

**Sweet Gum Upper Elementary Community
Distance Learning Plan & Digital Resources
Week of June 1, 2020**

Dear Sweet Gum Community,

Below you will find details for the Week 10 Distance Learning Plan, the last DLP before our summer break. We hope you find inspiration and ample opportunities to reflect on the year and refine your work. We have been thrilled to see your creative creations and the fruits of your labors this spring, albeit from afar. Please continue to send us your work, share a bit about your processes, and reach out to us for help or support!

The following subject areas include new activities and projects this week:

- **Reading** - Recommending Your Favorite Book of 2019-2020
- **Writing** - The Research Process: Questions and Rehearsing with Ms. Navarro
- **Math and Geometry** - Modern Mathematicians & Probability Games
- **History** - Human Inventions
- **Science** - What Can You Hear Underwater? (A Study of Sound Waves)
- **Geography** - Economic Geography (The Story of Sugar)

If you have not tried every activity from Weeks 1-9, you can find downloadable links to these plans under the “Downloadable Weekly Plans and Resources” panel on the webpage. Previous weekly plans from Specialists are also available on the Specials webpage. The DLP page will remain live through the summer!

Stay curious!

Ms. Isaza and Mr. Kendall

New Content this Week:

Daily Reading and Response Journal:

Read a fiction book for a minimum of 1 hour per day. This book could be your new book club book, or an independent book you are already reading. Keep a response journal each time you read.

In addition to capturing your thoughts about your current independent book, this week, recommend a favorite fiction book you read this school year. You can use our “Staff Picks” Book Recommendation template ([attached](#)) to record your notes. What are some reasons to recommend a book to a friend or family member?

- You couldn't put the book down!
- The characters in the book are interesting and entertaining.
- The problem in the story is exciting and unpredictable.
- The author uses descriptive language that is fun to read.
- The book is part of a series, and you want to get your friends interested in the series.
- The illustrations are unique or memorable.
- The story is very funny and makes you laugh while you are reading.
- The story teaches you a lesson that helps you see the world differently.
- The story reminds you of something important in your life or the world.
- The book offers a unique perspective you might not encounter in daily life.
- The book won an award.

Use your notes and the template to write a letter recommending your book to someone. The letter could be intended for someone you know, or it could be intended for a general audience. Share your book recommendations at a community meeting this week, or send them to your friends!

Writing Activity: The Research Process: Questions and Rehearsing with Ms. Navarro

This week, let's take some time to focus on the research writing experience that so many of you are doing at home. Start by [watching Ms. Navarro's video tutorial](#). She models two key steps to take after you have chosen an exciting new topic to study:

- 1.) forming questions about your topic before collecting facts.
- 2.) rehearsing your understanding of your topic after you have collected facts.

These two steps are used by many successful writers who strive to convey their expertise about a topic using their own words and style. Including these steps in your research process will help you prepare to write a strong draft.

After you watch Ms. Navarro's video, apply the process to your own research at home!

Math and Geometry: Modern Mathematicians & Probability Games

Do you ever wonder, what are mathematicians currently exploring? Are there any new theorems? How many digits of pi do we know? How many prime numbers do we know? Find out this week and report to us at a community meeting!

Probability Games

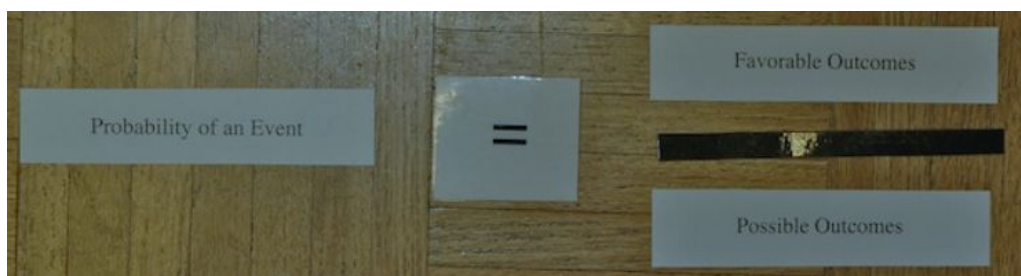
The idea of *likelihood* is called probability. Probability is the likelihood that some outcome will occur. If I flip a coin, maybe even an *ancient* coin, the two outcomes, heads or tails, are equally likely to occur. In other words, the probability of getting heads or tails is equally likely. It's a 50/50 chance!

At home, you can find different materials to help you explore the idea of probability. Turns out, it's really fun.

Here are some examples of materials you can use:

- Several dice:
 - There are many kinds of dice. The most common is a six-sided dice numbered 1-6.
 - You could also use dice that have 1 on two sides, 2 on two sides, and 3 on the other two sides
 - You might also use dice with 4, 8, 12, or even 20 sides!
- 15 blue, 10 red and 5 white poker chips and a bag to "draw" them from
- A deck of playing cards
- Several pennies

With the material you have at home, see how often the most likely outcome occurs. For example, if you use a deck of cards (make sure it's a full deck with 52 cards total), figure out if you would be more likely to pick a number card or a face card. Then, actually choose a card. What did you get (a number card or a face card)? On your first draw, did you get what was more likely, or not? Set up a trial and record your results. If you draw cards from the deck 50 times, putting back the card you drew each time and mixing up the cards, what is the experimental probability of drawing a face card or a number card? Experimental probability means you've set up a trial to determine what actually happens. It's like a science experiment. Sometimes you get what you expect, and sometimes you don't. You can record your trial like a fraction, like this:



The number on top is the number of favorable outcomes. The number below is the number of total possible outcomes, or trials.

You can then compare this experimental probability (what actually happened) to the theoretical probability. Theoretical probability is what we **expect** to happen. But in practice, it might not always happen the way we expect!

Set up your own experimental probability trial this week using dice, cards, coins, or poker chips of different colors. Record the theoretical probability of an event before you begin. Then, when you do your trial, see how long it takes you to get something that has the least probability. Be sure to record your data as a fraction. Share with us what you found from your exploration.

A variation on this work:

Say I have a set of chips: 10 white, 15 red, 20 blue, a total of 45 chips. I put them into a bag and shake them up, and then I draw one chip from the bag without looking. I pull a red chip. This time, instead of recording and returning the red chip to the bag, I DO NOT RETURN the red chip to the bag, so now my total number of possible outcomes becomes 44 chips. When I draw my next chip, it will be out of 44, rather than 45. This is called a dependent event. Two events are dependent if the first outcome changes the probability of the second event.

Another idea for further practice is below:

Materials: a pair of 6-sided dice, preferably in different colors, and a piece of paper.

- How many different outcomes are possible if you roll two 6-sided dice?
 - a. There are 6 options on both sides. $6 \times 6 = 36$ possible rolls.
- How many ways are there to roll a total of “2” using two dice?
- How many ways are there to roll a total of “7” using the two dice?
- Fill in the rest of the chart!

Total to Roll	Ways to Get the Total	Probability of that Roll
2	1	1 / 36
3		/ 36
4		/ 36
5		/ 36
6		/ 36
7	6	6 / 36 = 1/6
8		/ 36
9		/ 36
10		/ 36
11		/ 36
12		/ 36

History: Human Innovations

Last week, you might have explored the concept of currency, perhaps making your own “ancient” coins. This week, let’s look closely at some of the incredible inventions of human beings.

It is through fulfilling their fundamental needs that human beings have built up what we refer to as physical territories and spiritual territories. These territories have been built up around the world based on what people have found in their own environments. It is not the well-known people who have made the greatest contributions to our lives, but it is most often the unknown explorers and inventors who have passed down what we have today. We owe them a debt of gratitude. Below is a list of human inventions. These are major contributions to our body of science and technology and they dramatically changed the way humans live or lived.

- Artificial irrigation
- The plow
- Harnessing of animal power
- Sailboats
- The wheel (as in the use of vehicles)
- Orchard husbandry
- Fermentation
- The production and use of copper and bricks
- The arch
- Glazing
- The seal
- The solar calendar
- Writing
- Numeral notation
- Bronze
- Smelting iron
- The alphabet
- Aqueducts for urban water supply

This week, choose one of the inventions from the above list and explore where and when it was made. It may turn out to be from more than one place. You can explore by whom it was made (e.g. the group of people who invented it). How did it affect the lives of the people? Did it spread to other people? Is it still in use today? Has it been altered and developed into something else?

Alternatively, what do you think are the three or five most important, **recent** inventions in human history? We do not know for sure what the historians of the future will say are the most important discoveries of our own time, but we can have our opinions! Give reasons for your opinions.

Science: What Do You Hear Underwater? (A Study of Sound Waves from *Scientific American*)

Introduction:

It's almost summer! Some of you might be swimming and spending lots of time in the water soon. Have you ever listened to noises underwater? Sound travels differently in the water than it does in the air. To learn more, try making your own underwater noises—and listening carefully.

Materials:

- Bathtub or swimming pool (a very large bucket can work, too)
- Water
- Two stainless steel utensils (for example, spoons or tongs)
- Two plastic utensils
- Small ball
- Towel
- Adult helper
- An area that can get wet (if not performing the activity at a pool)
- Floor cloth to cleanup spills (if not performing the activity at a pool)
- Other materials to make underwater sounds (optional)
- Access to a swimming pool (optional)
- Internet access (optional)

Preparation:

Fill the bathtub or bucket with lukewarm water—or if you have safe access to a pool, you can go there—and bring your helper and other materials.

Procedure:

- Ask your helper to click one stainless steel utensil against another. Listen. How would you describe the sound?
- In a moment, your helper will click one utensil against the other underwater. Do you think you will hear the same sound?
- Ask your helper to click one utensil against the other underwater. Listen. Does the sound appear to be louder or softer? Is what you hear different in other ways, too?
- Submerge one ear in the water. Ask your helper to click one utensil against the other underwater. Listen. How would you describe this sound?

- Ask your helper to click one utensil against the other underwater soon after you submerge your head. Take a deep breath, close your eyes and submerge your head completely or as much as you feel comfortable doing. Listen while you hold your breath underwater (come up for air when you need to!). Does the sound appear to be louder or softer? Does it appear to be different in other ways?
- Repeat this sequence but have your helper use two plastic utensils banging against each other instead.
- Repeat the sequence again, but this time listen to a small ball being dropped into the water. Does the sound of a ball falling into the water change when you listen above or below water? Does your perception of this sound change? Why would this happen?
- Switch roles. Have your helper listen while you make the sounds.
- Discuss the findings you gathered. Do patterns appear? Can you conclude something about how humans perceive sounds when submerged in water?
- **Extra:** Test with more types of sounds: soft as well as loud sounds, high- as well as low-pitched sounds. Can you find more patterns?
- **Extra:** To investigate what picks up the sound wave when you are submerged, use your fingers to close your ears or use earbuds when submerging your head. How does the sound change when you close off your ear canal underwater? Does the same happen when you close off your ear canal when you are above water? If not, why would this be different?
- **Extra:** If you have safe access this summer to a swimming pool, listen to the sound of someone jumping into the water. Compare your perception of the sound when you are submerged with when your head is above the water. How does your perception change? Close your eyes. Can you tell where the person jumped into the water when submerged? Can you tell when you have your head above the water?
- **Extra:** Research ocean sounds and how sounds caused by human activity impact aquatic animals.

Observations and Results:

Was the sound softer when it was created underwater and you listened above the water? Did it sound muffled when you had only your ear submerged? Was it fuller when you had your head submerged?

Sound travels faster in water compared with air because water particles are packed in more densely. Thus, the energy the sound waves carry is transported faster. This should make the

sound appear louder. You probably perceived it as softer when you were not submerged, however, because the water surface is almost like a mirror for the sound you created. The sound most likely almost completely reflected back into the water as soon as it reached the surface.

When you submerged only your ear, the sound probably still appeared muffled. This happens because the human ear is not good at picking up sound in water—after all, it evolved to pick up sound in air.

When you submerged your head, the sound probably sounded fuller. That is because our head contains a lot of water, which allows the tissue to pick up underwater sound—without relying on the eardrum. It also explains why closing your ear canal makes almost no difference in the sound you pick up while you are underwater.

If you tried to detect where the sound came from when submerged, you probably had a hard time. Our brain uses the difference in loudness and timing of the sound detected by each ear as a clue to infer where the sound came from. Because sound travels faster underwater and because you pick up sound with your entire head when you are submerged, your brain loses the cues that normally help you determine where the sound is coming from.

More Information About Sound:

Sound is a wave created by vibrations. These vibrations create areas of more and less densely packed particles. So sound needs a medium to travel, such as air, water—or even solids.

Sound waves travel faster in denser substances because neighboring particles will more easily bump into one another. Take water, for example. There are about 800 times more particles in a bottle of water than there are in the same bottle filled with air. Thus sound waves travel much faster in water than they do in air. In freshwater at room temperature, for example, sound travels about 4.3 times faster than it does in air at the same temperature.

Sound traveling through air soon becomes less loud as you get farther from the source. This is because the waves' energy quickly gets lost along the way. Sound keeps its energy longer when traveling through water because the particles can carry the sound waves better. In the ocean, for example, the sound of a humpback whale can travel thousands of miles!

Underwater sound waves reaching us at a faster pace and keeping their intensity longer seem like they should make us perceive those sounds as louder when we are also underwater. The human ear, however, evolved to hear sound in the air and is not as useful when submerged in water. Our head itself is full of tissues that contain water and can transmit sound waves when we are underwater. When this happens, the vibrations bypass the eardrum, the part of the ear that evolved to pick up sound waves in the air.

Sound also interacts with boundaries between two different mediums, such as the surface of water. This boundary between water and air, for example, reflects almost all sounds back into the water. How will all these dynamics influence how we perceive underwater sounds? Try the activity to find out!

More to Explore:

[Discovery of Sound in the Sea](#), from the University of Rhode Island and the Inner Space Center

[Can You Hear Sounds in Outer Space?](#), from Science Buddies

[Talk through a String Telephone](#), from Scientific American

[Sound Localization](#), from Science Buddies

Geography: The Story of Sugar (Economic Geography / World Trade)

Did you know that the word “candy” comes from the ancient Indian language, Sanskrit? In Sanskrit, the word for a piece of sugar is *khandā*. Long ago, this Sanskrit word traveled with the Persians and made its way to the Middle East. Soon it was translated into Arabic. Later, the word traveled to Europe, where it became known and spelled, “candy,” in English.

The origin and migration story of sugar is filled with high drama. About 8,000 years ago, sugarcane was first domesticated (farmed) in New Guinea, which sits north of Australia in the Southwest Pacific Ocean. Sugarcane is a type of grass, looking similar to bamboo. In New Guinea, sugarcane was apparently used to fence in domesticated pigs, but over time, the pigs grew wise to the sweetness of the stems, and would eat their own fences to the surprise of their human owners!

Below are some surprising facts about sugar (not specifically sugarcane):

- The average human adult burns 1 teaspoon of sugar in 1 hour of learning.
- American caloric intake is 20% sugar.
- In one year, Americans consume 65 pounds of high fructose corn syrup.
- Our great, great, great grandparents consumed 1 ounce of sugar per year!
- Fructose gives us the sweet taste we crave.
- *Saccharum officinarum* is the scientific name for sugarcane.
- Before the 1500s, sugar was used medicinally.
- In the 1600s, sugar became a big business (making 50% of ocean-going trade, closely aligned with the spread of slavery).
- Today sugarcane is the world’s largest crop!
- Big producers of sugarcane today: Brazil, India, China, Pakistan, Australia, Thailand (all countries within 30 degrees of the Equator).

The USDA (United States Department of Agriculture) offers a resource so citizens can learn more about various plants in the country. Here is some information about where sugarcane currently grows in the USA: <https://plants.usda.gov/core/profile?symbol=SAOF>

This week, choose a **plant product** that humans consume or use today (e.g. potato, buckwheat, Arabica coffee beans, cocoa, pomegranate, lavender, cotton, rice, etc.).

Find out:

- Where does the plant grow in the world?
- Where is the plant’s native habitat? Has the plant been introduced to other parts of the world beyond its native land?
- What are the typical uses of your plant (e.g. textiles, essential oil, food, medicine)?
- How much is produced yearly? You can focus on one country, or look at the total amount produced in the world.

- What countries are the main producers of your plant product today?
- Which countries export your plant product?
- Which countries import your plant product?

You can find information about various plants in the USA on the USDA site:

<https://plants.usda.gov/java/factSheet>

You can also find out more about the history and science of agriculture here:

<https://www.nationalgeographic.org/encyclopedia/agriculture/6th-grade/>

An example of a source for research on cocoa beans:

<https://www.worldatlas.com/articles/top-10-cocoa-producing-countries.html>

The FAO (Food and Agriculture Organization) of the United Nations has additional information that can be found here: <http://www.fao.org/home/en>

Weekly Content:

Writing Conferences:

Please reach out to Ms. Navarro by email at e.navarro@aidanschool.org if you would like to schedule a writing conference with her. She would love to hear what you are writing about these days and support your creative work!

Weekly Spelling List and Activity:

Parents, the lists attached are suggestions for the children. An old fashioned dictionary or independent reading books work fine to scout for new and interesting words instead of using the PDF lists.

Children, choose ten words to learn this week. Ideally these are words you use often but notice that you don't feel comfortable spelling in your own writing, or they can be words that trip you up while reading. As a backup, you can choose words from one of the high frequency lists, or new vocabulary you encounter through your own research.

Remember, new words will only stick if you use them, so practice multiple times and make sure they are going to be applicable in your work.

Once you have chosen words, practice spelling them correctly. Options for this include:

- **Word Wall Card**
- **Tiles:** spell with bananagrams tiles
- **Shaving Cream:** write in shaving cream using a silpat or tray
- **Skin/Air Writing:** trace the letters on your skin with a finger, tap each letter down your arm and then say the whole word, or write them in the sky using your whole arm
- **Stamp:** use an alphabet box to stamp the words with ink or into dough
- **Sand:** trace the words with your finger in a sand tray
- **Word Hunt:** search a book or the environment around you for each word and then record
- **Cirque du Soleil:** form each letter on the rug with your body
- **Chant:** chant each letters in a rhythmic pattern
- **Rainbow:** choose 3-5 colors and write the word in each
- **Story:** write a story/poem that includes all of the words
- **Teach:** teach someone else how to spell the word

Each time, make sure you:

1. Read the word aloud (while looking at it in written form).
2. Spell the word aloud, one letter at a time.
3. Attempt to spell without looking at the word (using one of the above methods).
4. Check that you spelled the word correctly.

5. Create a sentence that uses the word (aloud).

High Frequency Word Lists (see PDF)

Grade 4 List (see PDF)

Grade 5 List (see PDF)

Math and Geometry:

Khan Academy:

Parents, you are encouraged to create an account on Khan Academy for your child. The accounts are FREE. You may click the grade level links below to subscribe your child to a course under my teacher account page, where they can access learning content (video tutorials and activities) and I can view their progress through course content. Content is not lock-step, and it is self-paced. If you do not subscribe your child to the “courses” via the links below, I will not be able to view their progress or work, but the children will still be able to access the various tutorials and content.

Each day, your child should choose an appropriate topic to review/learn and practice. If this is their first experience on the Khan Academy platform, they may need some guidance finding an appropriate topic of study. In general, grade level topics should be familiar territory (e.g. a 4th Year should look through the 4th Grade content and select a topic).

If for any reason your child does not have access to a computer or you prefer to support their work differently, there are plenty of alternative ways to build math appreciation, number flexibility and to practice building skills. Please see the links below with further ideas (I recommend “Numbers Talks” at this [link](#) - once a parent knows how to have a number talk, these can make for fun, spontaneous conversations).

If you have simple tools at home (e.g. geometry compass, ruler, measuring cups, graph paper, protractor, thermometers, etc.) your child is encouraged to put those tools to good use! If you have workbooks at home (e.g. Kumon, Spectrum, Common Core Math) please feel free to use those instead of Khan Academy for skill practice.

Because each child’s math and geometry work is individualized at school, I understand that supporting this work can be a challenge outside of school. Please feel free to drop me a note for some guidance or assistance identifying the best fit for your child.

Khan Academy information letter to parents: [link](#)

Grade 4 Math Essentials Course [link](#)

Grade 5 Math Essentials Course [link](#)

Grade 6 Math Essentials Course [link](#)

If you are nostalgic (as I am) for our Montessori Math Materials, have a try at [extracting the square root or finding common multiples on the pegboard](#) VIRTUALLY, a new resource coded by a Montessori teacher's husband! This resource might be most fun for parents, to get a glimpse at how our materials work. A little tutorial can be provided if you request :)

Science:

Select a science project from this [link](#). Make sure you have the materials at home that are needed for your project of choice. Follow the instructions, collect data and observations, and write down your conclusions. Send photos of your process, or share your conclusions with me by Friday at j.isaza@aidanschool.org

Cooking:

Miss the Learning Kitchen? Here's how you can keep sharpening your cooking skills at home, even with limited ingredients:

1. Inventory your kitchen! Ask your parents which ingredients in your kitchen you're allowed to use for your project, write a list of everything you have access to, and email it to Mr. Kendall.
2. Get your recipe! Mr. Kendall will use your list to find a personalized recipe for you to try out at home (or find your own by entering your ingredients into SuperCook).
3. Cook! Be sure to ask for parental support with anything difficult or dangerous.
4. Record your results! Write down your observations about the process, noting things you enjoyed doing, things that were difficult (and why), things that went well for you, and things with which you struggled. If you'd like, take pictures!
5. Share your results with others! Share the finished project with your family, and share your notes with Mr. Kendall and the class.
6. Be sure to clean and sanitize any kitchen tools or surfaces after use.

Each week you'll be able to get another personalized recipe, so be sure to let Mr. Kendall know if there's something you're particularly interested in trying.

Care for the Home and Others:

- Plan a meal to cook or a recipe to bake. Be sure to clean the kitchen thoroughly upon completion, and return any tools and utensils to their proper home.
- Offer to care for any houseplants or family pets.
- If you have your own bookshelf, organize it by genre (e.g. fantasy, literary fiction, nonfiction, science fiction, poetry, etc.) or by author last name, or help a sibling organize their shelf.
- Wash and fold your own laundry.
- Offer to set the table for a family meal.
- Fix something broken (e.g. darning a sock).

- Ask an adult how you can help with a task (carrying groceries, taking out trash, etc.)
- Write a list of questions on paper slips and have the family draw questions from a bowl or hat to make for some interesting dinner conversation.
- Call someone lonely.
- Play with a sibling.
- Read aloud to a younger sibling.

Care for Self:

- Take a mindfulness break
- Do something creative (e.g. paint, draw, write a poem, build something, play music, make a booklet and decorate the cover)
- Prepare a healthy snack or smoothie
- Get some exercise (e.g. practice yoga)
- If you have the resources nearby, try some handwork (kumihimo, knitting, crochet, embroidery, origami, sewing)
- Learn something new from YouTube (see links below)
- Learn something new from someone else!
- Wash your hands often :)