
- How are all the different living organisms in a food web connected?

Paragraph 5
- What is a niche?
- What can happen to a organism's niche during its lifetime?

Answers

Who Can Go with the Flow?

Some living things swim upstream while others go with the flow. Which adaptations do living things need in different water environments?

Active Reading As you read the paragraph below, circle examples of fish physical adaptations.

Imagine you live in a constantly flowing stream of water. How could you stay in the same part of the stream without being carried away? Many fish that live in streams have smooth bodies and strong tails. These characteristics help fish swim against the current. Water plants have flexible stems that allow them to bend with the flow. Many water insects are able to hold on tightly to water plants. Other insects burrow into the soil at the bottom of the stream.

This fish has a smooth, streamlined body. Its body shape allows it to swim quickly in fast-moving water.

Elodea are very flexible plants, so flowing water is less likely to break them. If a piece of elodea is pulled off, though, the piece can sprout roots and start to grow in a new part of the stream.

Plants in still water, such as ponds and lakes, have different adaptations. Some plants are tall and have strong stems, so they can grow above the water. Others, such as water lilies, float on the surface.

Animals that live in lakes and ponds are excellent swimmers. Many are adapted to living in deep water with little light. Catfish have whiskers that sense chemicals in the water to help them find food in the dark. Some birds wade at the shore and hunt. Their long, thin legs look like the cattails, so fish do not see them until it's too late.

Cattails grow in relatively still, shallow water, such as the water of a pond. Their stems are strong and stiff. Cattails can grow to more than 3 m tall.

Pond turtles are strong swimmers. They are also able to hold their breath for long periods of time. Their dark color allows them to stay hidden in dark, muddy water.

▶ Compare the elodea's adaptations with the cattail's adaptations.

_____
_____
_____
_____
_____

Who Can Take the Heat?

Deserts are places that get very little rain. Some deserts are very hot. How do plants and animals live in such hot, dry places?

Active Reading As you read these two pages, circle the words or phrases that describe desert environments.

Desert plants and animals have physical adaptations that help them stay cool and conserve water. Many desert plants have waxy coatings on their stems to minimize water loss. Many of these plants have very long roots to reach water that is deep underground. Some desert plants have wide root systems that can absorb lots of water when it rains. Desert animals have physical adaptations to keep cool. Some have short, thin fur, or no fur at all.
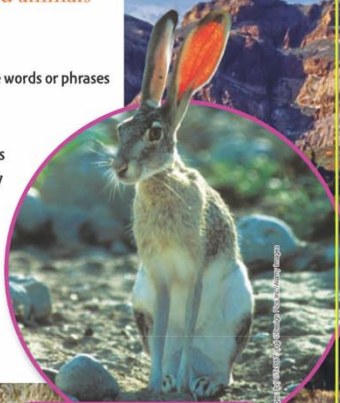
Jackrabbits have large ears. Their ears release body heat and help the rabbits stay cool.

Many reptiles live in deserts. This lizard's scales help it keep water inside its body.

A **behavioral adaptation** is something an organism does to help it survive. For example, most desert animals are active at night to avoid the heat of the day. An instinct is a type of behavioral adaptation.

An **instinct** is an inherited behavior an animal knows how to do without having to learn it. For instance, jackrabbits stay crouched in one position whenever they sense danger. This instinct helps them hide from predators.

Other behaviors help organisms survive in the desert. For example, some seeds of desert plants stay dormant, or inactive, until it rains. When it rains enough, the seeds grow quickly into plants that flower and make more seeds.
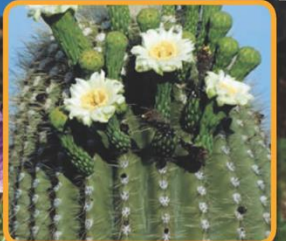
Saguaro cactus flowers open and release their fragrance at night and close the next day. It is cooler at night in the desert. As a result, the flowers do not wilt as quickly as they would during the day.

▶ Describe a living thing with adaptations that help it survive in the desert. Explain how each adaptation helps.

_____
_____
_____
_____
_____
_____

Who Can Take the Cold?

Polar environments are very cold places. How do plants and animals survive in cold places such as Antarctica and the Arctic?

Active Reading As you read these pages, circle the words or phrases that describe polar environments.

Temperatures in Antarctica rarely get above freezing—even in summer! Plants and animals that live there have adaptations to live in extreme cold. Emperor penguins have a thick layer of fat—a physical adaptation that keeps them warm on land and in the water. To protect themselves from very cold winds, male penguins huddle together in large groups. The behavior is an instinct that helps male penguins and their newly hatched baby penguins keep warm.

The Antarctic pearlwort grows close to the ground in the warmer, wetter parts of Antarctica.

Black feathers on the backs of emperor penguins absorb heat from the sun, which helps them keep warm.
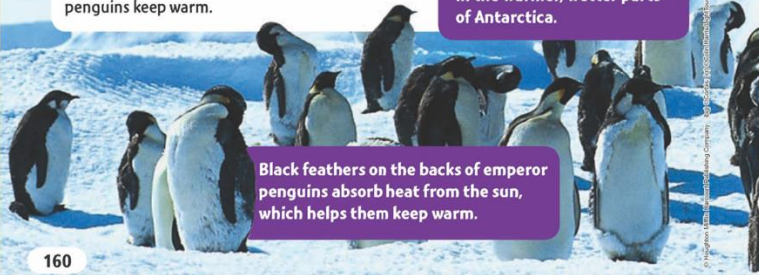
The Arctic has extremely cold winters and very short summers. Arctic animals have thick fur and a layer of fat to keep in body heat. Some Arctic animals are often white in the winter, which helps them blend in with the snow. These characteristics are physical adaptations. Arctic animals also have behavioral adaptations. For example, many Arctic animals live in dens dug into the ground or snow during very cold months.

Most Arctic plants have short roots because the ground there is frozen the majority of the year. These plants produce seeds during the short summer when the ground isn't frozen. Most Arctic plants grow close to the ground, which helps protect them from strong, cold Arctic winds.

This prairie crocus has fuzzy hairs that cover its flowers and seeds. The hairs protect the plant from wind and trap heat from the sun.

▶ Compare the adaptations that help the desert jackrabbit and the Arctic hare survive in their environments.

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Arctic hares grow white fur in winter to blend in with the snow. They sit with their paws, tails, and ears tucked in to keep from losing body heat.

The Sun-Earth-Moon System

Earth is not alone in space. You can easily spot two other bodies in the sky—the sun and the moon. How do they all move together?

Active Reading As you read these pages, underline the main idea, and circle a sentence that supports it.

The sun, Earth, and the moon form a system in space. This system is held together by gravity. *Gravity* is a force that pulls objects toward each other. Gravity pulls Earth toward the sun, holding Earth in orbit around it. An **orbit** is the path that an object takes around another object in space. Earth *revolves*, or travels around the sun. It takes Earth about 365 days to complete one revolution.

While Earth revolves around the sun, the moon revolves around Earth. Earth's gravity pulls on the moon. Like Earth, the moon also turns on its axis. It takes about a month for the moon to complete one rotation. During the same period of time, the moon makes one complete revolution around Earth. As a result, the same side of the moon always faces Earth.

Sun

The sun is so large that about 1 million Earths could fit inside it. The sun's gravity holds the Earth-moon system in place.

The sun, the moon, and Earth all have distinct characteristics. The sun has the largest diameter of all bodies in the solar system. An object's *diameter* is the distance from one side, through its center, to the other side.

	Makeup	Diameter	Age
Sun	hot, glowing gases; mostly helium and hydrogen	1,391,000 km (864,400 mi)	about 4.6 billion years old
Earth	rocky surface with large oceans; thick atmosphere of nitrogen and oxygen; life forms	12,756 km (7,926 mi)	about 4.5 billion years old
Moon	rocky surface; no atmosphere or water; extreme cold and heat; no known life forms	3,475 km (2,159 mi)	at least 4.5 billion years old

Moon

Earth

How Do They Move?

The arrows in the picture show the two types of movements that Earth makes in space. Label each arrow with the movement it shows. Then, explain how Earth moves.

_____
_____
_____
_____

Earth spins quickly—more than 1,600 km/hr (1,000 mi/ hr) at its equator. As Earth spins, it also speeds around the sun at more than 107,000 km/hr (67,000 mi/hr). Earth and the moon are relatively close to one another. They are about 382,000 km (237,400 mi) apart. In contrast, Earth is about 150 million km (93 million mi) from the sun.
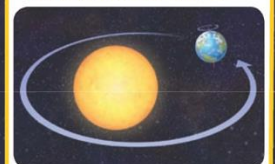
Seasons

When it is summer in the United States, it is winter in Chile. How can two places have a different season at the same time of year?

Active Reading As you read this page, underline the cause of the seasons.

Earth rotates on its tilted axis. As Earth revolves around the sun, the direction of its tilted axis doesn't change. The tilt of Earth's axis and its orbit cause the seasons.

Earth is divided into halves called *hemispheres*. The Northern Hemisphere extends from the equator to the North Pole. The Southern Hemisphere extends from the equator to the South Pole. In June, the Northern Hemisphere is tilted toward the sun and gets more direct rays of sunlight. It has more hours of daylight and warmer weather. It is summer there.

In June, in the Southern Hemisphere, the opposite season takes place. Why? The Southern Hemisphere is tilted away from the sun and gets less direct sunlight. It has fewer hours of daylight and cooler weather. It is winter there.

In December, the Northern Hemisphere is tilted away from the sun. As a result, it is winter there. At the same time, the Southern Hemisphere is tilted toward the sun and has summer.

Home Sweet Home

Which season is it where you live? Draw a picture of the sun and Earth in the correct positions to show the season. Include the tilt of Earth's axis in your picture.

Seasons in the Northern Hemisphere

When the Northern Hemisphere is tilted away from the sun, that part of Earth has winter. When the Northern Hemisphere is tilted toward the sun, it has summer.

Winter
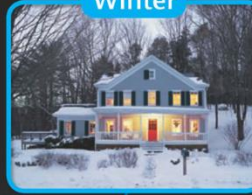
Fall
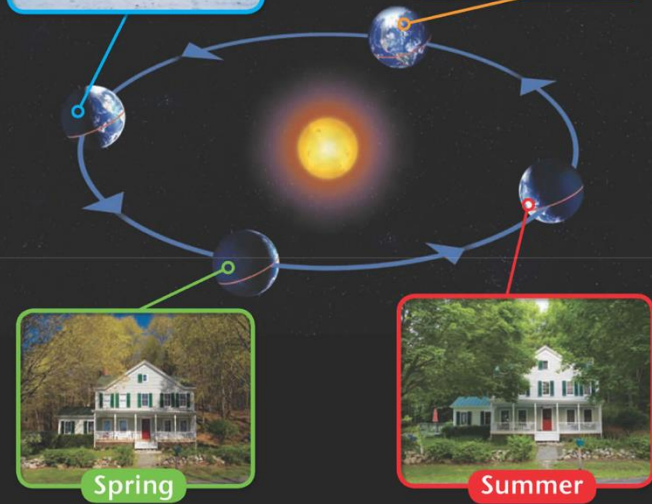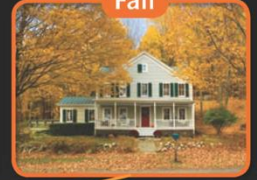
Spring

Summer

Moon Phases

One night, you might look at the moon and see a tiny sliver in the sky. A few nights later, you might see a bright, round circle. What makes the moon look so different?

Active Reading As you read the last paragraph, write numbers next to the sentences to show the sequence of moon phases.

As Earth orbits the sun, the moon also orbits Earth. The moon reflects light from the sun. That is the light we see from Earth. As the moon travels in its orbit, different amounts of the moon's lit side can be seen from Earth.
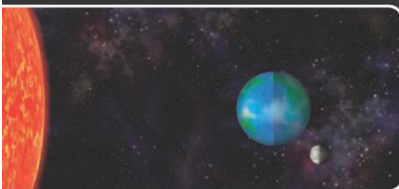
First Quarter

New Moon

During the new moon phase, the moon is between Earth and the sun. We can't see the moon at all. During a first quarter moon, we see one-half of the moon's lit side.

The moon's shape does not change. The changes in the appearance of the moon's shape are known as **moon phases**.

You know that sunlight reflects from the moon to Earth. Yet the sun lights only half of the moon at any time. The motions of Earth and the moon are responsible for the phases you see. As the moon revolves around Earth, the amount of the lit part that we see from Earth changes. These different amounts of the moon's lighted side are the different phases of the moon.

Each phase of the moon has a different shape. It takes about 1 month for the moon to complete all of its phases. Then the cycle repeats.

During the new moon phase, we can't see the moon. That is because the lit part of the moon faces away from Earth. As the moon moves in its orbit around Earth, we see more of the moon's lit part. We see a full moon when all of the lit part of the moon faces Earth. Then we see less and less of the lit part again.

Do the Math!
Estimate Fractions and Percentages

What fraction and percent of the moon's lit side is seen during each phase? Complete the table.

	Full moon	First quarter	New moon	Third quarter
Fraction		$\frac{1}{2}$		
Percent		50%		

Full Moon

Third Quarter

The lit portion grows larger until we see a full moon. This happens when Earth is between the moon and the sun. As the moon continues in its orbit, we see less of its lit portion. When it is half lit again, it is a third quarter moon.

Planets Near and Far

The solar system's planets are divided into two groups. How and why are the planets in each group different?

Active Reading As you read these pages, underline phrases or sentences that compare inner and outer planets.

After the sun had formed, a cloud of rock, dust, and gas remained around it. The planets in the solar system were formed from these leftover materials.

The part of the cloud closest to the sun was also the warmest. In this area, rock and metal bits clumped together to form the rocky bodies that became the inner planets. These planets developed small diameters and thin atmospheres.

The outer solar system was much colder. Gases formed icy particles in the extreme cold. The cold gases and icy particles clumped together to form huge balls of gas and ice that became the outer planets.

Mars
Earth
Venus
Mercury

Jupiter
Saturn
Uranus
Neptune

Images not to scale
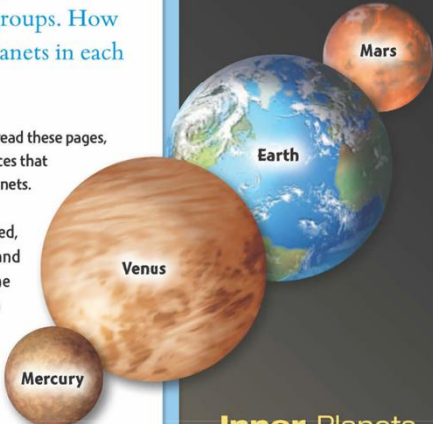
Inner Planets

The inner planets are the smallest and warmest planets in our solar system. They have hard surfaces made of rock. The inner planets revolve around the sun more quickly than the outer planets. They are the only planets where probes from Earth have landed.
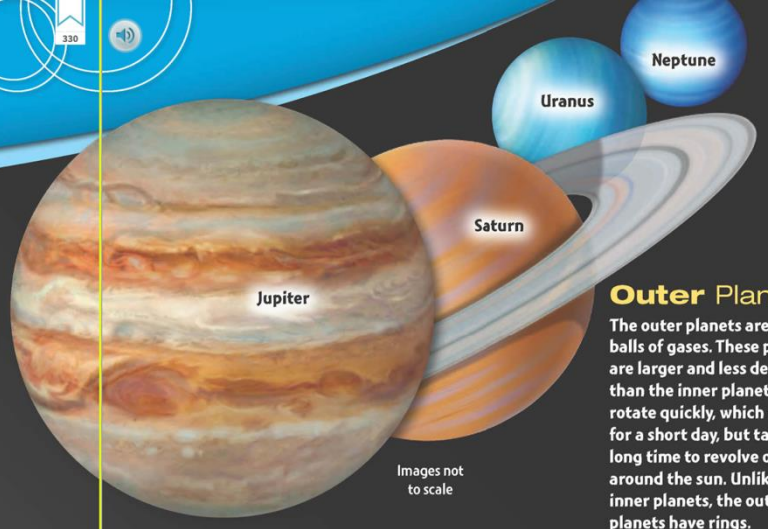
Outer Planets

The outer planets are giant balls of gases. These planets are larger and less dense than the inner planets. They rotate quickly, which makes for a short day, but take a long time to revolve once around the sun. Unlike the inner planets, the outer planets have rings.
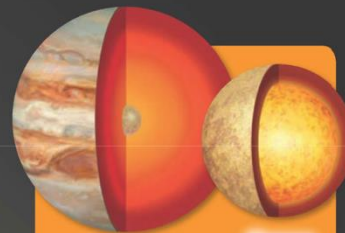
Jupiter
Mercury

Compared to the outer planets, the inner planets are small balls of rock that have relatively large, solid cores. The outer planets are huge balls of gas; some are thought to have very small, solid cores.

Do the Math!
Calculate Diameter

Draw lines on the pictures of Jupiter and Mercury on this page to show their diameters.

If Jupiter's diameter is 142,984 km (88,846 mi) and Mercury's diameter is 4,879 km (3,032 mi), how much bigger is Jupiter's diameter than Mercury's?

_____
_____
_____

Sum It Up!

When you're done, use the answer key to check and revise your work.

Read the summary statements below. Each one is incorrect. Change the part of the summary in blue to make the statement correct.

Summarize

1. Day and night are caused by Earth's revolution around the sun. _____

2. The discovery of moons around Jupiter proved that all objects in space revolve around Jupiter. _____

3. Earth's seasons are caused by Earth's revolution and rotation in space. _____

4. During winter in the Northern Hemisphere, there are more hours of daylight and it is warmer. _____

5. When it is spring in the Northern Hemisphere, the season is summer in the Southern Hemisphere. _____

6. Constellations appear to move across the night sky because of Earth's tilt on its axis. _____

S.T.E.M.
Engineering & Technology

Space Exploration

Typically, engineering design problems have many solutions. An engineer often needs to find a balance among many trade-offs to get the best solution. A *trade-off* is the giving up of one design feature to make another design feature better. The charts below show trade-off analyses for spacecraft with and without crew. The benefits and drawbacks of some major design features of each kind of mission are shown. You decide which one should blast off.

Spacecraft with Crew

Design Feature	Benefit	Drawback
living space for crew	people onboard to fix problems and run difficult science experiments	greater cost to build and to fuel; increased weight during liftoff (must store air, food, and water)
heat shield for reentry to Earth's atmosphere	safe return of crew; reusable ship	more fuel needed; less space for everything else

Spacecraft without Crew

Design Feature	Benefit	Drawback
smaller, lighter	less fuel needed; costs less to launch	less room for instruments
no living space for crew	no need to store air, food, water	no one to fix problems or watch experiments
large energy suppy to last many years in space	can learn about faraway objects	spacecraft doesn't return to Earth; it cannot be reused

You Decide

Which type of spacecraft works best for space exploration? Use information from the chart to explain your answer.

_____
_____

Parts of a Circle

To find the **diameter** when you know the radius, use the formula r x 2 = d
The diameter is double, or twice, the size of the radius
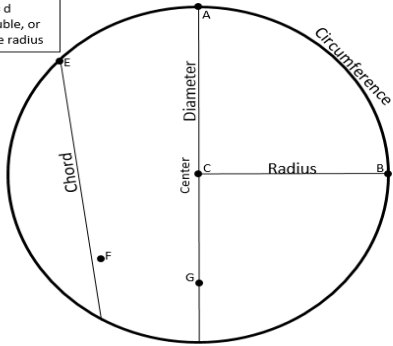
To find the **Circumference** of a circle, use the formula π x d = C
π = 3.14 unless a number for π is given

To find the **radius** when you know the diameter, use the formula d/2 = r
The radius is half of the diameter.

Chord = $\overline{FE}$ *A line segment that connects two points on a circle but does NOT pass through the center.*

Diameter = $\overline{AG}$ *A chord that goes through the center of a circle from one side of the circle to the other. It is twice the size of the radius.*

Radius = $\overline{CB}$ *A segment from the center of a circle to any point on the circle. It is **half** of the diameter.*

Center Point = C *Represents the center of a circle.*

Circumference = *The distance around a circle (perimeter). It is about 3 times the diameter.*

Practice:

1. What is the relationship between the radius ad the diameter?

2. What is the relationship between the diameter and the circumference?

3. What is the relationship between the radius and the circumference?

4. Is a diameter also a chord? Why or why not?

Fill in the parts of the circle.
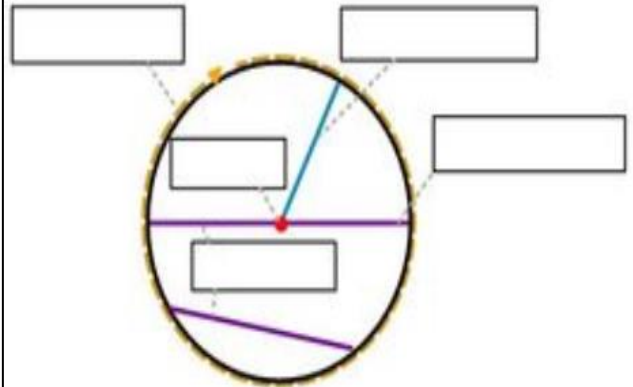
Day 2

Practice:

What is the radius and diameter of each circle?
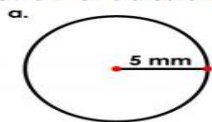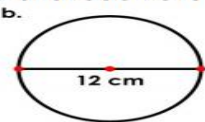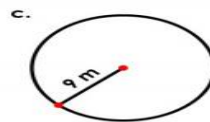
a. 5 mm
radius = _____
diameter = _____

b. 12 cm
radius = _____
diameter = _____

c. 9 m
radius = _____
diameter = _____

d. 16 km
radius = _____
diameter = _____

e. 11 m
radius = _____
diameter = _____

f. 30 mm
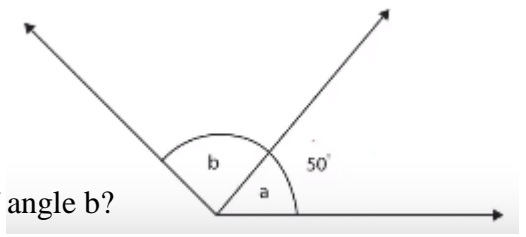radius = _____
diameter = _____

g. 26 km
radius = _____
diameter = _____
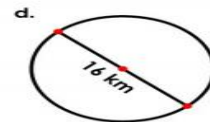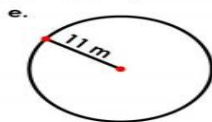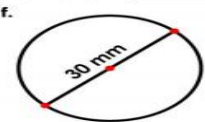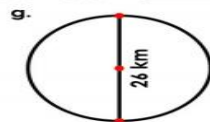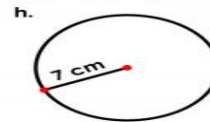
h. 7 cm
radius = _____
diameter = _____

Day 3: Angles

A small circle beside a number (56°) = degrees

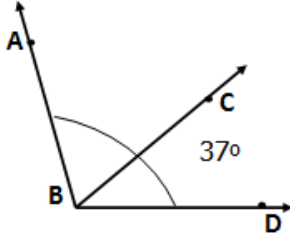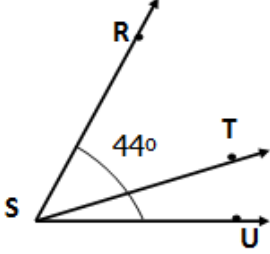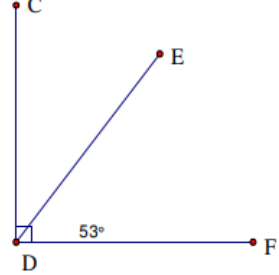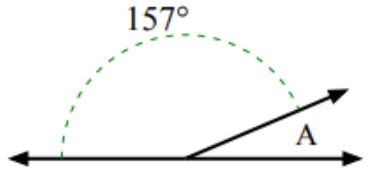The 2 angles in this figure add up to 120° (degrees). What is the measure of angle b?
120 – angle a = angle b
120° – 50° = 70°
Angle b = 70° (degrees)
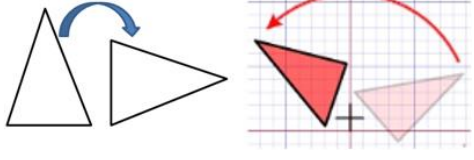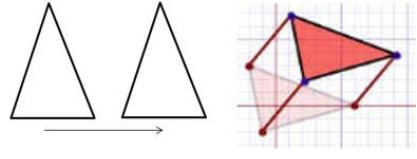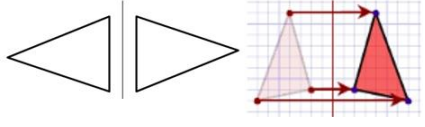
Practice:

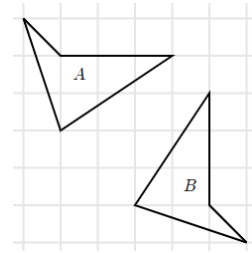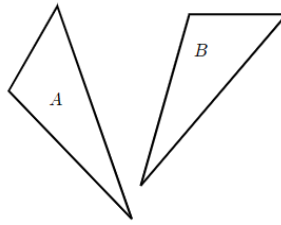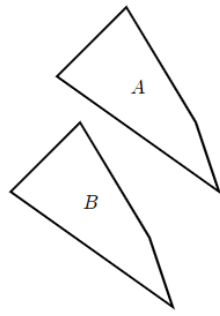| If angle ABD = 107°, what is the measure of angle ABC? Let's start with what we know. Angle ABC + Angle CBS = Angle ABD	If angle RSU is 62°, what is the measure of angle TSU?	If angle CDF is a right angle, what is the measure of angle CDE?	What is the measure of angle A?
37°	44°	53°	157° Hint: A straight angle is 180 degrees.

Day 4: Transformations

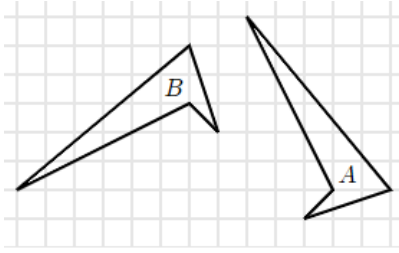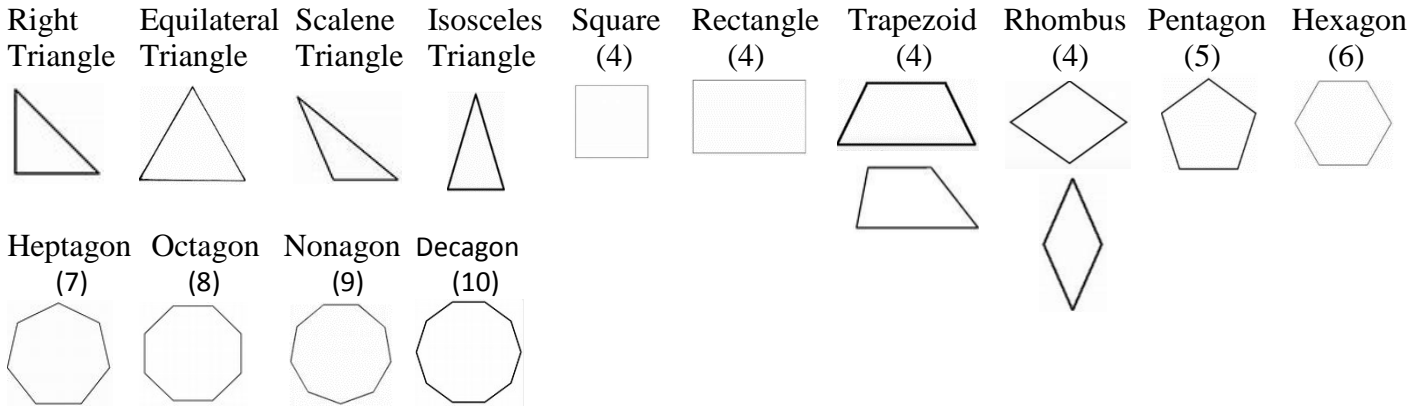| Rotation – When a shaped is simply turned around an origin point, or is turned.	Translation – When a shape moves, or slides, along a line.	Reflection – The movement of a shape across a line and produces a mirror image, or flips.

Practice:

If the 1ˢᵗ shape is the original, what is the transformation of the 3 shapes? (hint: focus on where the dot is located)

_____ _____ _____
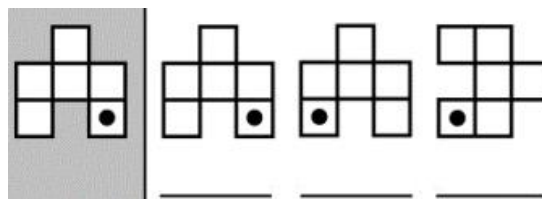
Identify each transformation below.

_____   _____   _____   _____

Day 5: Combining and Subdividing Polygons

| Right Triangle | Equilateral Triangle | Scalene Triangle | Isosceles Triangle | Square (4) | Rectangle (4) | Trapezoid (4) | Rhombus (4) | Pentagon (5) | Hexagon (6) |

| Heptagon (7) | Octagon (8) | Nonagon (9) | Decagon (10) |

Which 2 figures were combined to create this equilateral triangle? If we crease or cut the shape as shown here, we see that we combined a smaller equilateral triangle with a trapezoid.

← crease and cut
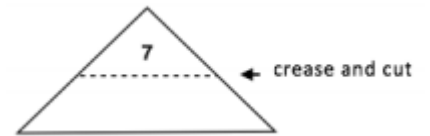
Practice
Where would you subdivide (draw the lines) this shape to create a triangle, square, and trapezoid?
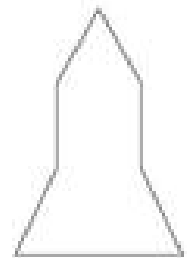
Which shape would I create if I combine these 2 shapes? Draw your shape.

Subdivide the shapes below into 3 different shapes by drawing a line where you would cut them.
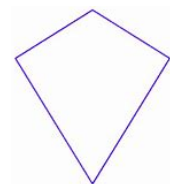
Day 1: 5.15 Notes and Practice

Vocabulary

Probability: the chance of an event occurring

Likelihood: the probability of an event occurring

Outcome: result of an experiment
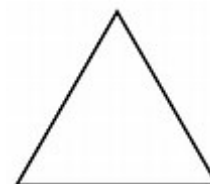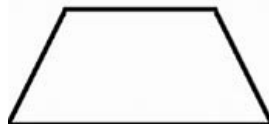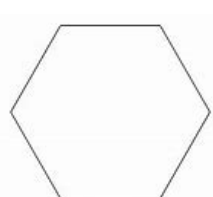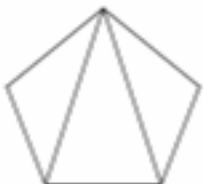
Impossible: an event is impossible if it has a probability of 0

Unlikely: not likely to occur

As likely as: equally likely

Equally likely: outcomes that have the same probability

Likely: seeming like certainty

Certain: an event is certain to occur if it has a probability of 1

Sample Space: A sample space represents all possible outcomes of an experiment. The sample space may be organized in a list, chart, or tree diagram.

All of the possible outcomes of an experiment are called the **sample space.**

A **tree diagram** can be used to determine the sample space. Here is a tree diagram for an experiment involving *flipping a coin three times*. The tree diagram shows all of the possible outcome
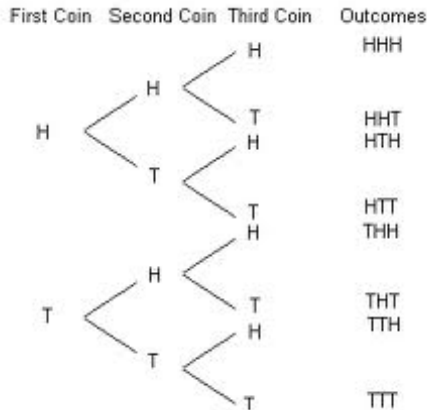
There are 8 possible outcomes. This is the sample space.

An **organized list or chart** can also show the sample space.

There are 8 possible outcomes. This is the sample space.

1st Roll	2nd Roll	3rd Roll
Heads	Heads	Heads
Heads	Heads	Tails
Heads	Tails	Heads
Heads	Tails	Tails
Tails	Tails	Tails
Tails	Tails	Heads
Tails	Heads	Tails
Tails	Heads	Heads

The **fundamental counting principle** helps us calculate the total number of combinations by multiplying the number of outcomes for each choice or event.

1st Roll		2nd Roll		3rd Roll		Outcomes
2	x	2	x	2	=	8

Practice. Make your list or create your tree diagram on another sheet of paper.

Create a tree diagram using this table. How many outfits can you make that have tan pants?

Clothes Combinations

Color of Shirt	Color of Pants	Type of Shoes
Green	Tan	Boots
	Red	Sneakers

Make a list or chart showing the sample space of possible outfits using this table. How many outfits can be made using a blue shirt?

Andy's Clothes

Shirts	Pants	Shoes
Blue	Shorts	Boots
Green	Jeans	Sandals

Day 2: 5.17 Notes and Practice

Skills and Strategies

- The **mean** is computed by adding all of the numbers in the data together and dividing by the number elements contained in the data set. [Mean represents a *fair share* concept of the data.]
- The **median** of a data set is dependent on whether the number of elements in the data set is odd or even. First reorder the data set from the smallest to the largest then if the number of elements are odd, then the Median is the element in the middle of the data set. If the number of elements are even, then the Median is the average of the two middle terms.

- The **mode** for a data set is the element that occurs the most often. It is not uncommon for a data set to have more than one mode. This happens when two or more elements occur with equal frequency in the data set. A data set with two modes is called bimodal. A data set with three modes is called trimodal.
- The **range** for a data set is the difference between the largest value and smallest value contained in the data set. First reorder the data set from smallest to largest then subtract the first element from the last element.

Example 1:	**Practice 1**
Use this stem and leaf plot.	Use this stem and leaf plot.

Example 1:

Use this stem and leaf plot.

0	3	7	8
1	5	5	6
2	1	5	
3	2		
4			
5	8		

Key: 3|8 = 38

Find the following:

Median: _____20_____
Mean: _____15.5_____
Mode : _____15_____
Range: _____55_____

Mean = (3+7+8+15+15+16+21+25+32+58) ÷ 10
   = 200 ÷ 10
   = 20
Median: 3+7+8+15 (15+16) 21+25+32+58
   = (15 + 16) ÷ 2
   = 31÷2
   = 15.5

Mode: 15
Range = 58 – 3
   = 55

Practice 1

Use this stem and leaf plot.

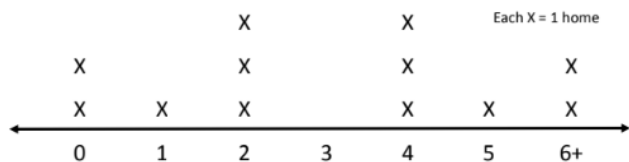| 0	3		
1	5	6	9
2	1	5	7
3	1	3	3
4	3		
5	8		

Key: 3|8 = 38

Find the following:
   Median   _____
   Mean   _____
   Mode   _____
   Range   _____

Example 2:

Lin counted the number of TV's his friends had in their home. Calculate the mean, median, mode, and range for the number of TV's in the home.
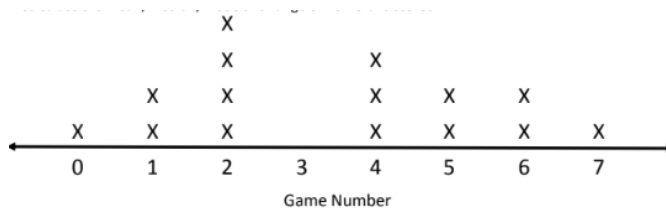

Mean:	3	Mode:	2 and 4
Median:	3	Range:	6

Mean = (0+0+1+2+2+2+4+4+4+5+6+6) ÷ 12
   = 36 ÷ 12
   = 3
Median = 0+0+1+2+2+(2+4)+4+4+5+6+6
   = (2 + 4) ÷ 2
   = 6 ÷ 2
   = 3

Mode = 2 and 4
Range = 6 – 0
   = 6

Practice 2

Jack plotted the number of homeruns his favorite team scored each game. Calculate the mean, median, mode, and range of homeruns scored.

Game Number

Mean:	Mode:
Median:	Range:

5.16 Notes and Practice

Stem and Leaf Plot
- Used to organize larger groups of data into an easy to read chart. Also, helps with finding median, mode, and range.
- Data is ALWAYS written least to greatest!
- Numbers are separated into a stem and a leaf
- Leaf - the digit in the ones place

Steps for making a Stem and Leaf Plot

Example Set:
   36, 40, 35, 50, 44, 50, 38, 42, 50, 49, 70
Step 1 – Organize data least to greatest (count pieces of data to make sure you have included all pieces)
   35, 36, 38, 40, 42, 44, 49, 50, 50, 50, 70
Step 2 – Group numbers based on stem (draw box around each group)

Stem	Leaf
3	5 6 8
4	0 2 4 9
5	0 0 0
7	0

|	
• Stem – the digit or digits to the left of the leaf.	35, 36, 38, 40, 42, 44, 49, 50, 50, 50, 70 **Step 3** – Make stem & leaf chart.
Line Plot • A line plot shows the frequency of data on a number line. Line plots are used to show the spread of the data and quickly identify the range and mode.	Example Set: 14, 11, 16, 16, 15, 12, 13, 12, 16, 15, 15, 13, 16, 15, 14, 16, 15, 14 Each x represents one student

Practice 1: Given the data set: 15, 16, 11, 14, 16, 15, 15, 12, 13, 12, 16, 16, 15, 13, 14,15, 14, 16

Create a stem-and-leaf plot below.	**Create a line plot below.**

Day 3: Practice 2: Look at the stem-and-leaf plot below. Identify if each statement is true or false based on information shown in the graph.

Weights of Dogs at the Animal Shelter

Stem	Leaf
0	6 8
1	2 4 4 8
2	0 5 7 8 9
3	1 1 3 6
4	3 5
5	0 1 2 2 5

Key: 5|5 = 55 pounds
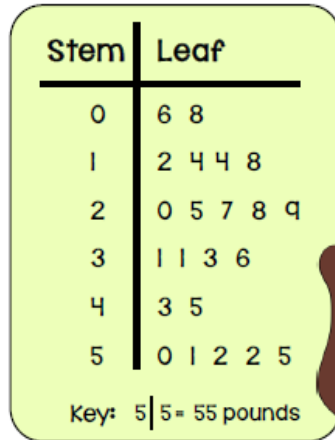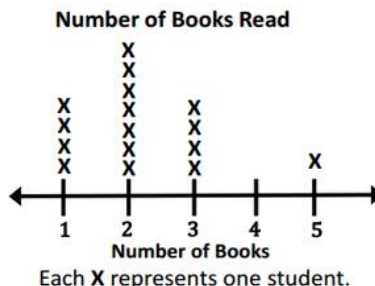
True or False	Statement
	There are 28 dogs in the animal shelter.
	There are 22 dogs in the animal shelter.
	The heaviest dog weighed 14 pounds.
	The heaviest dog weighed 55 pounds.
	Half of the dogs weighed less than 20 pounds.
	Five dogs weighed 45 pounds or more.
	The difference in weight between the heaviest dog and the lightest dog is 49 pounds.
	Five dogs weigh 50 pounds or more.
	The median weight of the dogs is 30 pounds.

	There is an equal number of dogs that weigh less than 14 pounds and dogs that weigh greater than 51 pounds.
	More dogs weigh 31 pounds than any other weight.
	The lightest dog is 8 pounds.

Day 4: 5.15, 5.16, and 5.17 More Practice

Task 1: Lunch Combos A new restaurant has opened, and they offer lunch combos for $5.00. With the combo meal you get 1 sandwich, 1 side, and 1 drink. The choices are below. **Sandwiches: Chicken Salad, Turkey, Grilled Cheese** **Sides: Chips, French Fries, Fruit Cup** **Drinks: Soda, Water** How many different lunch combos are available?	**Task 2**: Write down five numbers between 0 and 20 below and find the: Mean: Median: Mode: Range:
Task 3: Design a Line Plot Construct a line plot that fits the data below. ● The mean is 12. ● The range is 4. ● There are two modes. How do you know that your line plot fits the criteria? Can you design another line plot that also works? Explain your thinking using pictures, words, and symbols.	**Task 4: Design a Stem-and-Leaf Plot** Construct a stem-and-leaf plot that fits the data below. ● There are exactly 12 data points. ● The range is 39. ● There is no mode. ● The median is 36. How do you know that your stem-and-leaf plot fits the criteria? Can you design another stem-and-leaf plot that also works? Explain your thinking using pictures, words, and symbols.

Day 5: 5.15, 5.16, and 5.17 Formative Assessment

1. The chart shows the different shirts, pants, and shoes Simon has in his closet. **Outfit Choices** Color of Shirts: Navy (N), Red (R), White (W) Color of Pants: Khaki (K), Jeans (J) Types of Shoes: Boots (B), Sneakers (S) Show all the possible combinations Simon can create with one shirt, one pair of pants, and one pair of shoes.	2. Directions: Complete the tree diagram. Kathy is allowed a snack after school each day. She is allowed one type of snack and one beverage. Complete a tree diagram with all possible outcomes. **Snack: Granola Bar, Yogurt, Fruit** **Beverage: Water, Milk**
3. Mrs. Smith is making this line plot to show the number of books read by each of her 22 students. Number of Books Read Each **X** represents one student. Mrs. Smith has not recorded all the data for her students. For exactly how many students does she still need to record the number of books read? A. 4 B. 5 C. 6 D. 7	4. This table shows the number of fish in each of 7 aquariums. **Fish in Aquariums** Jeff emptied all the fish from these aquariums and put a fair share of these fish into each of these 7 aquariums. The number of fish he will put into each aquarium represents the A. mode B. mean C. range D. median

Table for question 4:

Aquarium	1	2	3	4	5	6	7
Number of Fish	19	30	24	30	39	25	22

EXAMPLES:

To determine the rule of **numerical patterns**, use a caret (∨) between numbers.
   2, 6, 10, 14 ➔ In this pattern, the numbers are *increasing,* or getting larger.
   ∨ ∨ ∨ ➔ We know the operation will be either addition or multiplication
   +4 +4 +4   2 **x 3** = 6   2 **+4** = 6
          ➔ Each possible rule must be tested to see if all the numbers follow the pattern. 6x3 does not equal 10. The rule for this pattern is **Add 4.**
	Patterns can also be in the form of a table

IN	OUT
2	8
3	12
?	16
5	?

The rule for this pattern is **x4.**

Problem Situation	Open Sentence
Mike had six baseball cards, his brother gave him four more, and now he has 18 cards.	b + 4 = 18
7 boxes, each containing the same number of apples, totaled 84 apples in all.	7a = 84
How many cookies were baked if four friends each received three cookies?	c/4 = 3

Phrase	Variable Expression
four divided by a number	$4 \div n$
eight more than a number	$t + 8$
seven less than a number	$k - 7$
six times a number	$6n$

1. Draw the figure that would be next in the pattern below? Day 0 Day 1 Day 2 Day 3	4 Which word describes the letter "p" in the expression **9 x p** A whole number B operation C algebra D variable
2 What is the rule for the pattern? 36, 43, 50, 57, 64 A add 7 B add 9 C Multiply by 7 D Multiply by 9	5 Which of the following phrases represents the phrase **"4 less than a certain number"?** A 4 - n B 4 + n C n - 4 D n + 4
3 Complete the following pattern. _____, 45, 36, 28, 21, _____	6 Cameron is 4 inches taller than Bennett. If Bennett is t inches tall, which algebraic expression represents Cameron's height?

Day 2: 5.18 and 5.19 Technology Enhanced Items (TEI)

1. Directions: Draw an arrow from the pattern on the left to its description on the right. You must draw one arrow to and from each box. **Consider the patterns on the left. Determine how to describe the pattern. Match that pattern with its correct description on the right.**

999 900 801 702 ...	Decreases by 99 each time
434 545 656 767 ...	Increases by 111 each time
1,001 1,111 1,221 1,331 ...	Increases by 110 each time

2.   Directions: Complete the missing information in the table. **There are 24 cookies in a box. There are 48 cookies in 2 boxes. How many cookies would be in 3 and 4 boxes?**

Number of Boxes	1	2	3	4
Number of Cookies	24			

3. The picture below shows what happened when the numbers 3, 6, 7, and 9 were put into the same function machine. What is the rule?

3   12   6   24   7   28   9   36

RULE: _____

4. Directions: Draw an arrow from the word problem on the left to the matching algebraic expression on the right. **You must draw one arrow to and from each box.**

6 less than m	N + 5
A number increased by 5	$\frac{1}{2}x$
One-half of a number	M - 6

Day 3: 5.18 Checkpoint Questions

1

Which rule *best* describes this pattern?

2, 5, 8, 11, 14, ...

A   Add 1
B   Add 2
C   Add 3
D   Add 4

2

Which is true about this pattern?

Row X	1	2	3	4	5
Row Y	2	4	6	8	10

A   The first row of numbers is twice as big as the second row of numbers.
B   The first row of numbers is half as big as the second row of numbers.
C   The first row of numbers is 1 less than the second row of numbers.
D   The first row of numbers is 3 more than the second row of numbers.

3   **Look at the pattern of figures.**

△△△□□□□□ ⬠⬠⬠⬠⬠⬠ ◇◇◇◇◇◇ ____

Which best describes the next figure?

A   It will have six sides.
B   It will have seven sides.
C   It will have eight sides.
D   It will have nine sides.

4   **Look at the pattern of squares. Which best describes the next figure?**
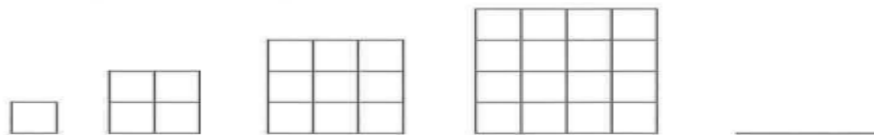
F   It will be a small square made of 16 small squares.
G   It will be a small rectangle made of 16 small squares.
H   It will be a large rectangle made of 25 small squares.
J   It will be a large square made of 25 small squares.

Day 4: 5.19 Checkpoint Questions

1 Which of these could be solved using the equation 4s = 24?

A   Students washed 4 cars on Friday and 24 cars on Saturday. How many cars did they wash in all?

B   Students washed 24 cars on Saturday and 4 cars on Friday. How many more cars did they wash on Saturday?

C   Students washed 4 cars every hour for 24 hours. How many cars did they wash in all?

D   Students washed 4 cars every hour. They washed 24 cars in all. How many hours did students wash cars?

2.   Write an equation that represents "8 less than a number is equal to 12"._____

3. Write a story problem math question that can be expresed with the equation: 9 + n = 18

4. Model the equation in number 3. Make sure to include a key.

Day 5: 5.18 and 5.19 Formative Assessment

1. What are the next three numbers in the pattern: 1, 4, 9, 16, …..… Explain how you know.

2. The chart below shows the temperature for the last three days. If the pattern continues, what is the temperature most likely to be on Thursday?

Day	Temp.
Mon.	27
Tue.	32
Wed.	37
Thu.	???

3. Mike had 12 cans. Together, Mike and Lisa had 21 cans. How many cans did Lisa have?

Which number sentence represents this problem?

A. 12 + ☐ = 21
B. 21 + 12 = ☐
C. ☐ + 21 = 12
D. 12 + 21 = ☐

4. Model the equation you chose as the answer in number 3. Make sure to include a key.

MUSIC
5th Grade Music Learning in Place May 18-22

Name _____ Teacher _____

Test your knowledge of Italian musical terms. If you get stumped, use the word bank below.

DOWN
1. Italian word for "Detached"
2. Italian word for "Very Soft"
3. Italian word for "Half"
6. Italian word for "Loud"
9. Italian word for "Smoothly and Connected"
12. Italian word for "Soft"

ACROSS
4. Italian word for "Lively or Very Fast"
5. Italian word for "Gradually Getting Louder"
7. Italian word for "Very Loud"
8. Italian word for "Cheerful" (a fast tempo)
10. Italian word for "Slow" (a slow tempo)
11. Italian word for "Time" or "Speed of the Beat"

Word Bank

Forte	Legato	Crescendo	Piano
Vivace	Pianissimo	Staccato	Fortissimo
Allegro	Tempo	Mezzo	Lento

Name_____ Teacher_____

Self-Created Music Word Search

Directions: Listen to your favorite vocal artist's song(s) or watch their performance if you can. What did you observe? What music elements did you enjoy or dislike? Write down the music vocabulary words you think of in the word key at the bottom of this page. Then use those words to fill in the template below horizontally, vertically, or diagonally—but not backwards. Finally, fill in the rest of the boxes with random letters. Have a family member complete your word search!

Word Key

MUSIC
5th Grade Learning in Place May 25-29 and June 1-5

Name_____ Teacher_____

Sample Word List for Music Word Search

Steady Beat	Soprano
Tempo	Alto
Andante	Tenor
Allegro	Bass
Meter	Repeat Sign
Time Signature	Introduction
Dynamics	Coda
Piano	Interlude
Forte	Verse
Mezzo Piano	Conductor
Mezzo Forte	Lyrics
Crescendo	Interval
Decrescendo	Range
Rhythm	Concert
Duration	Performance
Posture	Voice
Breath Support	Part
Articulation	Instruments
Major	Melody
Minor	Harmony
Pitch	Chorus
Melody	Solo
Harmony	Unison
Accompaniment	Duet
A Capella	Round
Staccato	Canon
Legato	Solfege
Sharp	Spiritual
Flat	Anthem
Intonation	Aria

Elementary Art Packets

*Please select one prompt from the list below to create a piece of art each week.

Are you looking for more art ideas?

Silly Drawing Prompts

Animals

1. Draw a llama surfing.
2. Draw a fish swimming in something other than water.
3. Combine two animals to create a new one.
4. Draw a shark eating a cupcake.
5. Draw a crab at a birthday party.
6. Draw a seahorse in a blizzard.
7. Draw a dinosaur crying.
8. Draw an animal with arms for legs and legs for arms.
9. Draw a pug on a treadmill.
10. Draw a horse throwing a horseshoe.
11. Draw a shark waterskiing.
12. Draw a walrus in a beach chair.
13. Draw a circus elephant standing on a ball.
14. Draw a koala bear sitting on a trashcan.
15. Draw a lizard putting on lipstick.
16. Draw a squirrel roasting a marshmallow.
17. Draw an octopus with spoons for legs.
18. Draw a mouse riding a motorcycle.
19. Draw a flamingo doing ballet.
20. Draw a butterfly eating a steak
21. Draw a cat chasing a dog.
22. Draw a lobster dancing.
23. Draw a cat playing a sport.
24. Draw a chicken skydiving.

Food

1. Draw a piece of fruit in outer space.
2. Draw a Pop Tart lifting weights.
3. Draw a loaf of bread at a disco.
4. Draw a rainstorm of sprinkles.
5. Draw french fries on a rollercoaster.
6. Draw a food eating another food.
7. Draw a walking taco.

8. Draw chicken wings flying.
9. Draw a banana slipping on banana peels.
10. Draw a cookie with googly eyes instead of chocolate chips.
11. Draw a pineapple rollerblading.
12. Draw a piece of asparagus snowboarding.
13. Draw an annoying orange.
14. Draw a donut riding a skateboard.
15. Draw a turkey leg eating a turkey sandwich.
16. Draw a cheeseburger wearing a dress.
17. Draw a banana in pajamas.
18. Draw a peanut butter and jelly sandwich on vacation.
19. Draw an apple talking to your art teacher.
20. Draw a hot dog flying.
21. Draw a lemon making orange juice.
22. Draw an ice cream cone eating a Popsicle.
23. Draw a garden of lollipops.

Practice Plan Number 1

Write 3 different words that you would use to help you describe Field Day.

1.	
2.	
3.	

Before you practice any of the 5 events below, which activity do you think you'll like the most and why?

Event Name	Practice Day 1		Practice Day 2		Rate 1 thru 4 *1 = Not Fun* *4 = Most Fun*
	Score 1	Score 2	Score 1	Score 2	
Paper Plane Corn Hole					
Wind Bowling					
Sock-er Skee-Ball					
Towel Flip Challenge					
Milk Jug Relay					

Now that you have practiced these events, which activity did you like the most and why?

PAPER PLANE CORN HOLE

Get Ready: You'll need 3 paper sheets per player, a bucket or laundry basket.

Get Set: Create 3 paper airplanes using a design of your choice. Place your bucket 5-10 feet away from your throwing line.

GO!

- This event is called Paper Plane Corn Hole.
- The object of the game is to score points by throwing your paper airplane into your bucket. You have 1 minute to score as many as possible.
- Design and create 3 paper airplanes.
- On the start signal, fly your airplanes as many times as you can toward your bucket.
- Score 1 point for every plane that hits the outside of the bucket and 2 points for every plane that lands in the bucket.
- Write your score down on the official Field Day Score Card.
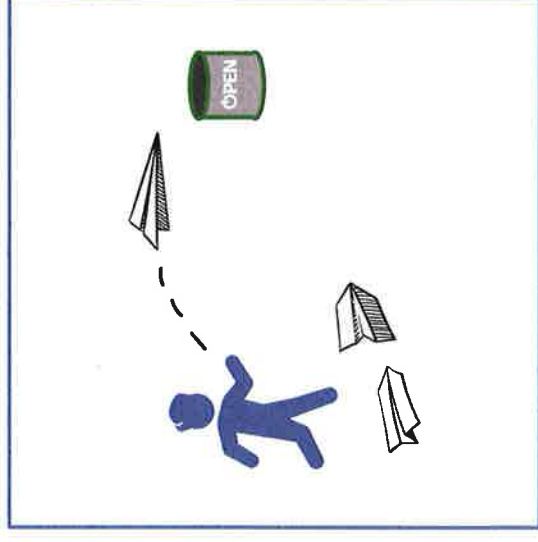
WIND BOWLING

Get Ready: 1 Balloon (or Paper Plate), 10 Plastic Cups

Get Set: Set 10 empty plastic cups at the edge of a table in single file along the edge.

GO!

- This event is called Wind Bowling. The object of the game is to knock all the cups off a table edge using only the air from the balloon or paper-plate fan.

- You'll do that by blowing the balloon up and aiming the escaping air towards the empty plastic cups. If you don't have a balloon you can wave the paper plate like a fan with the fan's air hitting the cups.

- Score a point for every cup that gets knocked off the table.
- You have 1 minute to knock down as many cups as you can.
- Write your score down on the official Field Day Score Card.
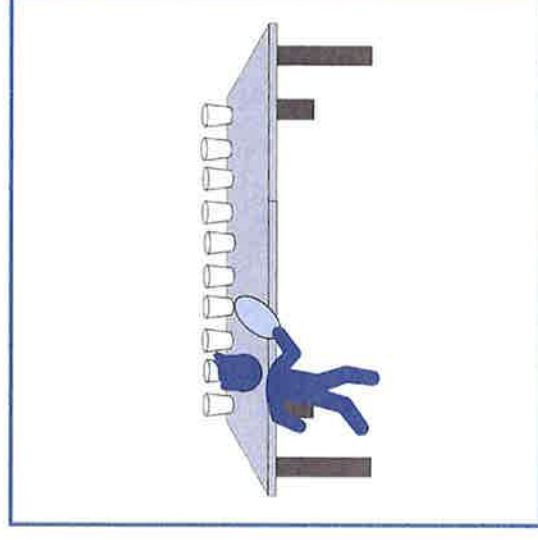
SOCK-ER SKEE-BALL

Get Ready: 10 sock balls, 1 Laundry Basket, 1 Bucket, 1 Tupperware container

Get Set: Roll up the socks to make sock-balls. Stack the targets into skee-ball formation with the Tupperware inside the bucket and the bucket inside the laundry basket.

Laundry Basket = 1 point

Bucket = 5 points

Tupperware = 10 points

GO!
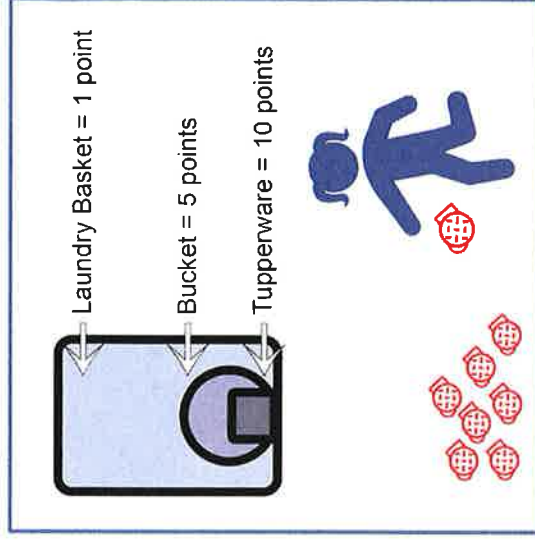
- This event is called Sock-er Skee-ball. The object of this game is to score points by kicking the sock ball into the skee-ball targets.
- You'll do that by using your feet to kick the sock ball into the target.
- Score 1 point for every sock ball that lands in the laundry basket.
- Score 5 points for sock balls in the bucket.
- Score 10 points for sock balls in the Tupperware container.
- You get 10 chances to score as many points as you can.
- Write your score down on the official Field Day Score Card.

OPEN

TOWEL FLIP CHALLENGE

Get Ready: 1 large beach or bath towel

Get Set: Lay your towel out flat on your floor and stand on it.

GO!

- This event is the Towel Flip Challenge. The object of this game is to flip the towel as fast as you can without stepping off of it.
- You can take small steps from one part of the towel to another. However, you can only move it when you have both feet firmly in place on top of the towel.
- The towel must be flat at the start and flat at the finish.
- You have 1 minute to complete the challenge.

OPEN NATIONAL Field Day HOSTED BY THE OPEN NATIONAL TRAINERS
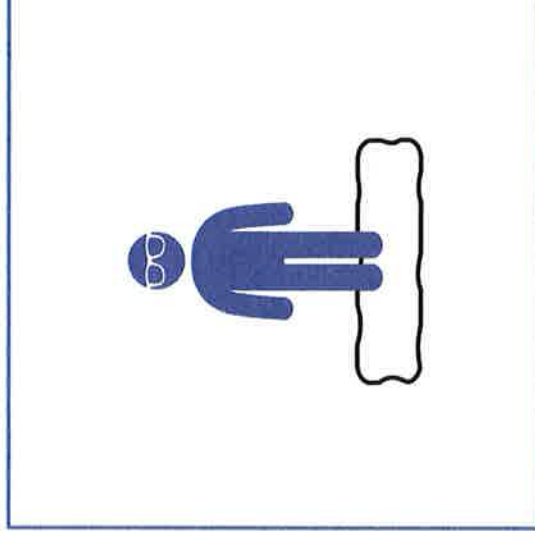
MILK JUG RELAY

Get Ready: Two 1-Gallon Milk Jugs, Items to Mark Start/End Points (cones, socks, plastic cups, etc.), Clock or Stopwatch

Get Set: Set up an area to move in by making a starting point and ending point. Distance can be 15 to 30 walking steps from beginning to end. Fill two used 1-gallon milk jugs with water (¼, ½, or full) and place at a start spot.

GO!

- This event is called the Milk Jug Relay. The object of this game is to carry the milk jug across the room as many times as you can.
- You get 1 point for each full length you travel.
- Add extra challenge by carrying two milk jugs at once.
- You have 1 minute to complete the challenge.
- Write your score down on the official Field Day Score Card.
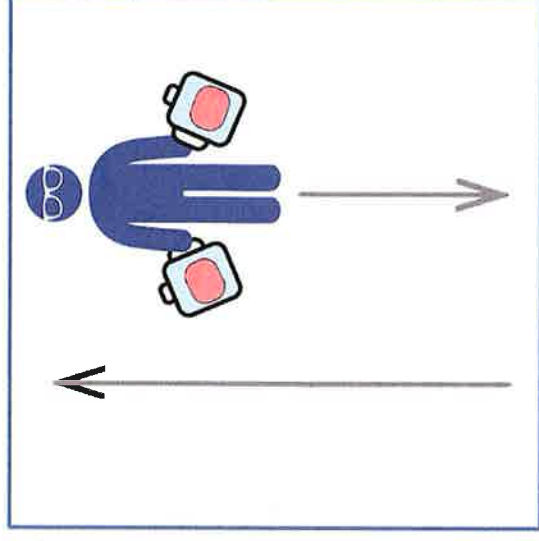
Grade 5: Gifted Opportunities
Gifted Education & Academic Rigor Services
May 18 – June 5

Ready, set, THINK! Complete a Math and/or Communication Skills/Reading activity each week on a separate piece of paper to share with your Gifted Resource Teacher. If your brain needs more, then do the STEM challenge for an extra brain boost! Enjoy!

Subject	Week 10 May 18 - 22	Week 11 May 26 - 29	Week 12 June 1 - 5
Math	Create a map (to scale) of your dream classroom, and arrange the furniture the way you think would most efficiently and creatively utilize the space. Keep in mind traffic patterns, student seating arrangements (being able to see the board), interference with doors opening and closing, etc.	Imagine that your school will be hosting a Fall Festival. The refreshment committee wants to sell apple cider. The apple cider jug holds 225 ounces. The cider will be served in 8-ounce cups. The committee expects 200 people to attend. How many jugs of apple cider should the refreshment committee purchase?	Mrs. Smith and Mrs. Jones both volunteer in their children's classrooms. Mrs. Smith volunteers every third school day for 1/3 of a day. Mrs. Jones volunteers every fifth day of school for 1/2 of a day. In a given month, which parent is spending more time volunteering?
Communication Skills /Reading	Write 10 food and people similes. For example, "Franco is as assertive as a wilted piece of lettuce," or "Mariana's hair is as red as tomato soup". Your comparisons should create a very clear image of the person.	Write a paragraph about an argument about anything (imaginary or real). Make each sentence start with the last letter of the previous sentence (if the first sentence ends with an *e*, the next sentence should start with an *e*.	Mr. and Mrs. Alfredo Wilkowitz named their son *Hokey Pokey Wilkowitz*. Not surprisingly, Hokey wants to know what they were thinking. Explain for them, clearly but kindly (and creatively!)
STEM Challenge	Pick a book that you like, that doesn't already have a movie version. Pretend that this book is about to be made into a movie. Create a storyboard for the trailer to advertise the movie.	Create a shadow puppet using paper, tape, and some form of stick. Turn the lights off and use a flashlight to test your shadow puppet. Make adjustments to improve them. Record your adjustments and observations.	Design a blueprint for the playground of your dreams.

Don't forget to read every day! Your brain will thank you☺.

Online Resources for ESL Families

English learning websites are a great way to learn. This list of websites can be used by your family to learn English and learn to read in English. Please go to the websites to find reading opportunities, educational activities, and English learning games. Use these tips to help your child learn English:

- Read in your native language or in English everyday!

- Have your child keep a vocabulary journal of new words they read or hear. Use the new words to write sentences and stories. Draw pictures to go with the new words.

- Watch educational shows in English on TV. Ask your child to write down 3-5 new English words in their journal each day.

- Talk to your child in your native language (ie: Spanish). Tell your child stories and sing songs. Talking and listening in any language builds vocabulary and background knowledge. A strong vocabulary is important for reading success.

- Playing together as a family is important to build language and a strong family bond. You can play games on the computer, play board games, or play together outside. Have fun and build language at the same time.

- When it is safe, take family trips in the community. Going for a walk or going to stores creates many opportunities to talk together and build vocabulary using the world around you.

For more information about how to help your child learn English and your native language, go to https://www.colorincolorado.org/.

Websites for ESL Families

Reading - eBooks:

Elementary: https://abdodigital.com/?tk=414F33301B8E136DEE3F0A93BF1795E1

Secondary: https://abdodigital.com/?tk=840BC558E6676AB1F4C9FA29D8EC6D69

TumbleBooks K-12: https://www.tumblebooks.com/

      TumbleBookLibrary (k-6)   Username: tumble735   Password: books

      TumbleMath (k-6 math)   Username: tumble2020   Password: A3b5c6

      TeenBookCloud (6-12)   Username: tumble2020   Password: A3b5c6

Reading - Audio books:

https://www.tumblebooklibrary.com/

      Kid to Adult Audio books   Username: tumble2020   Password: A3b5c6

https://www.uniteforliteracy.com/

https://www.myon.com/school/readathome

      School Name: Read at Home   Username: readnow   Password: myon

Beginning Reading, Grammar & Games:

https://www.starfall.com

https://www.abcya.com/games/tangrams

https://pbskids.org/games/music/

https://esl-kids.com/

Spanish Literacy:

https://www.spanishplayground.net/online-spanish-stories-kids/