Learning Activities
Kindergarten - 2nd Grade

Suggested Learning Activities for Kindergarten - 2nd Grade students during the COVID-19 school closure.

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While Seattle Public Schools endeavors to only post documents optimized for accessibility, due to the nature and complexity of some documents, an accessible version of the document may not be available. In these limited circumstances, the District will provide equally effective alternate access.

Due to the COVID-19 closure, teachers were asked to provide packets of home activities. This is not intended to take the place of regular classroom instruction but will help supplement student learning and provide opportunities for student learning while they are absent from school. Assignments are not required or graded. Because of the unprecedented nature of this health crisis and the District’s swift closure, some home activities may not be accessible.

If you have difficulty accessing the material or have any questions, please contact Claudine Berry cvberry@seattleschools.org.
Advanced Learning Summer Projects
K – 2nd grade

Suggested projects for K-2 students to work on during the summer.

The Advanced Learning department is committed to making these projects accessible and usable to all people, regardless of ability or technology. These STEM projects represent a curated list of popular projects that are adapted for use by K-2 students at home under the supervision of a caregiver. These projects have also been adapted to only use common household items. These projects are not required nor will be graded. Students can engage in whichever projects interest them.

Please note the following information:

**Adult Supervision Required and Caregiver Participation Highly Encouraged**
These projects are intended to be done by students with adult supervision. The directions are intended for adults to read and to support a student as they engage in the projects. We encourage caregivers to work on these projects together with their student as much as possible. To support this collaboration, you will also notice that every project contains a section that involves the student reflecting on their learning with a caregiver.

**Definitions and Vocabulary Building Activities**
The bolded words are defined in a glossary at the back of the packet. As you read through the projects with your student, we encourage you to ask your student about the bolded words, and reference the glossary as needed. Also, to engage your student more deeply in building their STEM vocabulary, we have included directions for using a graphic organizer to further explore the definitions and uses of these words.

**Information about Referring your Student for Advanced Learning Services**
The final page of these materials contains information about how to refer your student for Advanced Learning services.

For questions about these materials, please email advlearn@seattleschools.org or call the Advanced Learning department at 206-252-0130.
Grades K – 2nd

Summer Projects

Name:
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Break the Ice: Melting Ice Experiment

Materials

- 1 cup of plain ice cubes (or as much as you need. Just make sure the pieces are about the same shape and size)
- 1 muffin tin
- 1 cup of cold water
- 1 cup of warm (but not hot) water
- 1 Tablespoon of salt
- 1 Tablespoon of sugar
- 1 Tablespoon of baking soda (NOT baking powder)
- Making tape
- Marker
- A clock or stopwatch (real or smartphone app)
What’s Your Favorite Way to Stay Cool on a Hot Summer Day?
During the summer, some people like to eat ice cream and popsicles. Other people like to drink slushies. All of these options help you stay nice and cool. Which is your favorite summer treat?

No matter which one you choose, did you notice they all have something in common? They all involve ice! What do you already know about ice?

In this project you will experiment with ice to learn even more about it. You already know that ice melts when not in a freezer. Depending on how hot it is around the ice, it can melt fast or slow. What other things do you think can affect the amount of time it takes ice to melt? Do this project to find out!

Directions
We are going to test what material from our list will melt the ice the fastest. Each ice cube will be placed in its own muffin tin cup. One of the other materials (like ice water) will be poured on top of it.

Note: Do not take the ice out of your freezer until you gather all the rest of the materials first!

1. It is important to use what you already know about ice before you test. Using that knowledge, make a prediction about which material will melt the ice fastest after it is poured onto it.

Will cold water, warm water, salt, sugar, or baking soda make it melt the fastest?

Why do you think this? You can use the example sentence below to tell an adult caregiver your prediction.

I predict that _______ will make the ice melt fastest because________

2. Use a small piece of masking tape to label each cup in your muffin tin with what kind of material you will be testing in that cup. Write the name of the
material poured on top the ice on the masking tape. This will help you keep track of which cup is which. You can also label them by using different sizes or types of tape on each cup.

3. It is important to compare what would happen to the ice if you did NOTHING to it and it melted on its own. This is called a control test. You will compare it to the rest of your tests when you add a material to melt the ice. Make sure to label the “control” cup so you do not confuse it with a test cup. You may also leave it unmarked so you know you did nothing to it.

4. Place the ice cubes in the muffin tin each in their own individual cup.

5. Add one tablespoon of a different test material to each of the cups, slowly, and evenly pouring it over the ice cube (make sure to leave your control ice cube alone!). If using a powder substance like salt or sugar, sprinkle it evenly over the top of each ice cube with a spoon or with your fingers.

Observations
As you watch what happens to each ice cube, keep track of the changes in the ice over time.

Caregiver: You can write your student’s observations using a chart like the one on the next page, or you can keep track of the changes in some other way. You could take pictures of the ice, use a popsicle stick or some other tool to help you feel the ice.

Just make sure to never touch any of the ice cubes with your fingers or skin, because the heat from your body could affect the experiment!
• **Compare** the results from all tests to the control test. Which **material** melted ice the fastest? Which melted ice the slowest? Was your **prediction** correct?

• What else did you notice in this **experiment**? Why do you think that happened?

• What did you **discover** about ice from this test? Is your **understanding** of it changed now?

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**Reflecting on your Learning**

*Caregiver:* ask your student the following questions and discuss their answers.

• What surprised you in this **experiment**?

• What else did you notice in this **experiment**? Why do you think that happened?
• What did you discover about ice from this test? Is your understanding of it changed now?

• What other questions do you have about ice? Where might you find answers to these questions?

Extensions
If you would like to continue this project even further, consider the following extensions to deepen your learning.

Frost and Found
Is there another material around your house that you did not test that might melt the ice faster? Ask your caregiver to help you find new testing materials!

• Try using different types of the same materials. You could test coarse salt against fine salt, plain white sugar against brown sugar, and more!

• Test different types of liquids other than warm and cold water (juice, soda, dish soap, who knows!).

• Try combinations of things (half salt, half sugar).

• Test different amounts. Does a tablespoon of salt melt the ice at the same rate as a teaspoon? What about liquid materials?
Spaghetti Marshmallow Towers

Materials
- Dry spaghetti noodles
- Marshmallows
- Ruler or measuring tape

Can You Really Make a Tower with Spaghetti and Marshmallows?

A tower is a tall, narrow building. A tower can stand on its own, like the Space Needle. It can also be part of another building, like a church or castle. For example, the Space Needle is a tower. A tower should be stable, so it will not fall.

For this challenge, you will pick two materials and try to build your own tower. While it may seem crazy to try and build a stable tower with just two materials, this is what makes it such a fun engineering challenge! You can build a tower and try to make it as tall as you can. If you are someone who likes building with Legos, or building things and making messes, this project is for you.
**Challenge**
Can you make a stable tower that is at least two feet high using only spaghetti and marshmallows?

A couple rules to this challenge:

- The tower needs to be created by sticking marshmallows to the ends of dried pieces of spaghetti. In other words, you cannot just make a two-foot-high stack of marshmallows and plop a piece of spaghetti on top!
- The tower must be able to stand on its own for at least 30 seconds.

**Directions**

1. Choose a flat **surface** with lots of space to build your tower. For example, this can be a tabletop or countertop. You can also do this on a large piece of cardboard placed on the floor.

2. Build a **base** for your **tower**. Start by putting marshmallows on the ends of pieces of the dried spaghetti. For your first tower, you can build a base with 4 sides. This will be a square. Build a square that has spaghetti as the sides with marshmallows holding it all together in each corner. Lay the base flat on your building surface. For your two-foot towers, you can build a base with more than four sides. If you want a challenge you can start out with a base with more than 4 sides!

3. Build the sides of your tower. Stick spaghetti into the marshmallows at the corners of your base. Put marshmallows at the end of these new pieces of spaghetti. Connect more pieces and keep going higher and higher!
4. When finished, think about what you learned about building a tower. What would you change for your next tower to make it taller or more stable?

5. When done with your building time, clean up! Put all materials away and clean off any surfaces that need cleaning.

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**Reflecting on your Learning**

Think of the answers to the following questions. Discuss your answers with a caregiver.

- What was challenging about building the tower?
- What surprised you as you built it?
- What other materials do you wish you could have used to make your tower?
Extensions
If you would like to continue this project even further, consider the following extensions to increase your engineering skills and deepen your learning.

How High Can Your Tower Go?
Your goal in the project was to build a stable two-foot-tall tower. Do you think you can go even higher? While it will be difficult, try to see how high you can make your spaghetti marshmallow tower. And remember, it must be stable! It needs to be able to stand on its own for at least 30 seconds.

Also, as a bit of extra challenge, limit your resources. Try and make as high as tower as you can with what resources your family provides you.

*Note to caregiver: limit the resources however you would like based on what is available or much of a mess you want your student to make. :)

Teach Someone Else How to Build a tower
After you have completed your own successful tower, think about what you learned from the process. How did you make a stable tower? What mistakes did you make that you learned from?

Teach someone else everything you learned about building towers. Help them build their own tower by showing them every step of them way what you learned.

Towers in the Wild
There are many interesting towers and tall buildings in Seattle. Some even in your own neighborhood! When out with your family, whether than be a walk around the neighborhood, a visit to the store, or traveling someplace far away, be on the lookout for examples of towers and tall buildings.

When you see these towers and buildings, think about the following and discuss them with a caregiver:

- What do you think makes this tower or building stable?
• What do you think is interesting about the tower or building and how it is built?

• What can you learn from this tower or building to make a better spaghetti marshmallow tower?
Whatever Floats Your Boat: The Boat-Building Challenge

Note: This project uses glue and potentially scissors. A caregiver needs to closely supervise this project.

Materials

Caregiver: help your student find materials around your house that are safe to use and easily replaced. Use materials that you would not mind getting sunk in the bathtub or a bucket of water.

- **Recycled** materials such as cartons, bottles, jugs, tin foil (use your creativity!)
- **Adhesives** like tape, glue, rubber bands, or other things that help your boat stick together (ask an adult to help you choose safe adhesives and be careful not to touch them to your skin or eyes)
- Markers, paint, stickers, or other decorative items
- A large sink, bucket, bin, or bathtub
What makes a boat a BOAT?
A boat is a vessel for moving over the surface of water. We use boats to carry food, fuel, people, and many other things across different bodies of water. Boats can travel in the ocean, on lakes, and along rivers. But how does a boat work?

You are going to use recycled materials to discover the answers to the question: why do some objects float while others sink? You will design and engineer a boat seaworthy enough to transport a mini passenger across a body of water. You will also learn about the science of boatbuilding!

Directions
1. Before you start taping or gluing your materials together, first think about what you already know about boats. What does a boat need to have in order to float?

2. When choosing your materials, it is important to think about some things:
   a. Most importantly, your boat needs to float. Try to choose a material that is solid and without any holes in its surface.
   b. If you want your boat to move on its own, you will need to make a propulsion system, or a way to make it move in the water. Select materials that you think will be helpful to move the boat.
   c. A sail uses the wind like a kite to propel it forward. A sail should be flexible so that it can bend with the wind. Most are made of fabric, but you could make yours out of plastic food wrap, a grocery bag, tissue, or even paper.

3. When you are done constructing your boat, make sure to decorate it and name it! This increase both your attachment to the boat and your precision to saving it!
4. “Launch” your boat on its first voyage by gently placing it in a large container of water. You could use a bathtub, a large bucket, a big sink, or anything that could hold a large amount of water that your boat can fit in.

5. If your boat sinks, it is okay! Adjust your design and retest it as many times as needed.

6. When you are sure your boat finally stays afloat, add a “passenger” to test its cargo-carrying abilities. You could use a toy, a rock, anything that can stand in for a passenger or cargo. Just make sure to use something you would not mind getting sunk.

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**Reflecting on your Learning**

_Caregiver:_ ask your student the following questions and discuss their answers.

- What surprised you about making a successful boat?

- What were some challenges you had to overcome when creating your boat?

- Were you able to stick to your original design? Why or why not?

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**Extensions**

If you would like to continue this project even further, consider the following extensions to increase your engineering skills and deepen your learning.

**Boats of the Bayou**

Turn your boat into an airboat! Figure out a way to use a balloon to propel your boat forward over the water’s surface. There are other ways to power a boat like this other than a balloon. How many other ways can you find to power your boat?
3...2...1...Blast Off: The Rocket Launch Challenge

Note: This project uses scissors and glue. A caregiver needs to closely supervise this project. Also, never aim your rocket at people or animals.

Materials

- 1 empty water bottle with a pop-up sports cap (like the one on a Smart Water brand bottle, or a Gatorade squeeze bottle)
- 1 narrow straw
- 1 wider straw (make sure it can fit over the narrow straw)
- Cardboard, stickers, or other decorative materials for your rocket
- Scissors
- School glue
- Playdough
  (caregiver: if you don’t have Playdough, you can make your own by mixing 2 cups of all-purpose flour, ¾ cup of salt, 4 teaspoons of cream of tartar, 2 cups of warm water, 2 Tablespoons of vegetable oil, and a few drops of food coloring in a large zip-top bag until a dough forms.)
The Final Frontier: How Do Scientists Get Us to Space?

This project uses simple materials to design your own model rocket. A rocket is a flying device, shaped like a tube, that is driven by hot gases released from engines in its rear. Rockets are used to launch fireworks, signals, and spacecraft. Rockets often have a point at the top called the nose cone, a tube-like body called the fuselage, and fins near the rear.

You may have seen rockets in videos blasting off with a space shuttle attached to it. The rocket you make might not be powerful enough to send you into space, but it will help you to see how different forces affect an object’s motion. As you build and finish your rocket, make a prediction about what will happen when you try to launch it.

Directions

1. Pop open the sports cap of the empty water bottle. Insert the narrow straw into the open top of the water bottle cap until the straw is about halfway in the water bottle.

2. Use the playdough to seal any gaps between the narrow straw and the bottle cap. Squeeze the bottle to make sure air is only coming out of the top of the straw and not the sides or near the cap.

3. Use the playdough to seal one end of the wider straw. This will act as the base for your rocket.
4. Use paper, cardboard, stickers, and other materials to make your rocket. Be creative! Just remember, you rocket should have a nose cone, fuselage, and fins. There are too things to consider when making your rocket: weight and size. You do not want your rocket to be too heavy. It should also be the right size to launch from your sports bottle. It should not too small, but it should also not be too big.

5. [Optional] Draw your idea for your rocket before you build it. Show your drawing to your caregiver to get feedback on its design.

6. With help from your caregiver, use the scissors to carefully cut pieces of cardboard into triangles. These will be the “fins” on your rocket that will guide it as it flies through the air. Attach them to the sides of the wide straw using the school glue.

7. Attach your rocket to the side of the straw using school glue or tape. You can also slide your rocket over the sealed end of the wider straw if your rocket is open on one end.

8. Slide the wider straw with attached rocket onto the open end of the narrow straw. Stand the bottle up on a flat, level surface and your rocket is ready to launch! Be sure to loudly announce your launch to anyone in the area and do a countdown.

What is Happening When a Rocket Launches?
If your rocket launched into the air, it had to overcome the force of gravity. The Earth is like a giant magnet with gravity helping it pull anything small to it. With
enough force pushing opposite to gravity, we can overcome its effects for a short while. The farther away from Earth we want to go, the more force we need to escape gravity and go into outer space where there is no gravity.

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**Reflecting on your Learning with a Caregiver**

*Caregiver:* ask your student the following questions and discuss their answers.

- What surprised you about making your rocket and the launcher?
- What were some challenges you had to overcome when creating them?
- What is different about the rocket and the launcher you created compared to a space shuttle launch? What is similar?
- What questions do you still have about rockets? Where can you get answers to these questions?

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**Extensions**

If you would like to continue this project even further, consider the following extensions to increase your engineering skills and deepen your learning.

**Space Race!**

Challenge your family and friends to a rocket-building competition! Find out who can engineer the highest-flying rocket. Just make sure everyone has the same materials and is given the same amount of time to build their rockets.

Also, to make sure it is fair, everyone should use the same sports bottle to launch their rockets from.

**Go the Distance**

Your rocket took on gravity head-to-head, but what happens if you change the angle of your rocket’s launch? If you launch it parallel to the ground or somewhere
between that and straight up, does your rocket go farther than just launching straight up? How could we design rockets and other vehicles if we could launch them at a different angle?
Breaking the Code: Learning the Language of Binary Coding

Note: This project uses scissors. A caregiver needs to closely supervise this project.

Materials

- String
- Colored Beads (at least 3 different colors)
- Scissors

What is Binary Code?

You probably know that our own language has an alphabet. It’s one of the first things you learn in school! But how do you teach a computer the alphabet? How does a computer work when it can’t speak or listen to instructions like a human?

01001000 01100101 01101100 01101100 01101111 00100001

The numbers above might look like jumbled nonsense, but this is an example of binary code. In binary code those numbers above are spelling out “Hello.” What!? How does it work?

The word “binary” means “two choices.” The binary number system is a way to write numbers using only two symbols: zeroes and ones. Binary code is used commonly in computers to send, receive, and store information.

Instead of an alphabet, computers use binary code to turn information into commands. Binary code is often displayed on a screen as a bunch of 1’s and 0’s, meaning either “yes,” or “no,” in a certain order. Enough of these 1’s and 0’s
arranged in a certain order and a computer can start to understand complex instructions. In this project, you will learn how computers process **sequences** of **information** that spell out a complete word and you’ll have a cool piece of jewelry to show your knowledge.

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**Directions**

1. Write out the letters of your name on the lines below. If your name is longer than the space provided, use separate paper and draw your own boxes.

2. Using the key on the next page, fill in the binary code shown for each letter’s row by shading in the box for 1’s and leaving it blank for 0’s.

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### Letter and Binary Code

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<td>B</td>
<td>01000010</td>
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<td>C</td>
<td>01000011</td>
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<td>D</td>
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<td>X</td>
<td>01011000</td>
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<tr>
<td>Y</td>
<td>01011001</td>
</tr>
<tr>
<td>Z</td>
<td>01011010</td>
</tr>
</tbody>
</table>
3. Now let’s make a binary bracelet/necklace! Using three of your favorite colors of beads, line them up in the binary order of your name like this:
   • First color: stop or space between letters
   • Second color: zeros
   • Third color: ones

For example, let us say the colors you pick are red, blue, and green, and your name is Sam. Your first color is red, second color blue, and third color green.

From writing out your name in binary on the previous pages, you know that ‘S’ is 01010011. This means you will start your bracelet by having beads in the following order: blue, green, blue, green, blue, blue, green, and green. You will then add a red bead to show that the next group of blues and greens will be a new letter.

4. Cut a length of string that will go through all the beads and leave enough string to tie up.

5. Put the string through the beads. Tie the loose ends so that you have a colorful necklace or bracelet (depending on how long your name is!).

   Note: as an alternative, you can also draw and color your name using three different colored pencils or markers and create unique designs.

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Reflecting on your Learning

Caregiver: ask your student the following questions and discuss their answers.

• Have you heard of binary code before? Where? What did you already know about it?
• What surprised you about writing your name in binary?
• What questions do you still have about binary code? Where can you get answers to these questions?
Extensions
If you would like to continue this project even further, consider the following extensions to deepen your learning.

Secret Message System!
Use what you learned about binary code to create messages and full sentences that you can make in beads or other works of art! You can also make them as gifts for your friends and family with special meaning for both of you.
Sound Wave Experiment

Materials

- A ruler (a wooden or heavy plastic ruler worked best). You can also use a wooden spoon or spatula.
- Two different size spoons (try using a teaspoon and a serving spoon)
- 3 to 4 feet of string or yarn (this will depend on how tall you are as you can see below)

Background

Even though we breathe it in, you can think about the air around us as a soup of different kinds of gas. When this soup moves around, it changes in pressure. Extreme changes in pressure can cause things like wind. Tiny changes in pressure cause vibrations in the air, like ripples in a pond. The vibrating ripples in the air travel in waves, eventually reaching our ears. These waves are turned into sounds by our brain. You can picture the shape of sound as a wave on the ocean. The sound starts at one end of the wave and spreads out. By the time the wave reaches the shore you can hear it.

For another example of sound waves, take a rubber band and spread it tightly between your fingers. Now pluck the rubber band. The moving band creates
**vibration**, or sound **waves**. In this experiment, you will learn how sound travels, using nothing more than a spoon and a string.

![Sound Waves Diagram](image)

**Directions**

1. First, create a loop in the middle of the yarn/string and loop it around the handle of the spoon.

   ![String Loop](image)

2. Pull tightly so that the spoon hangs in the center of the yarn/string and you have two long pieces about the same length.

3. Take each string end and wrap them around your pointer (index) finger on each hand.

4. Push the string against each ear (not into the ear but just touching the outside of your ears where they connect to your head).

5. You will want the spoon to hang just below your waist once both ends of the string are placed near your ears.

6. Once the string is pushed against your ears, have your caregiver hit the ruler (or spoon or spatula) against the round part of the spoon.
What is Happening When the Ruler Hits the Spoon?

When the ruler hits the spoon, it creates vibrations which make sound waves. These sound waves travel up the yarn/string and to your ear instead of just spreading out into the air around you.

Were you able to hear a sound when the rule hit the spoon? Was it a soft sound like a bell, and then a louder sound like a gong? What happened if you hit the spoon harder or softer?

The string acts as a conductor -- an object that allows sound waves to travel. You can see this in the ocean as real waves, and if you could look in slow motion, you could see waves travelling up and down the string. Because the string allows the sound waves to continue to travel, the sound of the spoon will resonate or reverberate— meaning they will make sound for a while after you have hit the spoon.

But what about everyone else in the room who doesn’t have the string close to their ears? What do they hear when the ruler hits the spoon?

Reflecting on your Learning

Caregiver: ask your student the following questions and discuss their answers.

- What surprised you about this sound experiment?
- How is the string/yarn and spoon instrument like other stringed instruments?

What questions do you still have about sound waves? Where can you get answers to these questions?

Extensions

If you would like to continue this project even further, consider the following extensions to increase your engineering skills and deepen your learning.
Play it Again!
As you repeat the experiment, change how high or low the spoon hangs. Does it change the sound? How? If you practice enough, can you play a recognizable song?

Change your Tune
Try other serving utensils! See what sounds you can make from a large fork, or a cake spatula. Think about each tool’s shape and why it makes different sounds, or play with different types of strings for different effects.
Glossary

absorb: take in or soak up

absorption: the act of soaking up or absorbing

angle: position or tilt

atmosphere: the air surrounding the earth or other similar objects in outer space

base: the bottom part of something

binary code: a simple code that only uses the numbers 1 and 0 to represent

challenge: a task that stretches your skills and thinking

combination: a result of combining two or more things or people

compare: to look at (two or more things) closely in order to see what is similar or different about them

conclusion: an opinion or decision that is formed after spending time thinking or learning about something

conductor: a material or object that allows electricity or heat to move through it

control test: an observation designed to see what would happen under normal circumstances, with nothing special added

demonstrate: to show or explain how something is used or done

design: to plan and make something for a specific use or purpose

discovery: finding or learning something for the first time

engineer: a person who has scientific training and who designs and builds complicated products, machines, systems, or structures

expect: to think that something will probably or certainly happen

experiment: a scientific test in which you perform a series of actions and carefully observe their effects in order to learn about something (see fair test)

fair test: a scientific test when you change only one factor and keep all other conditions the same
**feature:** an interesting or important part, quality, ability, etc.

**function:** the special purpose or activity for which a thing exists or is used

**horizontal:** positioned from side to side rather than up and down: parallel to the ground

**launch:** to send or shoot (something, such as a rocket) into the air

**limit:** a point beyond which it is not possible to go

**material:** a substance from which something is made or can be made

**method:** a way of doing something

**motion:** an act or process of moving

**object:** a thing that you can see and touch and that is not alive

**observation:** a statement about something you have noticed

**overcome:** to successfully deal with

**phenomenon:** something (such as an interesting fact or event) that can be observed and studied and that typically is unusual or difficult to understand or explain fully

**power source:** something that provides energy to move or control something

**prediction:** a statement about what will happen or might happen in the future

**purpose:** the reason why something is done or used

**pushes or pulls:** a natural power or effect that is able to change the speed or direction of something

**pressure:** the weight or force that is produced when something presses or pushes against something else

**process:** a series of actions that produce something or that lead to a particular result

**record:** to write something down so that it can be used or seen again in the future

**reliable:** able to be trusted to do or provide what is needed
research: to collect information about or for something
resonate: to continue to produce a loud, clear, deep sound for a long time
resource: a place or thing that provides something useful
result: something that is caused by something else that happened or was done before
reverberate: to continue in a series of quickly repeated sounds that bounce off a surface (such as a wall)
rocket: a type of very powerful engine that is powered by gases that are released from burning fuel
seal: to close something tightly so that air, liquid, etc., cannot get in or out
seaworthy: fit or safe to travel on the sea
section: one of the parts that form something
similar: almost the same as someone or something else
sound wave: a wave that is formed when a sound is made and that moves through the air and carries the sound to your ear
stable: not easily moved
strategy: a careful plan or method for achieving a particular goal
surface: an outside part or layer of something
system: a group of related parts that move or work together
table: a collection of information that is arranged in rows and columns
technique: a way of doing something by using special knowledge or skill
tower: a tall, narrow building or structure
vibration: a continuous slight shaking movement
Building Student Vocabulary

[INFORMATION FOR CAREGIVERS]

While doing these STEM projects, you can also support your student’s vocabulary by exploring the glossary words with the graphic organizer below. This graphic organizer below can be used as a great tool for building vocabulary.

This technique requires students to define target vocabulary and apply their knowledge by generating examples and non-examples, giving characteristics, and/or drawing a picture to illustrate the meaning of the word. This information is placed on a chart that is divided into four sections to provide a visual representation for students. Here is a blank example of this graphic organizer:

<table>
<thead>
<tr>
<th>Definition</th>
<th>Facts / Illustration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Examples</th>
<th>Vocabulary Word</th>
<th>Non-examples</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

On the next page is an example of this graphic organizer when filled out.
### Filled Out Example

<table>
<thead>
<tr>
<th>Definition</th>
<th>Facts / Illustration</th>
</tr>
</thead>
<tbody>
<tr>
<td>A reptilian animal with a large shell on its back.</td>
<td>Turtles spend most of their lives in water. They have webbed feet and flippers.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Examples</th>
<th>Non-examples</th>
</tr>
</thead>
</table>
| • Sea turtles  
• Northwest pond turtles at woodland park zoo. | • Lizards  
• Snakes  
• Fish  
• Alligator |

There is also a large blank version on page ### that you may make copies of or print out.

**Suggestions for Use**

If your student is doing other Summer Learning activities, you can incorporate some of this vocabulary building into their schedule/routine. For example, they can work on a new vocabulary word every summer school day. Here are some suggestions for how they can do this vocabulary work:

- If you have recently worked on one of these STEM projects, pick a relevant word from that project to dive into with the graphic organizer. This can be a word your student had questions about or a word you think your student could benefit from more thoroughly understanding.
- Get a printed copy of the graphic organizer OR get a notebook or piece of lined paper and draw the graphic organizer on it or have your student draw it themselves. Make sure to label each section (definition, examples, facts/illustration, and non-examples).
- Have your student fill out the graphic organizer. Help as needed. Have them show you the finished graphic organizer and explain to you each section.
2020-21 Advanced Learning Referral Window

OPEN: August 28th - October 1st, 2020

Will your student benefit from receiving Advanced Learning Services?
Here are three ways to refer them for evaluation.

1. You may refer your student through the Source. New to the Source? Please go to www.seattleschools.org. The Source is located in the “Student Family Portals.” Click “Set Up” to set up your Source account.
2. You may contact your school office to arrange for support in filling out the online referral on the Source.
3. You may fill out a translated paper form and mail it to the Advanced Learning Department at Seattle Public Schools no later than October 1st, 2020. Please contact your school office to obtain this form and arrange for support with this process.

¿Se beneficiará su estudiante de recibir servicios de aprendizaje avanzado? (Spanish)
Aqui hay tres formas de referirlos para evaluación.
1. Puede referir a su estudiante a través de la Fuent. ¿Nuevo en la fuente? Vaya a www.seattleschools.org. La fuente se encuentra en los “Portales de familias de escolanantes” “Configurar” para configurar su cuenta de origen.
2. Puede comunicarse con la oficina de su escuela para solicitar ayuda para completar la referencia en línea en la Fuen.
3. Puede completar un formulario en papel traducido y enviarlo por correo al Departamento de Aprendizaje Avanzado de las Escuelas Públicas de Seattle a más tarde el 1 de octubre de 2020. Comuníquese con la oficina de su escuela para obtener el formulario y coordinar su apoio con este proceso.

你的学生能从接受高级学习服务中受益吗? (Chinese)
以下是推荐他们进行评估的三种方法。
1. 你可以通过the Source来推荐你的学生。尚未使用过the Source？请查看www.seattleschools.org。The Source位于“Student Family Portals”中，请按“Set Up”以设置你的Source账户。
2. 你可以联系你的学校办公室，以帮助你在the Source上填写在线推荐。
3. 你可以填写翻译好的表格，并在2020年10月1日之前将其邮寄至西雅图公立学校的高级学习部门，请联络你的学校办公室以获取此表格并安排帮助。

মিয়ু আর্ডাইয়াগাগা কা ফাস’ইদী দোনসাব হেলিতাঙ্কা আসিখায়া হাবরাষাহাদ সারে? (Somali)
Halkan waxaa ah sadex dhaqan oo loo gudbiyo qiiyaynta
2. Waxaad u xiriin kartaa xofkii dugsigaago si aad isugu eexabsada taageerada buuxinta tooska ah ee internetka ee The Source.
3. Waxaad buuxin kartaa faa’i fanaad ah oo la taramayn oo aad ugu dirto Qaabta Wuxbarashada Sare ee Dugsiyada Seattle Pip dhankaadka Oktoober 1, 2020.

Tajæjila Barnoota Foya’aad argachu isaanitiff daa’imman keessa faa’iyida argatani jiruu? (Oromo)
Qormaatay fisaan akeekuuf karawwan sadii asii gadiitti isaanamaru.
2. Soorsiihaa akeekaa onlaxayini iratti gargaaasha argachuudhaaf biroo mana burumaa keessanii qoornamuu ni dandeessa.
Học sinh của quý vị sẽ được lợi ích từ việc nhận Dịch Vụ Học Tập Nâng Ca hay không? (Vietnamese)

Đây là ba cách thức để giới thiệu các em đề được đánh giá.


2. Quý vị có thể liên hệ với văn phòng nhà trường để sắp xếp sự hỗ trợ cho việc di chuyển tín giới thiệu trực tuyến trên Source.

3. Quý vị có thể điện vào mẫu đơn giấy để được dịch và gửi đến đến Advanced Learning Department tại Seattle Public Schools không quá ngày 1, tháng 10, 2020. Vui lòng liên hệ với văn phòng nhà trường của quý vị để có được mẫu đơn này và sắp xếp việc hỗ trợ cho quá trình này.

Advanced Learning | 206-252-0130 | www.seattleschools.org/advlearning