

LOWER ELEMENTARY WEEK SEVEN: MAY 11 - 15, 2020

Dear Lower Elementary Communities,

Welcome to a new week in the last full month of the school year! We know that by now, the seventh week of Distance Learning, you have plenty of resources from which to draw inspiration and information.

In the spirit of transparency, we would like to share that instead of putting forth 24 lessons each week as we have been doing, we will be posting about 18 this week and 12 next week and onward. We invite you to review past lessons, the ones considered to be favorites and the ones that are yet-to-be read.

Keeping in mind the unique ways that Magnolia and Red Oak have approached Distance Learning in addition to this page, we hope that you find those to be truly useful and in direct benefit to your child. We strongly encourage you to reach out to us directly should you need any more information, any further support, or even just for a chat.

Working alongside you and being part of the day-to-day Distance Learning across 40+ make-shift classrooms continues to be an honor and a joy. Thank you for being present with us as we strive to offer the children varieties of lessons and as we express our sincere appreciation for their individual talents.

Happy spring!

Ms. Pasco, Dr. Feeley, Ms. Shirley, and Mr. Weathers

Language

Dialogue and Use of Quotations for Embedded Speech

- Dialogue is a literary device in which there is a conversation between two or more people. Many fiction stories and books use that. To show that a character is speaking, using a voice different from the narrator, quotations marks are used.
- I have a story for you today:

Once upon a time, Livia painted a picture of a tree. She used the most beautiful pigments of acrylic and in great detail, captured the bark, the branches, and the leaves. She took such great care in painting the picture that the goddess of art herself took notice! **“Goodnight, tree,”** Livia said one evening as she left her studio.

The next morning, in place of the easel, in place of the brushes, in place of the two-dimensional portrayal of a plant, stood a gorgeous tree. **“Good morning, artist,”** the tree spoke. **“You... you can talk!”** Livia said in amazement. **“Yes. Before I go back to being a painting, I can answer three questions. Whatever you ask, I shall reply with the truth.”** Livia pondered for hours because she only had three questions. She was so excited to be in dialogue with a tree!



- **Follow-up Activities:**

- (Intro level) Practice the structure and use of quotations by using a quotation mark, writing the dialogue, writing the appropriate punctuation, then adding the closing quotation, then note who said it. Another structure is first noting who is speaking followed by what is being said. For example:
 - “How are you?” Nina asked. “I’m fine, thank you,” Brielle replied.
 - “Did you eat your lunch?” asked Liv. “Yes, it was delicious!” Arden replied.
 - The doctor said, “Remember to stay hydrated.”
 - Harrison exclaimed, “Wow! That book was great!”
 - Louis added, “The author is so talented!”
- (Application level) Find a book that includes strings of dialogue between/among the characters. Find a book with no dialogue whatsoever.
- (Practice level) Continue the story I started above. What did Livia ask the tree? How did the tree reply? Does the goddess of art stop by to also chat? If not, does anyone else? Include at least 6 individual pieces of dialogue.

Personification

- **Personification** is a literary device that gives human traits and qualities, such as emotions, desires, sensations, gestures and speech to non-human subjects. This is often used in poetry, prose, and fictional works.
- Here are some examples:
 - The sun is smiling brightly today.
 - The sun does not actually have a face and does not literally smile. By personifying the sun to be able to smile, personification is used to set a bright, happy mood based on weather.
 - The missing sock hid under the bed.
 - Socks cannot consciously choose to hide. By using personification, the speaker adds a playful tone to the scene.
- **Follow-up Activities:**
 - (Intro Level) Write at least 10 sentences that use personification. Use personification differently for each sentence.
 - (Application Level) you are challenged to find examples of personification in books available to you. Poetry books are a good place to start.
 - (Practice Level) Write a poem or a short story that’s written in the first person. This can also be in the form of riddles. For example:
I protect those I care about by standing tall and strong. What am I? (I’m a door.)
 - Think of your own way of practicing personification.

Spelling

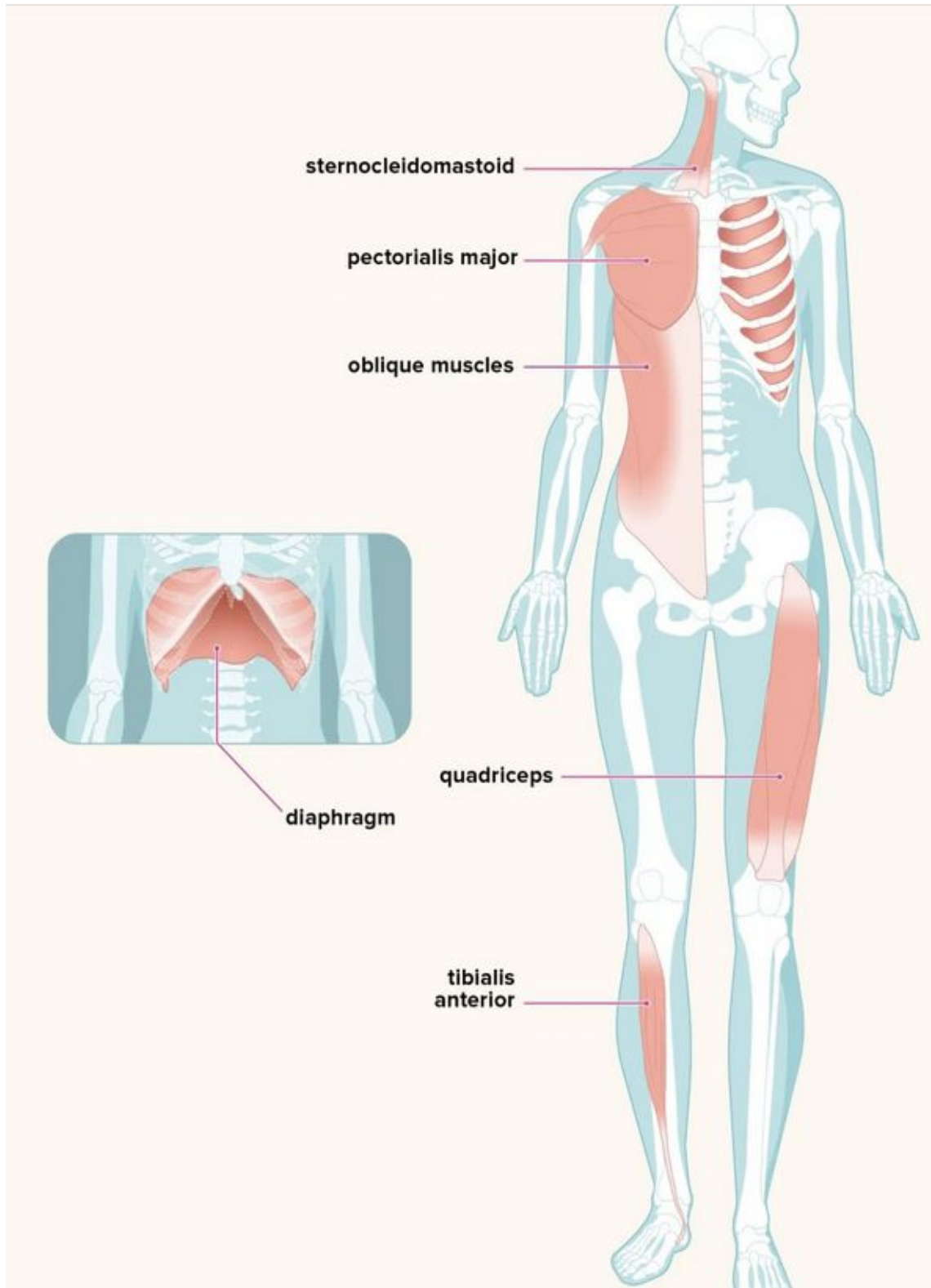
- Choose a **spelling list** for this week from the *Instructional Spelling Program* by Andrea Rolfe or choose the last list from *The Reading Teacher's Big Book of Lists (Intermediate Spelling Demons)* by Kress and Fry. Practice spelling your list out loud with a parent or sibling. Make up sentences for each word and write them down. You can take a quiz on Friday.
 - grew, room, zoom, broom, moon, noon, spoon, tooth, spool, snoop.
 - bushes, wishes, dishes, rashes, foxes, axes, buses, passes, dresses, classes.
 - dozen, amount, weight, centimeter, liter, January, March, July, September, November.
 - hurries, hurried, studies, studied, enjoys, enjoyed, pays, paid, says, said.
 - generally, heroes, importance, leisure, maneuver, nonsense, occurred, particular, recommend, satellite. (Kress and Fry)

Biology

Muscles in the Trunk of the Body

- **Muscles include:**
 - **Sternocleidomastoid:** This muscle is involved when you rotate or tilt your head to the side and forward.
 - **Pectoralis major:** This is located in your upper chest and is utilized for rotational, vertical, and lateral movements of your arm.
 - **Oblique muscles:** This group of muscles, which includes the external and internal obliques, helps you to bend to the side or twist your body at the waist.
 - **Quadriceps:** This is a group of muscles that are located at the front of your thigh and work together to straighten your leg at the knee.
 - **Tibialis anterior:** You use this when you raise the sole of your foot from the ground
 - **Diaphragm:** This separates your torso from your abdomen. It's also involved in breathing, contracting when you inhale, and relaxing when you exhale.
- **Follow-up Activities:**
 - Study the muscles in the picture below. Read the names. Locate the muscles on your body. Share this with someone.
 - "By tilting my head forward, my sternocleidomastoid is at work."
 - "To sing, I use my diaphragm."
 - Practice the spelling of 10 words from this lesson. Make sure the words you choose are topical.
 - Lift your foot, raise your arm, breathe, and think about the muscles at work as you do these things.

- Play a game or write a rhythmic poem that helps you remember the names of at least 3 of the muscles below.



Plants' Self-Defense

- In zoology, when we think of defense, we think of hard turtle shells, pointy teeth, razor-sharp claws, the like. What about plants? Let's think about the ways that plants defend themselves from animals. Some plants evolved with clever defensive qualities such as these:
 - **Spiky leaf margins**, like the blue agave and holly, as seen in the top left picture
 - **Thorns**, like on roses (top middle), flowering quince, thorn acacias, and crown of thorns
 - **Spines on the stem**, like on the thistle (top right)
 - **Poisonous sap**, like on the common milkweed (bottom left)
 - **Woolly leaves**, like on the lamb's ear to make it difficult for insects to chew on (bottom middle)
 - **Tannin**, bitter-tasting chemicals in the leaves deter animals from eating them, like in tea leaves (bottom right)



- **Follow-up Activities:**
 - (Intro level) Use art materials available to capture the beautiful features plants have in self-defense. Capture at least one.
 - (Application level) Go on a nature walk and try to find ways that various plants you find protect themselves. Be careful!
 - (Theory level) Discuss why it's important for plants to have ways to defend themselves. What sorts of environmental factors may have played a part in their evolutionary traits?
 - (Expansion level) Think of more features that were not listed and let us know. Think of further examples of plants with any of the features above.

- (Practice level) Write a poem or a catchy song to remind you of the above-listed features of botanical self-defense.
- Think of your own follow-up activity and tell me what you did.

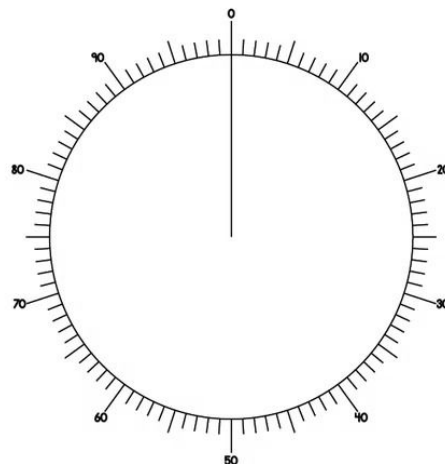
Animal Habitats

- [Watch this video on animal habitats](#) and answer the following questions:
 - How do the fundamental needs of animals remind you of the fundamental needs of humans?
 - What do people and other animals need in common? Make a list of their common needs.
 - Have people had to adapt to various habitats?
 - How does human adaptation differ from the adaptation of other animals? For example, have our bodies changed to adapt to new habitats or have we adapted our body coverings and shelters to serve us in new habitats?

Mathematics

Percentages

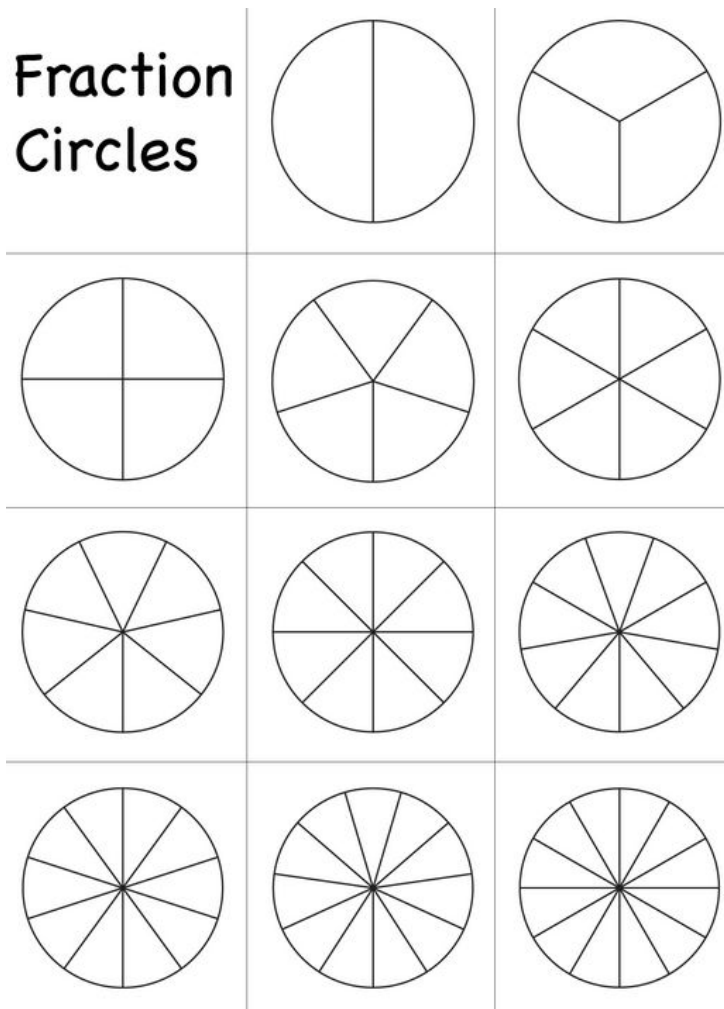
- Percent means "out of one hundred". The symbol for percent is "%". Percentages and fractions are related. Examples:
 - $1 / 10 = \text{one tenth} = 10\%$
 - $1 / 4 = \text{one quarter or one fourth} = 25\%$
 - $1 / 2 = \text{one half} = 50\%$
 - $3 / 4 = \text{three quarters or three fourths} = 75\%$
 - $1 / 1 = \text{one whole} = 100\%$



The Montessori Centesimal Frame

- **Follow-up Activities:**

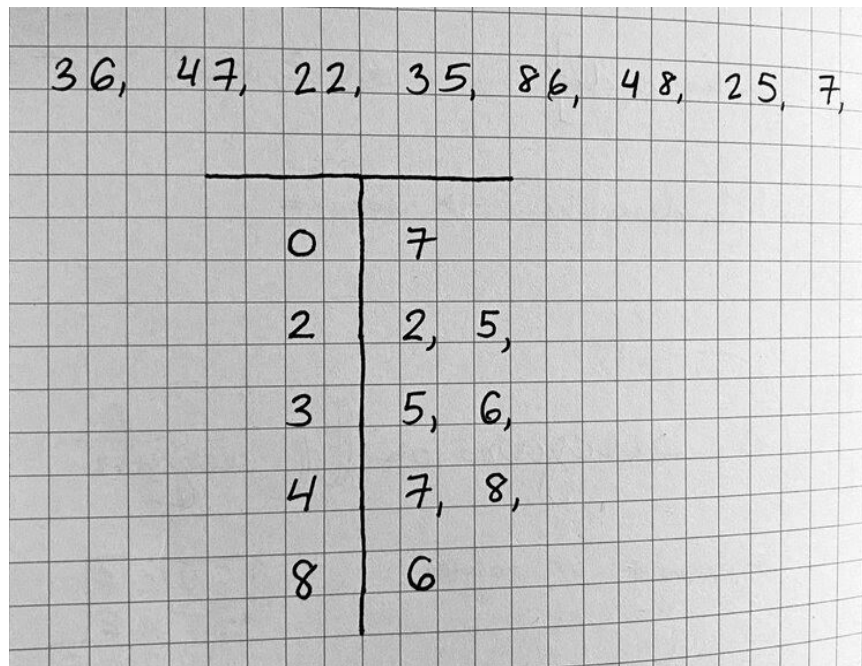
- Label, cut, and color the fraction pieces below. I would recommend one color for each circle / set. Code the pieces so you remember which color is for what set. (For example: pink is for halves, dark green is for sevenths, etc.) Place the necessary pieces on the Centesimal Frame above. Note the percentages of these fractions:
 - $3 / 10 =$
 - $2 / 5 =$
 - $7 / 8 =$
 - $2 / 3 =$
 - $4 / 5 =$
 - $6 / 10 =$
 - $2 / 4 =$
- Make your own questions :) Then create an answer key.



Stem-and-Leaf Plots

- A stem-and-leaf plot is a way to show data to clearly see patterns, frequency, and shape. The “stems” represent the higher place value (typically tens) and the “leaves” represent the lower place value (typically units). The purpose of this lesson is to become familiar with this statistical method of data representation. The indirect purpose is to practice numerical order and attention to detail.
 - **Step 1:** Create a T-chart.
 - **Step 2:** Identify the tens in your data set.
 - **Step 3:** Write them in order from least to greatest on the left side of the T-chart (that would be 0, 2, 3, 4, and 8 on the sample).
 - **Step 4:** Write the corresponding unit values on the right side next to the respective tens value.
 - **Step 5:** Put the unit values on each row in order from least to greatest.
 - **Step 6:** Verify that all the numbers are accurately included.
- **Follow-up Activity:**
 - Create your own stem-and-leaf plots using the following string of numbers:
 - **Set 1:** 13, 26, 19, 25, 98, 55, 38, 55, 25, 14, and 99
 - **Set 2:** 4, 42, 33, 5, 37
 - **Set 3:** Create your own set of numbers / information set.
 - Practice finding the range, median, mode, and mean of the “Ages of People Around the Dinner Table” plot.

Ages of People Around the Dinner Table



Comparing Measurements: Greater Than and Less Than

- To express relationships between numbers we use symbols. Here are three that you might remember: = (**equal**), > (**greater than**), and < (**less than**).
- We can apply these relationships to measurements.
- Consider meters, for example:
 - 1 meter is equal to 100 centimeters.
 - 1 meter equals 1,000 millimeters.
 - 1 dekameter is equal to 10 meters.
 - 1 hectometer equals 100 meters.
 - 1 kilometer equals 1,000 meters.
- Apply these symbols, = (**equal**), > (**greater than**), and < (**less than**), to the pairs of measurements below by filling in the space with the appropriate symbol.
 - 20 hectometers ____ 300 meters
 - 1 meter ____ 2,000 millimeters
 - 2 dekameters ____ 50 meter
 - 10 kilometers ____ 2,000 meters
 - 3 centimeters ____ 5 millimeters
 - 100 millimeters ____ 10 centimeters

History

Origin and Parts of a Bicycle

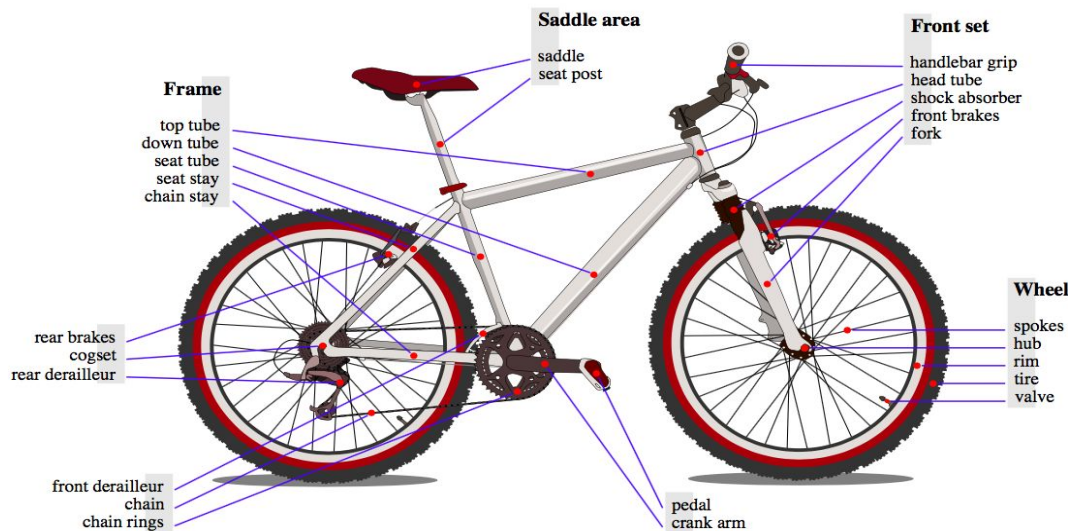
- In 1817, a German named **Baron Karl von Drais** invented the first bike-like technology called the "*laufmaschine*," which translates to "running machine." His invention was two-wheeled, steerable, and human-propelled. It had other nicknames, like the "velocipede," "hobby-horse," and "dandy horse."



"Johnson, the First Rider on the Pedestrian Hobbyhorse"

- **Questions:**

- How many sectors are created by the spokes on each wheel?
- What differences do you notice between this bike and the bike we typically see on the streets today?
- This image is dated back to 1819. How many years ago was that?
- The first bicycle with pedals was invented by **Kirkpatrick Macmillan**, a Scottish blacksmith. He was born in 1812 and died in 1878.



- **Etymology:** 1868, from the Greek of *bi* which means "two" + a Latinized form of the Greek word *kyklos* which means "circle, wheel"

- **Follow-up Activities:**

- Create ticket labels for each of the parts and place them (with or without tape) on your own bike, if you have one. After some practice, time yourself and see how much time it takes you to place the tickets accurately.
- "Bicycle" literally translates to "two wheels" or "two circles."
 - Make a list of 5 words that have the word "bi" as a prefix.
 - Make a list of 5 words with "cycle."
 - Compound words such as "water cycle" also count.
- What parts of your bike are included in the diagram above?
- What parts of your bike are not included in the diagram above?

Ancient Greece: Gods and Goddesses

- Many rivalries and feuds are described in Greek myths. The gods were in the center of most of them. Below is a story of such a rivalry between Athena and Poseidon from [Kelsey Robertson's Mythology website](#).

Athena Vs. Poseidon (Greek Mythology) The Contest of Poseidon

"In most rivalry myths the two opposing sides are fighting over possession of something. In the case of Poseidon and Athena they are fighting over patronage of the city Athens. In the "[Contest Myth](#)" the first king of Athens, Cecrops, who was half person and half snake, needed a patron deity for his city. Poseidon, the god of the Seas, and Athena, the goddess of Wisdom and Skill, were the most interested and presented themselves to Cecrops. Cecrops decided to have a contest for the patronage of Athens, he asked Athena and Poseidon to offer a gift to Athens. The god that gave the most useful gift would become the patron.

Poseidon was the first to give his gift. He struck the earth with his trident and created a stream of water but, the water ran salty and proved very useless to the people of Athens. Athena went next, she struck her spear into the ground and planted an olive branch creating the olive tree. Cecrops was impressed by Athena's gift and chose her as the patron of the city, naming it after her. The god Poseidon, however, was not impressed by Cecrops' decision and cursed the city to never have enough water. From that day forward Athena and Poseidon hated each other, Athena because Poseidon had cursed her city and Poseidon because Athena had won."



- Use D'Aulaires' *Book of Greek Myths* or another book of myths with which you are familiar to read about more rivalries between the Greek gods. Are most of the stories about two gods fighting over the possession of something?

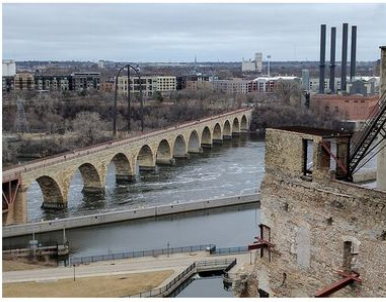
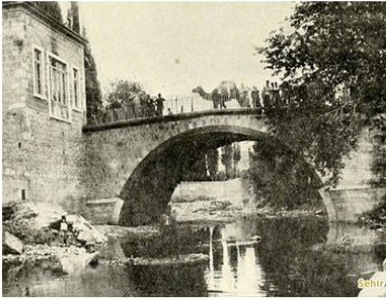
Ancient Greece: Sacrifices to the Gods

- The Ancient Greeks, like the people of many other cultures, made offerings or sacrifices to the gods. [Read more about how and why the sacrifices were made on this website](#) and answer the questions below.
 - While sacrificing animals is not typically part of our culture today, are there aspects of the Ancient Greek worship that remind you of modern holiday celebrations? What similarities do you notice?
 - When do we have feasts?
 - When do we have parades? Do we ever decorate animals and vehicles like the Ancient Greeks?
- For additional information, read this [Britannica Kids article](#) to see if the Ancient Greeks ever had parades (or processions) or decorated animals or carts.

Geometry

The Arch Bridge

- Introduction: Bridges are structures people have built to be able to transport people and vehicles over obstacles such as rivers, valleys, and roads. They are designed and built to withstand various weather conditions and heavy loads. **These are the main types of bridges: arch, truss, beam, suspension, cantilever, cable-stayed.**
- Today, we will focus on the arch bridge. Arch bridges are one of the oldest types of bridges. The arch is what makes the bridge strong by allowing weight to be distributed instead of having it pushed straight down. The weight spreads out to the ends of the bridge, the abutments, which are the supports on the ground at both ends and keep the ends of the arch bridge from breaking apart. The oldest known arch bridge in the world to still be in use is the Caravan Bridge (see bottom right picture), a stone arch bridge across the Meles River in Izmir, Turkey. It was built in 850 B.C.
- Pictured below
 - Top left: **Caravan Bridge in Izmir, Turkey (Built in 850 BC)**
 - Top middle: **Sydney Harbour Bridge in Sydney, Australia (Opened in 1932)**
 - Top right: **Bayonne Bridge in New Jersey, USA (Opened in 1931)**
 - Bottom left: **Stone Arch Bridge in Minneapolis, Minnesota, USA (Opened in 1883)**
 - Bottom middle: **Alcántara Bridge in Cáceres, Spain (Completed in 106 AD)**
 - Bottom right: **Mike O'Callaghan–Pat Tillman Memorial Bridge in Nevada, USA (Opened in 2010)**



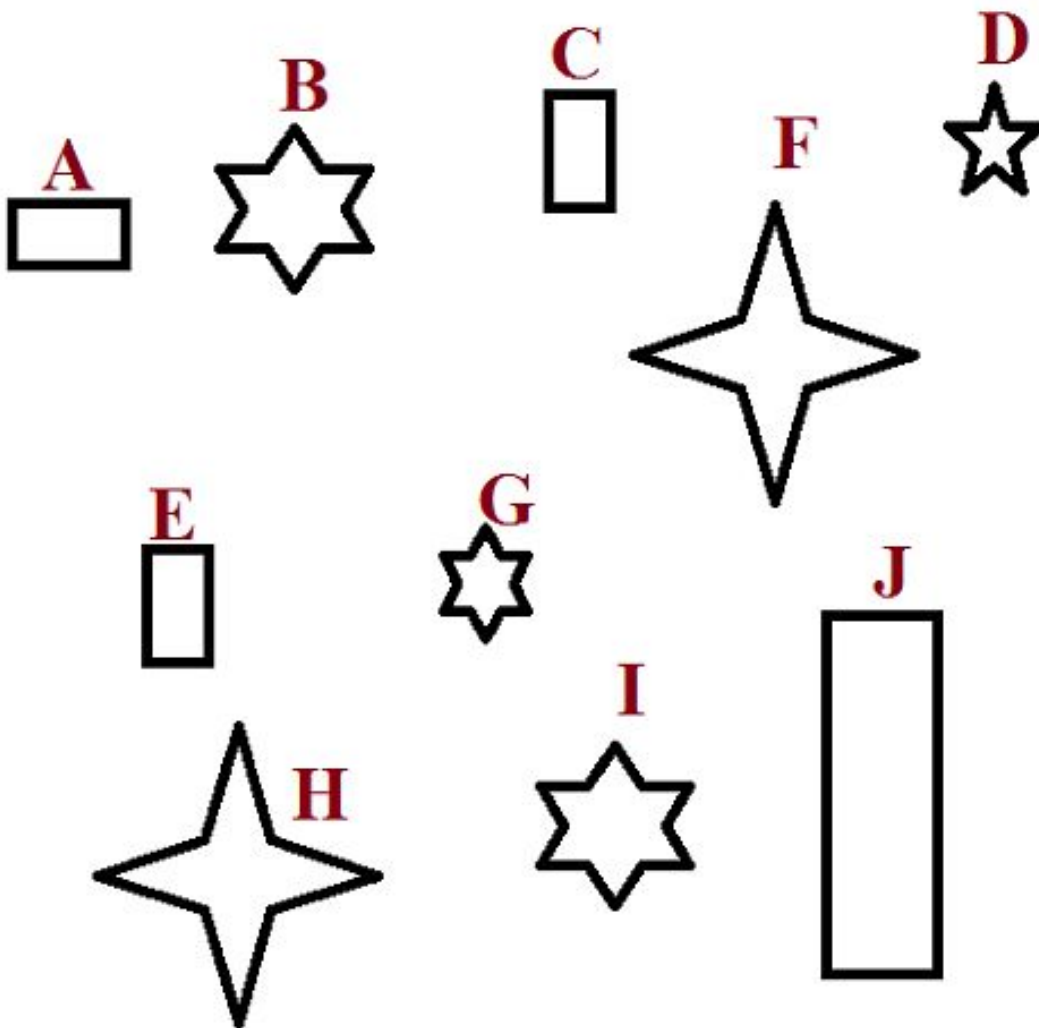
● **Follow-up Activities:**

- (Introduction level) Choose one of the arch bridges above or a high-definition photo of an arch bridge. Draw, paint, or sketch the bridge. Remember to label the bridge and add a title.
- (Research level) Write a short report about an arch bridge. Find out when construction started and ended. Find out the material. Include any fascinating facts you find. What is underneath the bridge? How much weight can it hold?
- (Application level) Create your own arch bridge out of materials you can find in your home, like cardboard or cardstock. If you think of other materials to use, let me know!



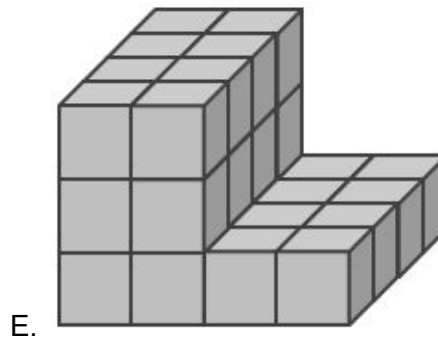
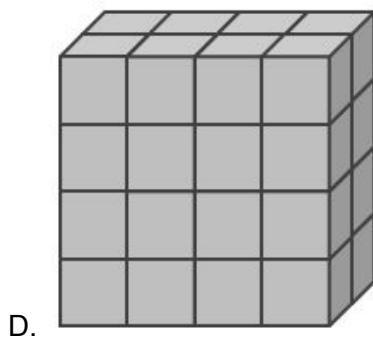
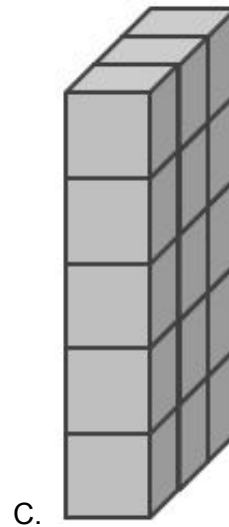
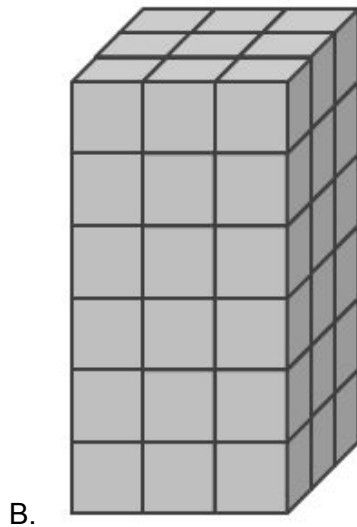
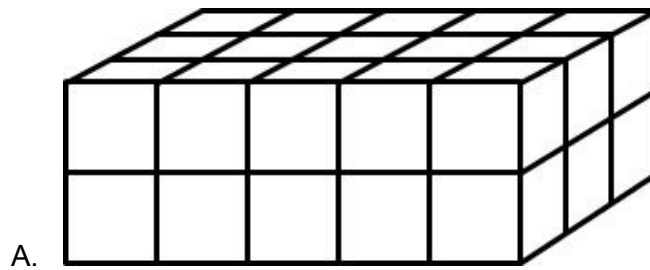
Congruent Shapes

- Congruent shapes are shapes which fit precisely on top of one another. They cover the same amount of area, their angles are the same amplitude and their sides match in length. Here are ten shapes. Which ones are congruent? List the congruent pairs like this: 1. $A \cong E$. Find more.



Determining Volume of Rectangular Prisms

- We can determine the area of a flat surface as a grid. If that surface is a rectangle it is easy to divide into square units. If we consider a rectangular prism and how much space it takes up, we must consider its volume. It is three dimensional and the space has to be measured in cubic units.
- Look at these rectangular prisms (A-E) and calculate their volume by figuring how many cubic units they contain.
- Draw your own rectangular prisms. Try representing their volume in equal cubes. Use a ruler.



Geography

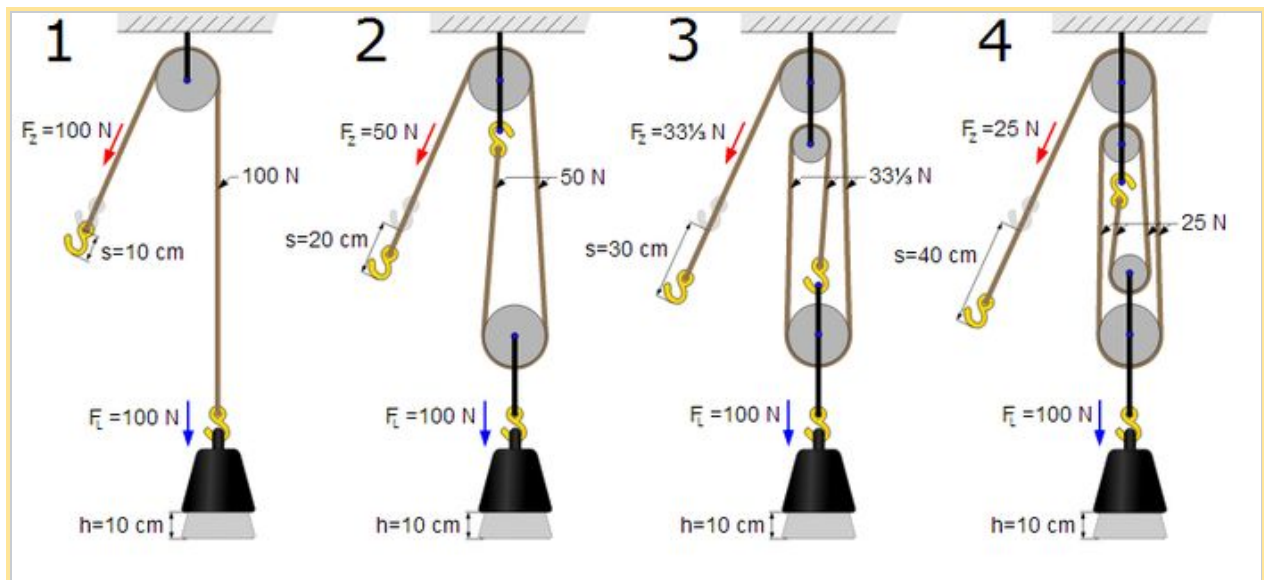
Mountains

- We can find mountains on every continent. Most can be found in rows, or ranges, that can span thousands of miles long! The longest mountain range is the Andes Mountains. It runs the length of South America. The tallest mountain in the world is Mount Everest. Let's think about the parts of the mountain. [To help us think about them, please download, print, and cut out the PDF.](#)
- "Mountains are strong and unwavering. Their permanence in the world can teach us to be steady and powerful. Mountains absorb the sun, rain, snow and brave the natural elements. When practicing Mountain pose, we align and ground ourselves. It is an active pose that helps improve posture, balance, and focus." (Source: Flow and Grow Kids Yoga)
 - How to Tadasana (Mountain Pose)
 - Stand with your feet at hip width distance apart. Imagine you can grow the soles of your feet and toes down into the Earth, which helps you feel steady as a huge mountain at its base.
 - Then, standing up straight and let your arms fall to your sides.
 - Turn your palms forward and spread your fingers out.
 - Lengthen your spine by lifting the crown of your head a little higher toward the sky right above you. Breathe steadily in and out. Stand firmly in your strength.
 - Benefits:
 - Helps promote a feeling of calm and strength.
 - Allows for a moment to pause.
 - Promotes alignment and balance.



Pulleys & Force

- The diagram below shows four pulley arrangements. Arrangements 1, 2, 3, and 4 each have different results in reducing the force {F1 to F2} required to lift the 100 gram weight shown at the bottom of each diagram.
- The difference between F1 and F2 should show a decrease in the force needed to lift the 10 gram weight. Compare the F1 and F2 for each arrangement.
 - Pulley Arrangement 1: $F_2 = 100$, $F_1 = 100$
 - Pulley Arrangement 2: $F_2 = 50$, $F_1 = 100$
 - Pulley Arrangement 3: $F_2 = 33 \frac{1}{3}$, $F_1 = 100$
 - Pulley Arrangement 4: $F_2 = 25$, $F_1 = 100$
- Which one shows the *least* difference between F1 and F2?
- Which pulley arrangement shows the *greatest* difference between F1 and F2?



Simple Machines, continued

- Below is a selection of simple machines.
 - Sort them into six categories: levers, wheels and axles, inclined planes, wedges, screws, and pulleys.
 - Add other examples to each category. Look for examples around your house. List the ones that you find by category.
- Remember:
 - An **inclined plane** consists of a sloping surface.
 - A **wedge** is an object that tapers to a thin edge.
 - A **lever** is a bar or board that rests on a support called a fulcrum.
 - A **wheel and axle** is made up of a circular frame (the wheel) that revolves on a shaft or rod (the axle).
 - A **pulley** is a wheel that carries a flexible rope, cord, cable, chain, or belt on its rim.
 - A **screw** is a spiralling rib, wrapped around a cone affixed to a column.

