Hands-On Learning

Week 8

P
Preschool

Independent Study Packet

Educational Activities to Create, Problem Solve, Move, and Have Fun

Table of Contents

This Activity Packet is a collection of open-ended learning challenges that encourage your child to create, build, design, and move. For these activities, you will need materials like paper, tape, markers, and scissors. You will also need other materials, but feel free to substitute with what is around your home.

We recommend allowing your child to choose 2-3 activities per day. Each packet contains a selection of "choice boards," and these can be used over multiple days. You may also want to review the packet together and make a week long plan using the planner included, or your own.

Brain Breaks can be used throughout the week to support your child in moving their body when they need to take a break from focusing on academic work. The STEM Design Challenge: Plan, Reflect, Revise sheet can be used to help your child dig deeper into the open-ended learning challenges.

WEEKLY PLANNER

Name: _____

Month: _____ Days: _____ - _____ Year: _____

MONDAY

To do list:

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Course activities:

- [ ] _____
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- [ ] _____
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TUESDAY

To do list:

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Course activities:

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WEDNESDAY

To do list:

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Course activities:

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THURSDAY

To do list:

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Course activities:

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FRIDAY

To do list:

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Course activities:

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WEEKEND ACTIVITIES:

- [ ] _____
- [ ] _____
- [ ] _____
- [ ] _____
- [ ] _____

Name _____ Date _____

Brain Breaks

What are brain breaks? Young learners often struggle to stay focused for long periods of time. Brain breaks are short periods of time when we take a step away from the routine work we are doing. They are quick and effective ways to energize and refresh our thinking.

★ Research indicates that brain breaks improve concentration and relieve stress. They increase productivity and provide children with opportunities to develop their social skills and creativity through kinesthetic activities. They also boost brain function! Use these short brain breaks to help refocus before getting back to work.

1. **Dance Party:** Put on some fun music and dance!

2. **Keep It Up:** Get a beach ball and keep it from hitting the ground. Add an additional ball to make it even more fun!

3. **Jump Counting:** Have your child count while jumping with each count. Challenge them by counting by twos, fives, or tens!

4. **"Head, Shoulders, Knees, and Toes":** Use a movement song like this one to get your child moving. For added fun, see how fast you can go! This is a great one for young learners.

5. **Freeze Dance:** Similar to the Dance Party brain break, this one incorporates listening skills. When the music stops, your child must freeze and hold their position until the music begins again.

6. **Physical Challenges:** Engage your child in the classic challenge of rubbing their belly, and patting their head. Another version to try is to grab your nose with your left hand, and grab your left ear with your right hand.

Name _____ Date _____

Brain Breaks

7. **Race in Place:** Have your child stand up and run in place. On your signal, your child will get back to work.

8. **Simon Says:** Play this oldie but goodie to see how well your child can follow specific directions…but only if Simon Says!

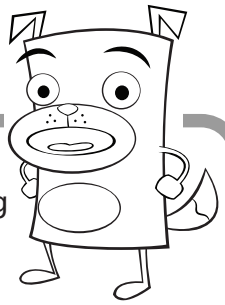
9. **Rock, Paper, Scissors:** Teach your child to play this fun, quick game and see who wins! Best out of three.

For another approach to brain breaks, try these:

- **Drawing or coloring**
- **Mental math:** Give a sequence of instructions for learners to follow while doing math in their head.
- **Invisible pictures:** Have your child draw an invisible picture in the air and try to guess what it is.
- **Story starters:** Begin a story for one minute and let your child finish the story on their own.

Name _____ Date _____

STEM Design Challenge: Plan, Reflect, Revise

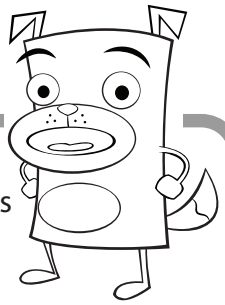


Part 1: Plan

Directions: Create a plan for your STEM design challenge by drawing pictures or writing words in the space provided.

Name _____ Date _____

STEM Design Challenge: Plan, Reflect, Revise



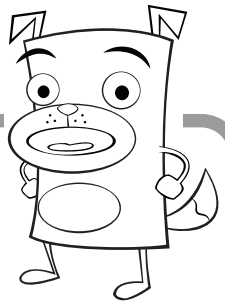
Part 2: Reflect

Directions: Reflect on your STEM design challenge by drawing pictures or writing words in the space provided. Think about the following questions:

- What worked?
- What did you change?
- What did you learn?
- What are you still wondering?

Name _____ Date _____

STEM Design Challenge: Plan, Reflect, Revise



Part 3: Revise

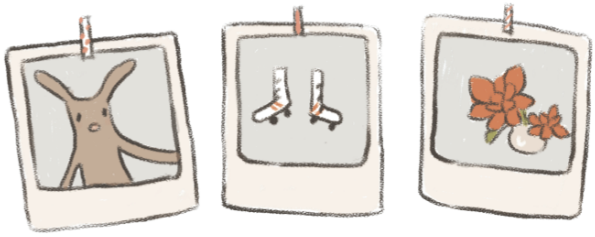
Directions: Draw a picture and/or write words to show how you would change your design based on what you learned!

Name _____ Date _____

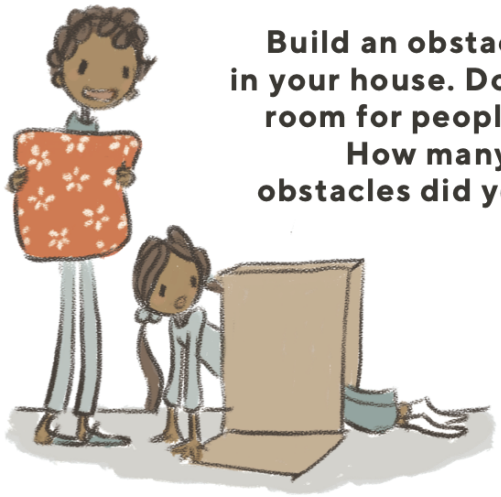
Whimsical Activity Choice Board

directions: Choose one or more activities to complete at home.

Take pictures of your favorite things in the house. Get help to send them to friends or family with a message about why you took those pictures.



Get an old electronic device that does not work anymore, like an old telephone. Give it a new job as a puppet. Make it "say" and "do" things. What will be the puppet's message?



Build an obstacle course in your house. Do you have room for people to race? How many different obstacles did you create?

Host a finger puppet show. Make puppets with paper and tell a story. You can also retell a story you know really well.

Collect flowers, leaves, and other natural ingredients to create a fairy potion. Imagine what would happen if someone drank the potion. Does it affect the way they think, act, or feel?

WARNING: Do not drink the potion or give it to animals or to other people!

Use cookie cutters or plastic utensils and play dough to make the habitat of an animal. Then tell a story about the animal's habitat, or tell facts about the animal and its habitat.

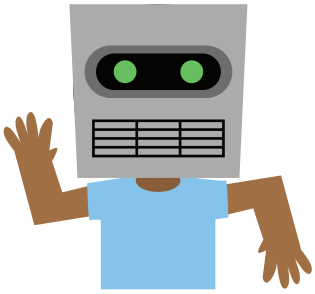
Name _____ Date _____

Dance Party Choice Board

Directions: Choose a song and use one of the following to get your body moving!

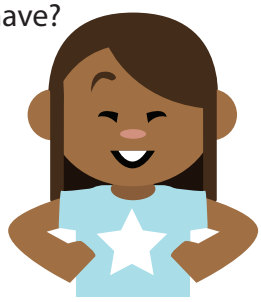
Join the ballet: Dress up in your fanciest clothes and become a ballerina on the stage.

Robot dance: Turn into a mechanical robot and see who can do the most realistic robot moves!

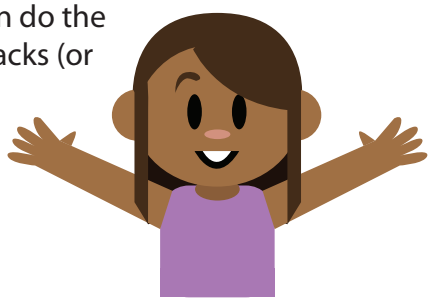


Spotlight dance: Grab a flashlight and take turns dancing in the spotlight.

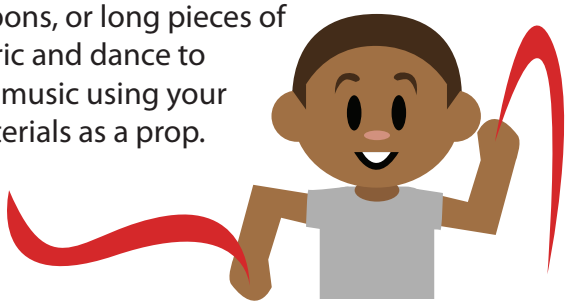
Dance like a superhero: What kind of superpowers do you have? Incorporate your superpower into your dancing.



Jump to the beat: Put on some upbeat music and see who can do the most jumping jacks (or jumps) for the duration of the song. The winner chooses the next move!

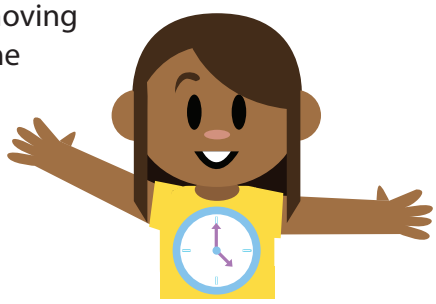


Scarf or ribbon dance: Grab some scarves, ribbons, or long pieces of fabric and dance to the music using your materials as a prop.



Animal dance: Turn on some lively instrumental music and turn into your favorite animal on the dance floor!

Slow motion dance: Dance as slowly as you can while still moving your body for the entire song.



Name _____ Date _____

Hop in Order

Physical activity comes in many shapes and forms, and often in the entertaining form of games! Physical activity strengthens muscles, bones, and joints, while also supporting mental health, sleep, and other aspects of life. Here is a fun at-home physical activity that encourages movement while also working on literacy or math skills! In this activity geared towards children from preschool through second grade, children will hop in order of game cards of your own making—be it alphabetical order, numerical order, sentence order, skip-counting, story sequence, and more. The variations are endless, and children will enjoy the combination of movement and learning!

What You Need:

- Index cards or blank paper cut down to card size
- Markers

What You Do:

1. Get out 5–10 index cards (or small pieces of paper), and write either letters of the alphabet (lowercase or uppercase), numbers (e.g., between 0-20, 100-150, etc.), or sight words on each card.
2. Choose a spot—either inside or outside—where there is enough space to move around without knocking anything over.
3. Place the cards on the ground in order (such as alphabetical or numerical) and far enough apart to encourage mid-size jumps.
4. Invite your child to start at the beginning and hop to the end in the given order or sequence, reading each card aloud. For older kids, you can give them math problems for them to solve (e.g., have them hop to the sum of 5 + 5) or practice reading skills by laying out words that create complete sentences.

Get creative and use different areas around your home and incorporate different movements for subsequent rounds (e.g., tiny hops, jumping on one foot, walking backward). Invite your child to take part in the planning for siblings or other family members, and consider playing as a family!

Name _____ Date _____

Animal Movement

Get active at home by pretending to be different animals with this animal movement activity that the whole family can enjoy together. Staying inside or close to home doesn't mean you can't get your body moving in new and exciting ways! Regular physical activity will increase muscle tone, strengthen bones, and support mental health. As you take turns leading others in different animal movements, consider adding your own additions to the game, or moving throughout different rooms or into the yard! Designed for children from preschool through first grade, this fun and engaging activity is a great way to get moving, be silly, and practice gross motor skills.

What You Need:

- Animal Picture Cards worksheet

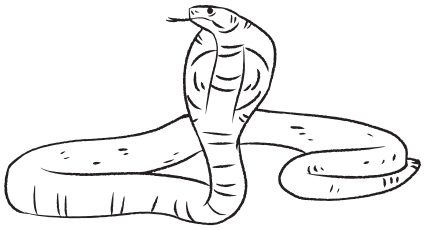
What You Do:

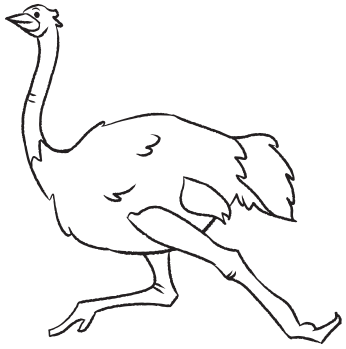
1. Cut out the animal cards and place them in a stack face down.
2. Ask your child if they want to imitate the movement and sound of each animal or just the movement.
3. Decide who will go first, then have that person choose a card from the stack of cards. The player choosing the card will model how to act out the movement of the animal, then all players will copy the movement.
4. Continue to play until all the cards have been used up.
5. Extend the game by creating your own cards to add to the stack. Challenge your child to write (or have younger children dictate) details about the movement or animal (e.g., a snake slithers).

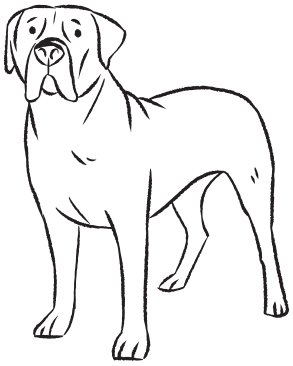
Name _____ Date _____

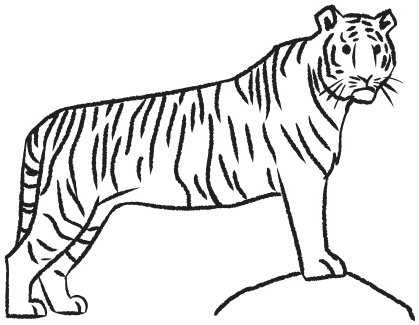
Animal Picture Cards

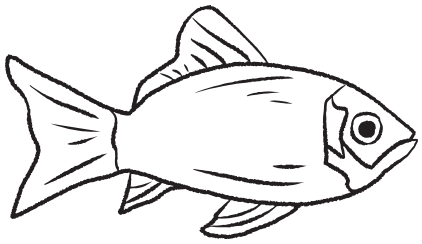
Directions: Color the pictures. Then cut out the cards and use them to play a game!

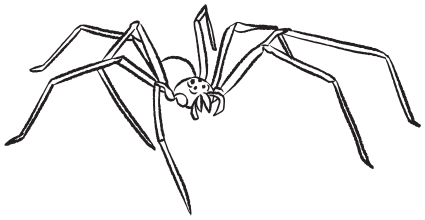


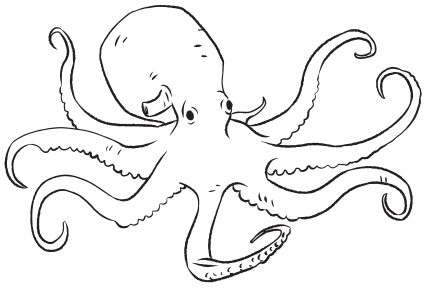


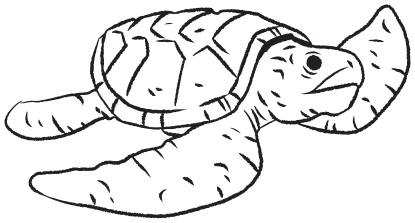


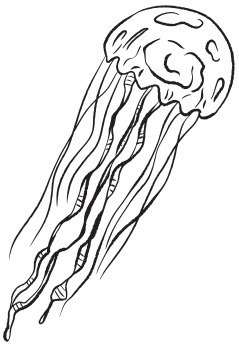


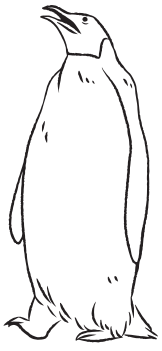


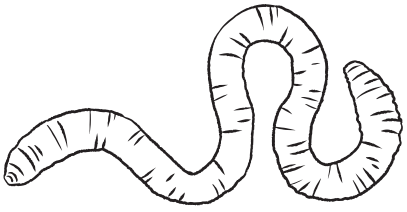








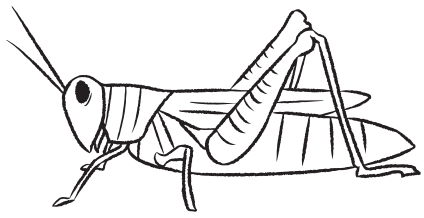


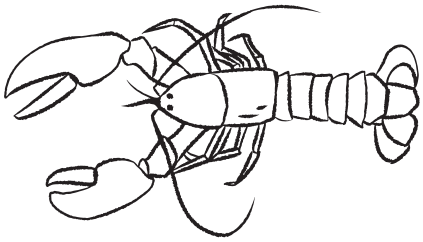


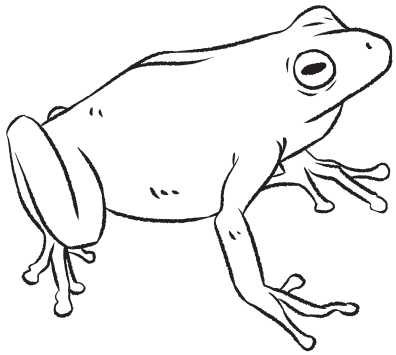
Name _____ Date _____

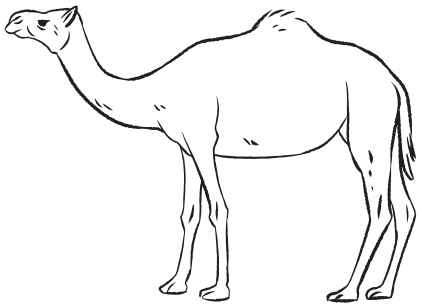
Animal Picture Cards

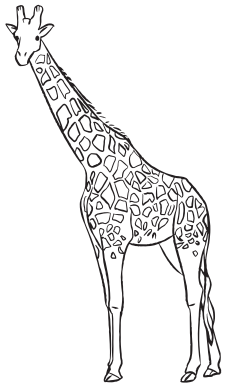
Directions: Color the pictures. Then cut out the cards and use them to play a game!

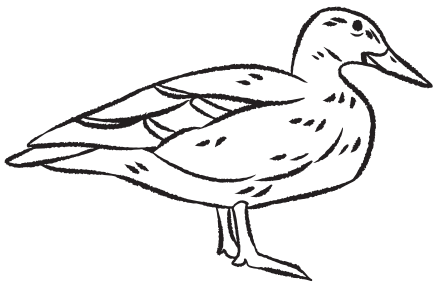


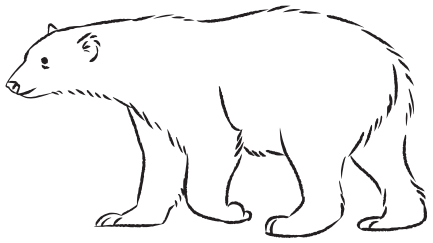








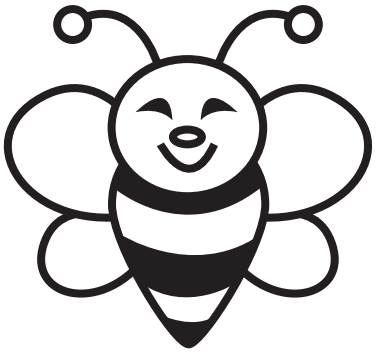
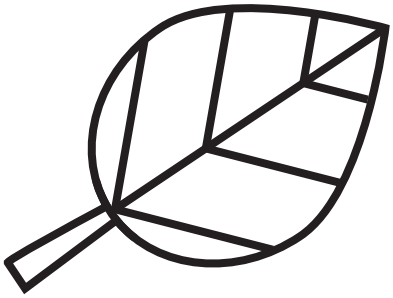
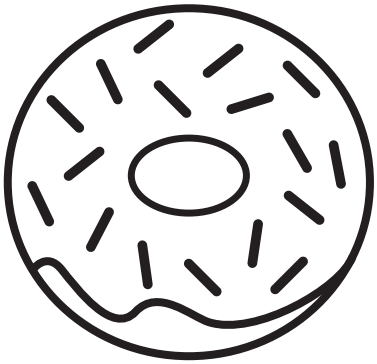
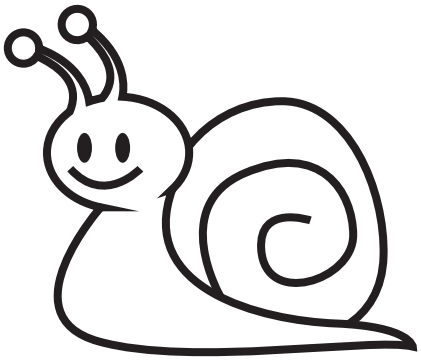
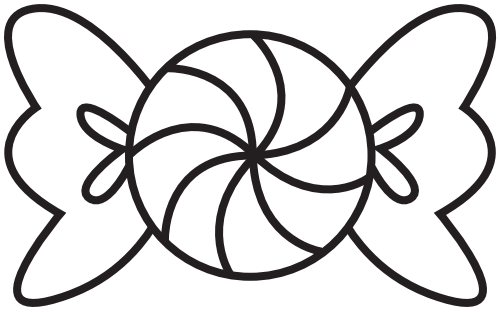
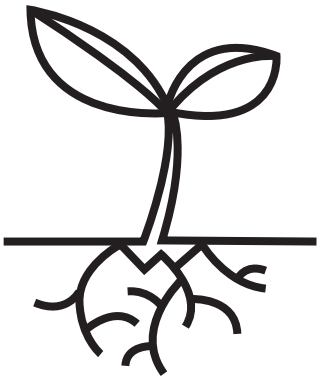




Name _____ Date _____

Chalk Walk Choice Board

Directions: Take a walk around the neighborhood. Choose one of these encouraging drawing options and draw it on the sidewalk in your neighborhood. Color in the affirmations on the choice board when you finish drawing them.

 Bee Kind	 We be-leaf in you!
 Donut give up!	 You snailed it.
 Daily Encourage-Mint	 We're rooting for you!

Name _____ Date _____

Design Your Own Planet

Imagination is a spark needed to make the best inventions or art. In this activity, Design Your Own Planet, learners will imagine a new planet in the solar system. What will it look like? What are the inhabitants like? Children can let their imaginations run wild and include as much scientific thinking as they desire with this design challenge. While you are leading your child through the activity, allow them to work independently. Geared toward children from preschool through second grade, this fun activity will intertwine arts with science, and get your child's creative juices flowing.

What You Need:

- Internet access
- Craft materials around the house. Some ideas are:
  - Paper
  - Tape
  - Glue
  - Balloons
  - Paint
  - Paintbrushes
  - Construction paper

What You Do:

1. Do a search online for pictures of Earth from outer space and show them to your child. Talk to your child about what Earth looks like, and discuss different environments, such as rainforest or deserts.
2. Now show them online photos of other planets and explain that there are other planets in our solar system. Ask your learner, "Can you design and make your own planet?"
3. Encourage your child to make a **plan**. Ask your learner, "What will your planet look like? What animals will live on the planet? What is the name of your planet? What materials do you need to make your vision come true?"
4. Give your child some craft materials and have them **create** their design. Allow them to work independently, but be available with ideas and suggestions if they ask for help. As your child creates their planet, ask them, "Is this what you imagined? What other materials do you need for your planet?"
5. Tell your little designer to **play** with their new planet. Have them imagine landing on their planet in a spaceship. What would they do? What would they see?
6. After imagining their journey through their planet, ask your child what ways they can **adjust** their design. For example, ask questions like, "What do you want to change about your planet? What do you wish your planet had?"

Name _____ Date _____

Design Your Own Planet

7. Have your creator make any changes they find necessary.
8. Challenge designers to **share** their planet. They can record a video or draw their design on paper. They can mention what the planet looks like, what the temperature and environment is like, and what animals live on the planet.

Amplify this challenge! If your child enjoyed this challenge, take them one step further. Ask them one or more of these questions:

- Can you create different ecosystems or environments on your planet?
- Can you imagine other creatures living on the planet that do not exist on Earth? Do they breathe? What do they do?

Name _____ Date _____

Design Challenge: Creating a Cup Tower

In this activity, your child will be challenged to make a tower using only one material: paper cups! The purpose of this challenge is to teach your child design thinking strategies so that they can maximize their tower's height.

What You Need:

- Paper cups
- Ruler, tape measure, or yardstick
- Pen and paper for taking notese

What You Do:

1. First, fully explain the prompt of this challenge to your child. Explain that their task is to create a cup tower and emphasize the purpose of the tower: to be as tall as possible. Tell your child that in order to achieve this, they will need to make at least a couple designs and compare their heights.
2. After your child understands the prompt, ask them to begin **brainstorming** different ways they can create their tower. Have them write or draw their ideas on a piece of paper (or you can draw their ideas while they explain them to you).
3. After your child has come up with a few design ideas, ask them to pick one that will work best. Be sure to ask them why they think this design is best and reiterate the purpose of the tower (height).
   - This is an important step of the design thinking process because it teaches your child to prioritize the purpose of their prototype (design) over their personal preferences. This will also prevent your child from getting too emotionally invested in one design.
4. Once your child has identified the prototype they think will be the tallest, give them the paper cups and allow them to build. We suggest allowing your child to work independently through any challenges, but be sure to supervise and help out wherever you see fit.
5. After your child has finished building, it's time to **test** their prototype. Measure the tower's height and have your child record the height on a piece of paper.
6. Since the purpose of this challenge is to build the tallest tower possible, your child will need to create at least one more prototype and compare its height with the first tower. Ask your child some of the following questions so that they can reflect on their first design:
   a. What worked well in building this tower?
   b. What didn't work well?

Name _____ Date _____

Design Challenge: Creating a Cup Tower

c. What could you change about this tower to make it taller?

7. After you and your child have come up with some modifications, explain to your child that they can now use their ideas to make a new, taller tower.
8. Once again, ask your child to **brainstorm** different designs that will hopefully create a taller tower than their first one. Then, ask them to pick the one they think will be best.
9. Next, allow your child to **build** their design. Once again, allow them to work independently as much as possible.
10. After your child has finished building, it's time to test their new prototype. Again, measure and record the height of their tower and compare it to the first one.
    a. If your child's second tower is taller, ask them some of the following questions: What worked well in your second design? What didn't work well? What specific adjustment to your first design made the second tower taller? What could you change about the second design to make it even taller?
    b. If your child's second tower is shorter than their first, ask them some of the following questions: What worked well in your second design? What didn't work well? Why do you think your second tower was shorter than the first? What could you change about this design to make it taller?
11. You and your child can continue repeating this process and attempting to create a taller tower for as long as you'd like. Be sure to cover each step of the design thinking process since repetition will reinforce these core ideas!

Name _____ Date _____

Mix Monochromatic Colors!

This is a great activity to give your child a hands-on lesson all about secondary colors, which are created when two primary colors are mixed together. After learning or reviewing some color-based vocabulary, young artists will choose a secondary color to explore and create a monochromatic color chart of all the many shades of their chosen color. Mixing their own palette of colors and making each one a different tint or shade is a bit like a puzzle—it's a fun challenge that will help children understand how many colors they can get from just a few tubes of paint.

What You Need:

- White watercolor paper cut into a square
- Ruler
- Pencil
- Primary color tempera paint (red, yellow, blue)
- Black tempera paint
- White tempera paint
- Paint brushes
- Water cup
- Mixing palette
- Rags

What You Do:

1. Discuss with your child the difference between **tint** and **shade**, and define the word **monochromatic**.
   - A tint is when white is added to a color.
   - A shade is when black is added to a color.
   - Monochromatic refers to all the hues (tints and shades) of one color.
2. Have your child use a pencil and ruler to grid the white paper into at least 20 squares.
3. Have them decide on a secondary color to work with (green, orange, or purple), and choose the correct primary colors to make their secondary color. Here is where your learner can start experimenting!
   - blue + yellow = green
   - yellow + red = orange
   - blue + red = purple
4. Have your child squeeze out their chosen primary colors onto a mixing palette, and also squeeze out black and white paint in separate areas on the same palette.

Name _____ Date _____

Mix Monochromatic Colors!

5. Encourage your artist to mix small amounts of paint together to alter the tint and hue of the color. They can also alter the amounts of the colors being mixed together. For example, if they're using green, use a lot of yellow and a tiny bit of blue for light, grassy green, or use more blue and less yellow for a rich, dark green. The paintbrush will have to be rinsed out after each new color is mixed to avoid repeating colors.
6. Add in white to different hues of your color, tinting it to lighter values.
7. Add in black to different hues of your color, shading it to darker values.
8. Have your child paint each square on their grid with a different version of the color until the entire grid is filled in.
9. Allow to dry.
10. Hang on to this color chart and put in into a portfolio or sketch book as a handy reference.

Tip: With any additional time or as another activity, use the painted grid as a reference to create a monochromatic still life. Simply set up a plant with a couple of household objects (such as cups, pottery, etc.), and create a painting using only colors found on the color chart.

Name _____ Date _____

Outer Space Painting

This outer space art project is out of this world! It's filled with colorful planets, rockets, astronauts, satellites, aliens, and anything else your young explorer can imagine. This project is a fantastic way to follow up a space-themed story or movie, or a visit to a science museum or planetarium (in person or online). It's also a great way to extend knowledge of our solar system while encouraging your child's imagination.

What You Need:

- Watercolor paper, 8.5" x 11"
- Crayons (take out the dark colors)
- Black tempera paint
- Water
- Paint palette
- Flat paint brush

What You Do:

1. Share photographs of outer space with your child. You can look up images of the solar system, satellites, astronauts, space stations, spaceships, and galaxies. Also, take a look at artist renderings of aliens or outer space fantasy worlds to jump start your child's imagination.
2. On white paper, have your child color their version of outer space using crayons. They should use vivid colors and press down hard with the crayons—solid shapes without any paper showing through will give the best results.
3. Scoop out some black paint onto a paint palette and check its consistency. If it's thick, add a little bit of water. The paint should be similar to the consistency of hot chocolate.
4. Help your child brushing the black paint over the entire picture in even strokes going in the same direction. If the paint is too thick, it won't be resisted by the crayon and will turn the entire picture black. If the paint is too thin, it may go on as gray and require two coats of paint. It's best to test a small section before covering the entire picture.
5. Allow the space exploration picture to dry.

Your child can make a whole collection of these space scenes to string up for an out-of-orbit effect!

Name _____ Date _____

Write Secret Messages

Your child will feel like a secret agent when you teach them this cool art trick. Write your learner an "invisible" message with white crayon, then watch their amazement as they paint over what looks like a blank piece of paper and see a picture emerging. Then let your child have their own turn at making a secret picture! This creative art project will tap into children's creativity, is a great way to inspire games of playing "secret agent," and can be a challenging exercise in handwriting and spatial awareness.

What You Need:

- White construction paper
- White wax crayons
- Newspaper
- Water soluble paint (tempera paint or watercolor paint)

What You Do:

1. Draw a simple image on the white construction paper with the white crayon and write a few simple words.
2. Tell your child that the "blank" piece of paper is magic!
3. Lay down some newspaper in the painting area, and ask them to paint over the paper with their favorite color. Can they see the image? What is it? Can they identify any letters?
4. To commend their excellent detective work, let your child in on the secret and ask them to create their own "magic drawings."
5. See if your young detective can guess how the "magic" works. Explain how the waxy crayon puts a "paint-proof" layer of wax on the paper. So when the paint is applied, the areas that have been drawn on are blank!

Variations:

- This is a great way to exchange "secret" drawings and notes with friends who are in the know!
- Let your child make a secret birthday card for a friend. Deliver the card with instructions on how to reveal the hidden message!
- Play an invisible alphabet game with your child! Draw a letter of the alphabet with the white crayon on the white paper and see if your child can guess the letter you have written. Were they right? All they have to do is paint over the letter to see! If your child can read, you can play this game using words instead of letters.