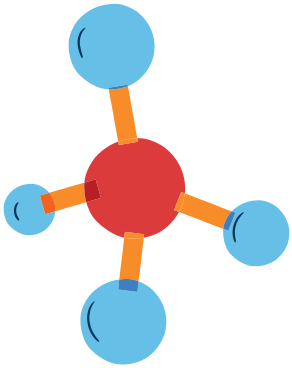
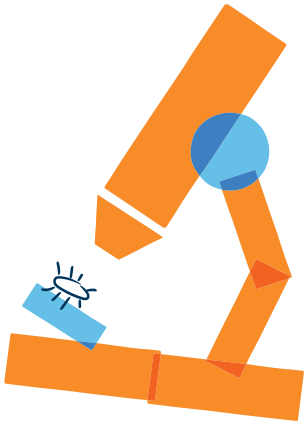
At-Home Summer Guide for Preschoolers and Prekindergarteners

(3 and 4 years old)

Week of July 13, 2020

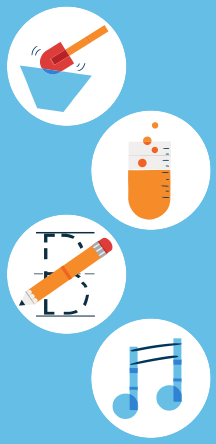




This week starts the theme **Spectacular Science**, which covers a variety of science topics through conversation, observation, and exploration. Whether you've returned to your center or you're still learning at home, these activities will help you and your child unleash the scientist within!

This week's activities are similar to those taking place in our preschool classrooms. Your child is introduced to **force and motion** through activities that use pushing, pulling, sliding, rolling, and speed. They'll touch on **chemistry** and the three states of matter when they make juice pops, and then investigate which objects are or are not **magnetic**.

The science doesn't stop when the activities are over! **Science is all around us** and you and your child can explore the science behind many of your day-to-day activities. Preparing a meal? See how foods change when cooked, or how raw fruits and vegetables oxidize when they are cut and exposed to the air. You can talk about surface tension when you're playing with the bubbles in the bathtub, or about evaporation when watching water dry on the sidewalk or as your skin dries after playing in the sprinkler.



Learning Adventures

are small-group enrichment programs in our centers designed to give children experiences in cooking, STEM, phonics, and music. One activity in this guide is adapted from these programs for your use at home. It's a great way to dig deeper into areas that may interest your child.

KinderCare® LEARNING CENTERS

This Week's Theme:

Spectacular Science

What you'll find in this guide. . .

We've provided activities similar to what your child would be learning in their center. You and your child can choose your own adventures and do the activities in any order, repeating and revisiting them as often as you want! Click on the icons below to discover more...

LET'S EXPLORE
Pushing and Pulling

Your child learns about push and pull and then explores creating handles to make pulling easier.

LET'S EXPLORE
Sliding and Rolling

Your child explores and categorizes objects based on which ones slide and which ones roll.

LET'S MOVE
Don't Drop the Paper

How fast do you have to move to keep a sheet of paper on your chest without holding it? Try this activity and find out!

LET'S INVESTIGATE
Is It Magnetic?

Your child tests different objects to see which are magnetic and which are not.

LET'S CREATE
Making Frozen Juice Pops

Learn about solids, liquids, and gases all while making a tasty treat for a hot summer day!

GAME TIME
Seek and Find

Find your focus and see how many objects you can find in a picture.

LEARNING ADVENTURES: STEM INNOVATORS
Homemade Speaker

Your child will explore sound energy and how it moves by making a phone speaker using recyclable materials.

VIRTUAL FIELD TRIP
Rochester Museum & Science Center Video Experiment

Create a "walking water" experiment using a video from the Rochester Museum & Science Center in New York.

Getting Ready for the Week: Materials to Gather

Pushing and Pulling:

- ☐ Cardboard box
- ☐ Cardboard tubes
- ☐ Cereal or cracker boxes
- ☐ Child-size scissors
- ☐ Masking tape
- ☐ Scissors (for adult use only)
- ☐ String or yarn

Tip: At the beginning of your week, gather materials and place them in a container so you're ready to go!

Sliding and Rolling:

- ☐ Paper (2 sheets)
- ☐ Pen or pencil
- ☐ Variety of objects that will roll, such as a ball, a toy with wheels, and a cylindrical block
- ☐ Variety of objects that will slide, such as a box, a book, and a rectangular block

Don't Drop the Paper:

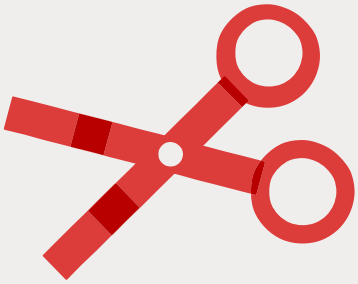
- ☐ Paper

Is It Magnetic?:

- ☐ Magnetic wand or large magnet (too large for your child to swallow)
- ☐ Paper (2 sheets)
- ☐ Pen or pencil
- ☐ Variety of magnetic items, such as cookie sheets, baking pans, child-appropriate metal or magnetic kitchen utensils, and metal jar lids
- ☐ Variety of nonmagnetic items, such as plastic containers, small plastic toys, wooden blocks, and plastic or wooden spoons

Making Frozen Juice Pops:

- ☐ 100% fruit juice
- ☐ Aluminum foil
- ☐ Craft sticks
- ☐ Paper cups, small
- ☐ Plastic pitcher
- ☐ Tray



Homemade Speaker:

- ☐ Homemade Speaker video
- ☐ Cardboard tube
- ☐ Paper or plastic cups, 2
- ☐ Scissors (for adult use only)
- ☐ Tape
- ☐ Smartphone or tablet
- ☐ Other recyclable materials* (e.g., cardboard boxes, plastic containers of different shapes and sizes)

Seek and Find:

- ☐ Seek and Find picture

** Note: This activity provides the materials and directions for how to make a smartphone or tablet speaker; however, you can use almost any recyclable materials to experiment with ways to amplify sound.*

Let's Explore: Pushing and Pulling

Your child learns about push and pull and then explores creating handles to make pulling easier.

Length of activity:
20 minutes*

* Duration will vary depending on your child's interest.

Level of Engagement Required by Adult: High

Level of Prep Required: Medium

What you need:

- ☐ Cardboard box
- ☐ Cardboard tubes
- ☐ Cereal or cracker boxes
- ☐ Child-size scissors
- ☐ Masking tape
- ☐ Scissors (for adult use only)
- ☐ String or yarn

What your child is learning:

- A basic understanding of motion and ways in which objects can move
- How to use problem-solving skills to accomplish a task

About the Activity: Begin by asking your child what it means to push something and what it means to pull something. Explain that when you *pull* something, you are moving toward yourself. When you *push* something, you are moving it away from yourself. Place the box on the floor and demonstrate pushing and pulling, repeating the definitions as you do so. Then provide directions for your child and invite them to push and pull the box, such as, "Push the box to the table," or "Pull the box into the kitchen."

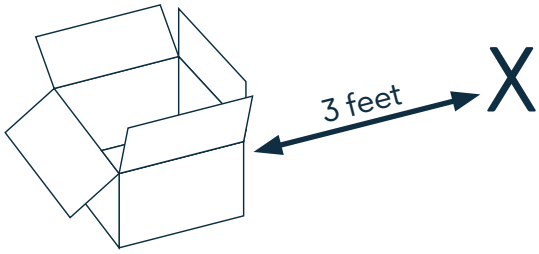
For Your Preschooler:
After your child has had some time to explore pushing and pulling the box, ask them which was easier- pushing or pulling the box. Why? What did they hold onto when they pulled the box? Then talk with them about other things that they can pull, such as wagons, doors, and drawers. What do they hold onto to pull these things? Share that having a handle on something can make it easier to pull. Show your child the materials you have gathered and invite them to use the materials to create a handle they can attach to the box. Encourage them to try a variety of methods and materials, to test their handles out, then make changes, and test again. Assist with cutting thicker materials or cutting holes in the box as needed. As they work, make observations and ask questions about how they're using the materials. "I see you're going to use the string. How are you going to attach the string to the box?" Or, "I noticed you had a hard time holding onto the string. What could you attach to the string to make it easier for you to pull?"

For Your Prekindergartener:
Similar to the preschool activity, have your child create handles for the box, this time creating one handle for each side of the box. After the handles are made, use the masking tape to make an X on the floor. Place the box approximately three feet from the X, similar to the illustration below. Invite your child to move the box so it's on the X, but they can only pull the box using the handles one direction at a time, that is, they cannot turn the box or move it at a diagonal, they can only pull it in the direction that the handle is facing. As your child works to move the box to the X, encourage them to think about what direction they need to move it and how far in that direction. After they have moved the box to the X, talk with them about the process. Was it easy? Hard? Was there anything about the process that they found frustrating? How did they feel when they got the box to the X?

If your child is interested, continue to explore moving the box to the X from different locations. To add a bit of a challenge, place an obstacle or two between the box and the X, such as a chair or large toy, that your child must maneuver the box around in order to get to the X.

Social and Emotional Learning

Asking simple questions about how your child feels during or after an experience, recognizing their frustration and encouraging them to talk about what is frustrating them, and celebrating successes are all great ways to help your child acknowledge and think about their emotions.



Let's Explore: Sliding and Rolling

Your child explores and categorizes objects based on which ones slide and which ones roll.

Length of activity:
20 minutes*

* Duration will vary depending on your child's interest.

Level of Engagement Required by Adult: High

Level of Prep Required: Medium

What you need:

- ☐ Paper (2 sheets)
- ☐ Pen or pencil
- ☐ Variety of objects that will roll, such as a ball, a toy with wheels, and a cylindrical block
- ☐ Variety of objects that will slide, such as a box, a book, and a rectangular block

What your child is learning:

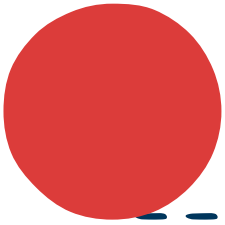
- A basic understanding of motion and ways in which objects can move
- How to sort and categorize objects
- How to make observations and comparisons

About the Activity:
Create signs for the activity by writing the word "Slide" on one sheet of paper and the word "Roll" on the other.

Begin by asking your child what it means to slide something and what it means to roll something. Explain that when you *slide* something, you're pushing or pulling it on a flat surface. If you did the activity Pushing and Pulling, tell your child that during that activity, you were sliding the box. Objects that have curved surfaces, like a ball, will *roll* when you push them.

For Your Preschooler:
Show your child the two signs, reading each one aloud and pointing to the word as your read it. Place the signs on the floor about two feet apart. Show your child the objects you've collected. Explain that they will test each object to see if it slides or rolls. After they have determined if the object slides or rolls, they will put it next to the appropriate sign. Invite your child to select one object to test. Have them place the object on the floor and give it a push. What happened? Did the object slide or did it roll? Have them put the object by the appropriate sign. Continue until they have tested all of the objects. After the objects have been sorted, invite your child to make observations about the objects in each category. What do they notice about all the objects that roll? How are these objects different than the ones that slide?

For Your Prekindergartener:
Show your child the two signs, reading each one aloud and pointing to the word as your read it. Place the signs on the floor about two feet apart. Show your child the objects you have collected. Explain that they will test each object to see if it slides or rolls, but first, they are going to make a prediction about which will slide, and which will roll. Invite your child to look at each object and predict if it will slide or roll, then have them place the object above the sign that matches their prediction. Once your child has made a prediction for each object, invite them to select one object to test. Have them place the object on the floor and give it a push. What happened? Did the object slide or did it roll? Was their prediction correct? Why or why not? Have them place the object under the appropriate sign. Continue until they've tested all of the objects. After all objects have been sorted, invite them to make observations about the objects in each category. What do they notice about all the objects that roll? How are these objects different than the ones that slide?



Let's Move: Don't Drop the Paper

How fast do you have to move to keep a sheet of paper on your chest without holding it? Try this activity and find out!

Length of activity:
15 minutes*

* Duration will vary depending on your child's interest.

Level of Engagement Required by Adult: High

Level of Prep Required: Low

What you need:

- Paper

What your child is learning:

- A beginning understanding of force
- How their movements can affect the movement of other objects

About the Activity:
Tell your child you're going to experiment with force. Explain that *force* is the push or pull on an object. If you've done the activities Pushing and Pulling or Sliding and Rolling, explain that when they pushed and pulled on the objects in these activities, they were applying force to get the objects to move.

For your preschooler and your prekindergartener: You will need a large space where your child will have room to run a short distance for this activity.

Have your child stand up and hold the sheet of paper against their chest, then have them let go of the paper. What happened? Ask your child how they could get the paper to stay on their chest without holding it. Talk about different ways, such as taping or pinning the paper to their shirt. Then share that they are going to explore using force to keep the paper on their chest. Have them hold the paper on their chest again and begin walking, as they are walking, have them let go of the paper. What happened? Did it stay up longer than when they were standing still? Now have them hold the paper and run, letting go of the paper after they pick up some speed. What happened? Did it stay up longer than when they were walking or standing still? Invite them to experiment with moving faster or slower to see how long they can keep the paper on their chest. When they're done, explain that it's the force of their body pressing against the paper, combined with the air around them pressing against the other side of the paper, that helps it stay in place. The faster they run, the more force they create!

Let's Investigate: Is It Magnetic?

Your child tests different objects to see which are magnetic and which are not.

Length of activity:
20 minutes*

* Duration will vary depending on your child's interest.

Level of Engagement Required by Adult: High

Level of Prep Required: Medium

What you need:

- ☐ Magnetic wand or large magnet (too large for your child to swallow)
- ☐ Paper (2 sheets)
- ☐ Pen or pencil
- ☐ Variety of magnetic items, such as cookie sheets, baking pans, child-appropriate metal or magnetic kitchen utensils, and metal jar lids
- ☐ Variety of nonmagnetic items, such as plastic containers, small plastic toys, wooden blocks, and plastic or wooden spoons

What your child is learning:

- What is or is not magnetic
- How to sort and categorize objects
- How to make observations and comparisons

About the Activity:
Create signs for the activity by writing the word "Magnetic" on one sheet of paper and the words "Not magnetic" on the other.

Begin by asking your child what they know about magnets. Have they played with magnets before? How are magnets used at home? Share different ways that magnets are used in your home, such as holding things on the refrigerator, or magnet latches in drawers or cabinets. Explain that magnets only attach to things that contain a type of metal called iron. Share that magnets themselves have iron in them and that is why they will attach to other magnets.

For Your Preschooler:
Show your child the two signs, reading each one aloud and pointing to the word as your read it. Place the signs on the floor about two feet apart. Show your child the objects you've collected. Explain that they will test each object to see if it's magnetic. Invite your child to select one object to test. Have them hold the object and place the magnet on the object and let go. What happened? Did the magnet attach to the object? Have them put the object by the appropriate sign. Continue until they have tested all the objects. After all the objects have been sorted, invite them to make observations about the objects in each category. What do they notice about all the objects that are magnetic? How are these objects different than the ones that are not magnetic?

For Your Prekindergartener:
Show your child the two signs, reading each one aloud and pointing to the word as your read it. Place the signs on the floor about two feet apart. Show your child the objects you've collected. Explain that they will test each object to see if it's magnetic, but first, they're going to make a prediction about which objects are or are not magnetic. Invite your child to look at each object and predict if it is or is not magnetic, then have them place the object above the sign that matches their prediction. Once your child has made a prediction for each object, invite them to select one object to test. Have them hold the object and place the magnet on the object and let go. What happened? Did the magnet attach to the object? Was their prediction correct? Why or why not? Have them place the object under the appropriate sign. Continue until they have tested all the objects. After all objects have been sorted, invite them to make observations about the objects in each category. What do they notice about all the objects that are magnetic? How are these objects different than the ones that are not magnetic?

Let's Create: Making Frozen Juice Pops

Learn about solids, liquids, and gases all while making a tasty treat for a hot summer day!

Length of activity:
15 minutes*

* Duration will vary depending on your child's interest.

Level of Engagement Required by Adult: High

Level of Prep Required: Medium

What you need:

- 100% fruit juice
- Aluminum foil
- Craft sticks
- Paper cups, small
- Plastic pitcher
- Tray or plate

What your child is learning:

- The three states of matter: solid, liquid, and gas
- How matter can change from a liquid to a solid
- How to relate prior learning to new experiences

About the Activity:
Fill the pitcher half-full of juice, watering it down if desired. Begin by asking your child what they know about solids, liquids, and gases. Share that solids, liquids, and gases are all states of matter. Show your child the pitcher of juice and tell them that the pitcher is a solid, that means that it's hard and has a shape. Invite them to tap the pitcher to see that it's hard. Then share that the juice in the pitcher is a liquid, this means that it does not have a shape and it takes the shape of whatever container it's in, in this case, the shape of the pitcher. Gently swish the juice in the container so that your child can see how it can change shape. Lastly, explain that while we can see solids and liquids, gases are harder to see. Have your child wave their hands and arms back and forth quickly. What do they feel? Explain that air is a gas, and even though they can't see it, when they move their hands back and forth, they can feel it.

For your preschooler and your prekindergartener:
Invite your child to wonder about how they can turn a liquid into a solid. Show them the materials you have gathered and explain that they will be making juice pops. Ask them how they could use the materials to make juice pops. What can they use to hold the juice in the freezer? What can they use to make a handle to hold onto the juice pops when eating them? How can they keep the handle from falling over?

Place four or five paper cups on the tray or plate and have your child fill them three-fourths full of juice, assisting with pouring as needed. Then cover each cup with a small piece of aluminum foil and gently poke the craft stick through the foil to create a handle. If there is juice left, make additional juice pops. Place the juice pops in the freezer and leave until frozen solid. When the juice pops are ready, invite your child to help you remove the foil and paper cup from one of the pops, what do they notice? How has the juice changed? Share that by freezing the juice, it turned it from a liquid to a solid. What do they think will happen when the juice pop melts? As you and your child enjoy the juice pops, talk about how it's changing and as it begins to melt, help you child notice that the solid is melting and turning back into a liquid!

STEM Innovators: Homemade Speaker

Your child will explore sound energy and how it moves by making a phone speaker using recyclable materials.

Length of activity:
20–30 minutes*

* Duration will vary depending on your child's interest.

Level of Engagement Required by Adult: High

Level of Prep Required: Medium

What you need:

- ☐ Homemade Speaker video
- ☐ Cardboard tube
- ☐ Paper or plastic cups, 2
- ☐ Paper towels
- ☐ Scissors (for adult use only)
- ☐ Tape
- ☐ Smartphone or tablet
- ☐ Other recyclable materials* (e.g., cardboard boxes, plastic containers)

What your child is learning:

- How sound travels
- To experiment with different materials
- How to use simple household materials to build something functional

** Note: This activity provides the materials and directions for how to make a smartphone or tablet speaker; however, you can use almost any recyclable materials to experiment with ways to amplify sound.*

About the Activity:
Tell your child they'll make a speaker using recyclable materials. Watch the video.

Explain that sound is a form of energy that creates invisible waves that moves through the air. The closer we are to something that is making a sound, the easier it is for us to hear it because the sound energy doesn't have to travel far to reach our ears. The farther away we are from something that is making a sound, the less likely we are to hear it, because the sound energy has farther to travel. Because sound travels through the air, we can experiment with ways to make it move differently.

Cut a slit in the middle of the cardboard tube that is just large enough for the side of a smartphone or tablet with the speaker output to fit through. Then, cut a circle out of the side of each cup, just large enough for the ends of the cardboard tube to fit into. With the slit in the cardboard tube pointing up, have your child slide a cup onto each end of the tube so that the openings of the cups point outward. Help your child secure the cups to the ends of the tube with tape. This will also help seal the speaker so that all of the sound is directed down the tube and out through the cups.

You can also add a noise-cancelling feature to the speaker by crumpling paper towels and placing them inside the cups, in the space between the bottom of the cups and the ends of the paper towel tube. The paper towels reduce the amount of sound that comes out of the back of the speakers.

After constructing your speaker, place your smartphone or tablet in the slit with the device's speaker inside the cardboard tube. Be sure your device is slightly angled. You may need to place something behind your device to prevent it from falling over. Once your device is situated, turn on some music and test your speaker!

To extend the activity, invite your child to think about modifications they can make to the speaker design to make the sound move differently.

For Your Preschooler:
Give your child paper, thin cardboard, or other recyclable materials. How can they use the materials to make a megaphone? Encourage them to explore and experiment!

For Your Prekindergartener:
Encourage your child to experiment with different speaker designs using other recyclable materials. Help them out by doing the cutting on any plastic or thick materials. Have your child share their speaker designs by hosting a family dance party, then having family members vote on which speaker offers the best sound quality. Have your child share their thoughts about why the winning speaker provides the best sound.

Game Time: Seek and Find

Find your focus and see how many objects you can find in a picture.
Can you find the following items in the picture on the next page?

1 car

2 dinosaurs

3 shapes

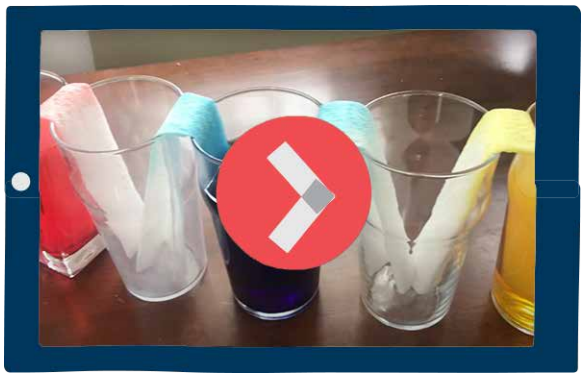
4 dice

5 dominoes

Seek and Find

Virtual Field Trip: Rochester Museum & Science Center Video Experiment

Create a "walking water" experiment using a video from the Rochester Museum & Science Center in New York.



This video shows you how to use basic household materials to create a walking-water rainbow and dives into the science behind it!