



Challenge #1: Design A Board Game

Inspired by Book 3 - "Let The Games Begin!"

Have fun creating your own board game! Be creative with your design using bright colors, numbering the spaces, and adding in some special obstacles along the way. You will be practicing math skills while having fun!

Challenge Objective

Using the board game template provided, create a board game that is fun for the whole family. Challenge your friends and family to a game when you are finished.

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What You'll Need

- A die (not a set of dice just one)
- Markers or crayons
- Playing pieces (use simple small things like a thimble, a penny, a pebble or you can make your own)

Instructions

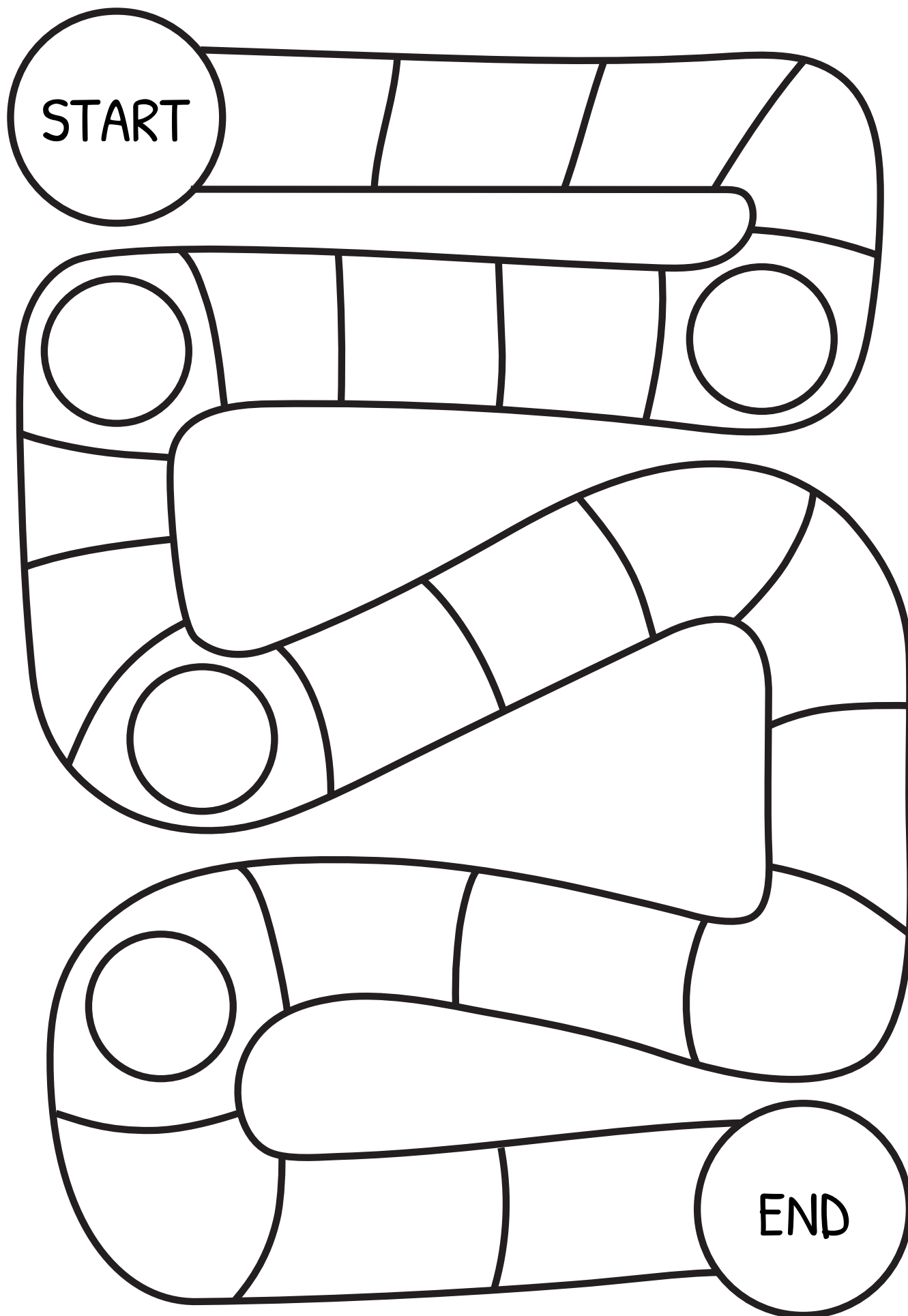
1. Print the game board on page 2.
2. The goal of the game is to get the players from the start to finish. Start by numbering the blocks beginning with the block after the starting point. You can leave a few blocks blank, we will fill those in later.
3. In a couple of the empty blocks write in your road blocks. They might be things like: "go back 2 spaces" or "skip a turn".
4. In the other empty blocks you can add in some skip aheads. Those might be things like: "go 2 more spaces" or "go directly to number 8".
5. Once you get all your numbers in, it is time to decorate your game board. Be creative, use markers and/or crayons. Maybe you want to make it a special theme like "A beachy game" or "A Super Hero game".
6. Now you are ready to challenge your friends and family to a game. All players start on the "start" box, then each player takes a turn rolling the die and moving the number of spaces indicated on the die. If they get to a special square, they have to do what is on that square. The first one to the finish line wins!

NOTE: You can make your own playing pieces by cutting out shapes or even using playdough or clay to make players. Just be sure it is easy to tell them apart so everyone knows which player is theirs.



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Challenge #2: Ice Cream Flavor Fun

A sweet activity that will encourage you to get creative. A STEM challenge that is fun and super yummy! Have fun while using simple math skills and the learning the importance of following instructions.

Challenge Objective

The objective of this challenge is to invent your own ice cream flavor! Follow the instructions on how to make the ice cream and then get creative by adding your own flavors and ingredients! What ice cream flavor will you come up with?

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What You'll Need

- Milk, vanilla, sugar, ice, salt
- Special ingredients of your choice
- 2 quart sized plastic baggies
- 1 gallon sized plastic freezer bag
- A hand towel or gloves

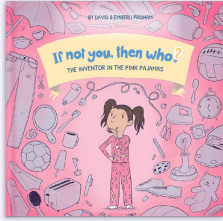
Instructions

1. Mix the milk, vanilla and sugar together in one of the quart sized bags.
2. Add your special ingredient(s) that makes your ice cream unique!
3. Seal the bag tightly and squeeze out the extra air.
4. Double bag this with the other quart size bag to ensure no ice cream leaks while shaking!
5. Fill the gallon sized bag with ice and sprinkle salt on top of the ice.
6. Place the quart sized bag into the gallon sized bag.
7. Let all of the air escape the bag and seal it.
8. Wrap the bag in a towel or put on your gloves so your hands don't get cold!
9. Shake and massage the bag making sure the ice surrounds the mixture - shake for 5-8 minutes to freeze the entire mixture.

Special Ingredient Ideas:

- Chocolate syrup
- Caramel syrup
- A nut butter
- Sprinkles or candies
- Chopped up fruit
- Chopped nuts
- Crushed cookies
- Coconut flakes
- Jam or jelly
- Pretzels

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Challenge #3: Coral Reef Creations

Inspired by Book 1 - "The Inventor In The Pink Pajamas"

An activity that will encourage creative exploration! This challenge is easy to set up and you will have a blast creating your own colorful coral reefs. Have fun while using your creativity and fine motor skills.

Challenge Objective

The objective of this challenge is to recreate coral reefs with some simple crafting materials. Jacques Cousteau invented the aqualung, a device that makes it easier to explore, collect data, and take photos while underwater. Imagine what it's like to explore a coral reef with an aqualung and recreate it with the materials below!

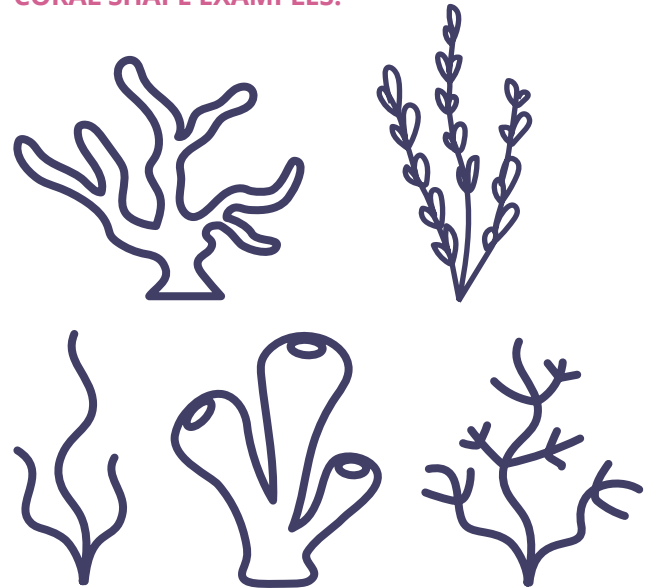
What You'll Need

- Play-doh or any modeling clay
- Colorful beads and pipe cleaners
- Shells, rocks, or colored pasta
- Paper and drawing utensils

Instructions

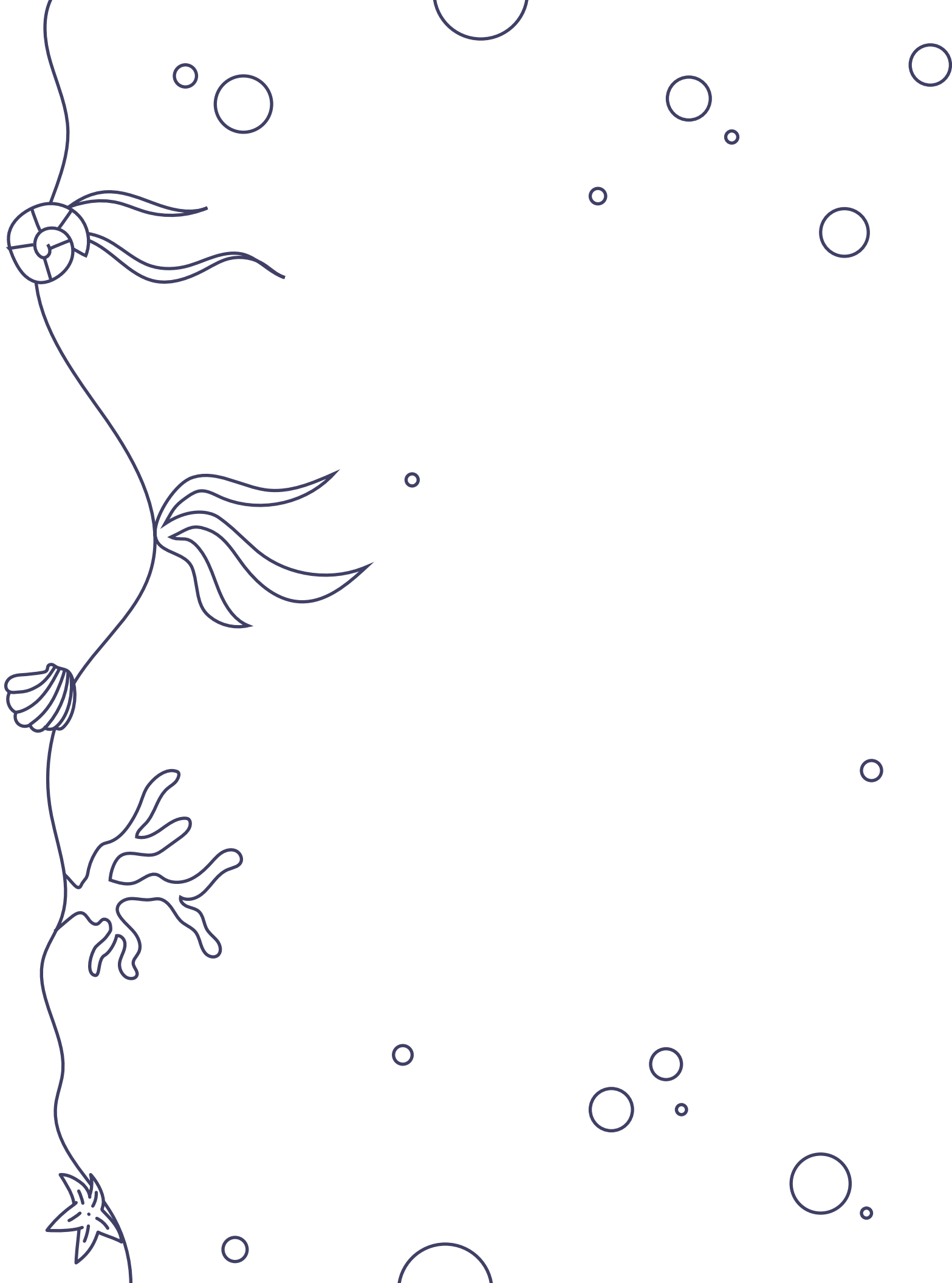
1. Shape the play-doh or modeling clay into small fist-sized clumps.
2. Decorate pipe cleaners with colorful beads!
3. Bend the pipe cleaner into fun coral shapes and stick them into the play-doh / modeling clay.
4. Decorate the play-doh or modeling clay with shells, rocks, colored pasta or any other fun ocean themed decorations you have.
5. If you want to go a little further, make a fun ocean background for your coral reef color the paper in an ocean theme.

CORAL SHAPE EXAMPLES:



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Challenge #4: Old Becomes New Again

Technology makes things easier for us in our lives. Tasks that used to take a long time to do can be done faster, items that were big become smaller. In this activity you will have fun matching the older items to the new ones that were made better with technology. You will learn how inventors solve problems by finding new ways of doing things.

Challenge Objective

Match the older items with new and improved items by drawing a line to connect them from one column to the next.

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What You'll Need

- Printed matching sheet
- A pencil, crayons or colored pencils

Instructions

1. Print the matching sheet provided on page 2.
2. Match the older items with the new and improved ones by drawing a line between the pictures.

OLD TO NEW EXAMPLE

The pens you use today started as "quill pens" which were made feathers of birds like swans, turkeys, and geese. The feathers were dried and the ends were cut with a knife to sharpen it, making the tip of the pen. You would then dip the feather or "quill" into some ink and write with it.

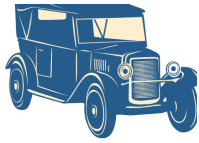
Hundreds of years later, the quill pen evolved into the "ballpoint pen". It used quick-dry ink and a small metal ball that rotated at the tip of the pen which managed to keep the ink from drying and distributed it more smoothly. The ballpoint pen is highly durable, more convenient, could write on multiple surfaces such as cardboard and wood, and even underwater.



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OLD

Model T Ford



Old TV set



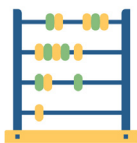
Chalkboard



Phone



Abacus



Computer



Headphones



New

Calculator



laptop



Cell phone



Tesla



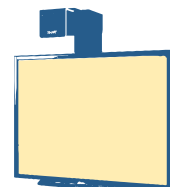
Airbuds

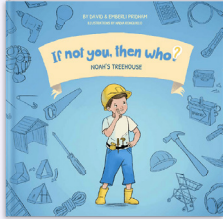


Flat screen TV



Whiteboard/Smartboard





Challenge #5: Tower of Power

Inspired by Book 2 - "Noah's Treehouse"

An awesome activity that will encourage you to problem solve and build! This STEM challenge is fun and engaging for children of all ages. Have fun while practicing your fine motor skills and coordination.

Challenge Objective

The objective of this challenge is to build a tower as tall as possible and then set your toy on top. As long as the character does not fall off, we call it a success! Can you build the highest tower?

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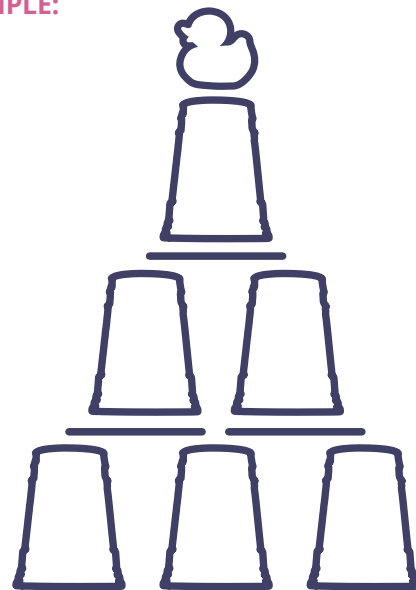
What You'll Need

- Stackable cups
- Popsicle sticks (or cut up pieces of cardboard)
- A small lightweight toy

Instructions

1. Unstack your cups if they are stacked together and create a platform of however many cups you want (remember that you will need to see how tall you can get your structure to be!).
2. Place the popsicle sticks to look like bridges between the cups.
3. Stack the next layer of cups to balance on the popsicle sticks and tops of the first layer of cups.
4. Continue the steps to see how high you can make your tower.
5. At the top of the tower you've created attempt to balance your small lightweight toy.

STRUCTURE EXAMPLE:



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Challenge #6: It's Puzzling

This is a fun way for you to learn about shapes of different sizes. Have fun creating your own puzzles and then putting them together, all while practicing shape names and how they fit together.

Challenge Objective

The objective of this challenge is for you to make your own puzzle by cutting out shapes and putting them back together. Once you have done it, challenge your friends and family to put together your puzzle.

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What You'll Need

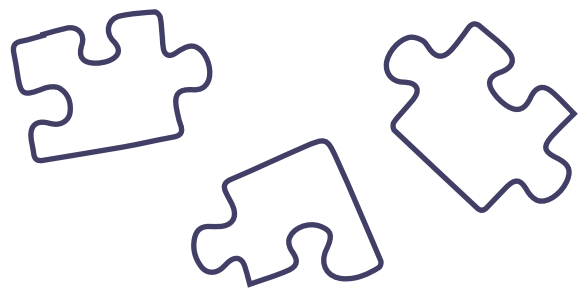
- A piece of cardboard or poster board (8 ½" x 11")
- A magazine with full page pictures
- Scissors
- Glue stick

Instructions

1. Find a picture that you like in the magazine. Something that is big and colorful is fun.
2. Glue the picture onto the cardboard or poster board make sure there is glue all around so it is stuck down in all places.
3. Cut the picture into 9 to 12 squares, triangles, and rectangles.
4. Once your pieces are all cut out put them on a table and mix them all up.
5. Now, put your puzzle back together. Pay attention to how the shapes go together.

DID YOU KNOW?

The first jigsaw puzzle was created by a map engraver called John Spilsbury, in 1762. He mounted one of his master maps onto wood and then cut around the countries. He gave it to children in the local school to help them with their geography education.



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Challenge #7: Flashlight Constellations

This is a fun and easy way for you to be creative and learn about stars and constellations. It is a great activity on a rainy day or sleepover.

Challenge Objective

The objective of this challenge is to create a projector to show stars on your ceiling! You can design your own constellation or use one of the constellation images provided.

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What You'll Need

- A toilet paper cardboard tube
- A pencil
- Scissors
- Rubber band
- White tissue paper
- A flashlight

Instructions

1. Cut a 4" x 4" square out of the tissue paper
2. Place the tissue paper over one end of the toilet paper roll and secure it with a rubber band
3. Using the tip of a sharp pencil, poke holes in the tissue paper to make a constellation design
4. Shine a flashlight through the open end of the toilet paper roll and point it up to the ceiling! Now you have your very own constellation!

CONSTELLATIONS YOU CAN USE:

The Big Dipper



The Little Dipper

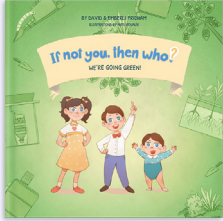


The Orion



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Challenge #8: Recycled Flower Pots

Inspired by Book 4 - "We're Going Green!"

This activity encourages you to recycle and be creative! You will learn that everyday items can have a "new life" when used for something else.

Challenge Objective

The objective of this challenge is to use a recycled bottle (larger bottles work best) to create an attractive new flower pot! Maybe your mother will display it in the kitchen and you can watch the plant grow.

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What You'll Need

- A plastic bottle (Gatorade type bottles work well)
- Scissors
- Paint
- Paint brushes
- Masking tape

Instructions

1. Cut the top off the plastic bottle (parents will need to help you with this). You will want to cut it at the height of a small flower pot.
2. Use masking tape to tape around where you cut the plastic so you don't have any sharp edges
3. Turn the plastic flower pot over and poke a couple of holes in the bottom to allow water to drain out of the pot.
4. Now it is time to paint your new flower pot! Be creative. You can paint a background color and then paint designs on it (maybe flowers, animals, a house, or just an abstract design).
5. Be sure to allow time for your paint to dry before you plant your plant in the new flower pot!

DID YOU KNOW?

Plant containers or flower pots date back to the Egyptians! It is believed that Egyptians were the first civilization to use plant containers to move plants from one growing environment to another.

Flower pots were mainly made out of a clay material called terra cotta. Today plastic flower pots are the most common because they are more light weight. You will be making a more eco-friendly version that repurposes old plastic into a flower pot!



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