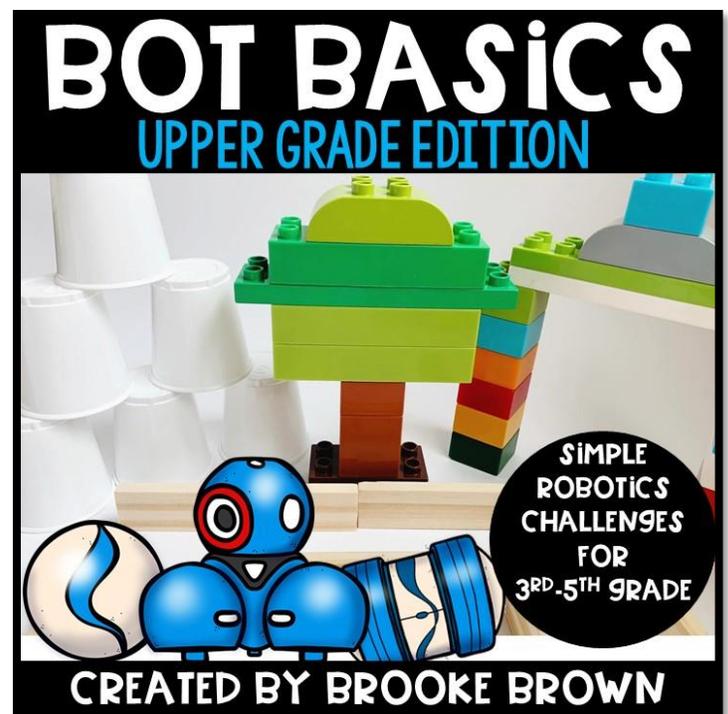
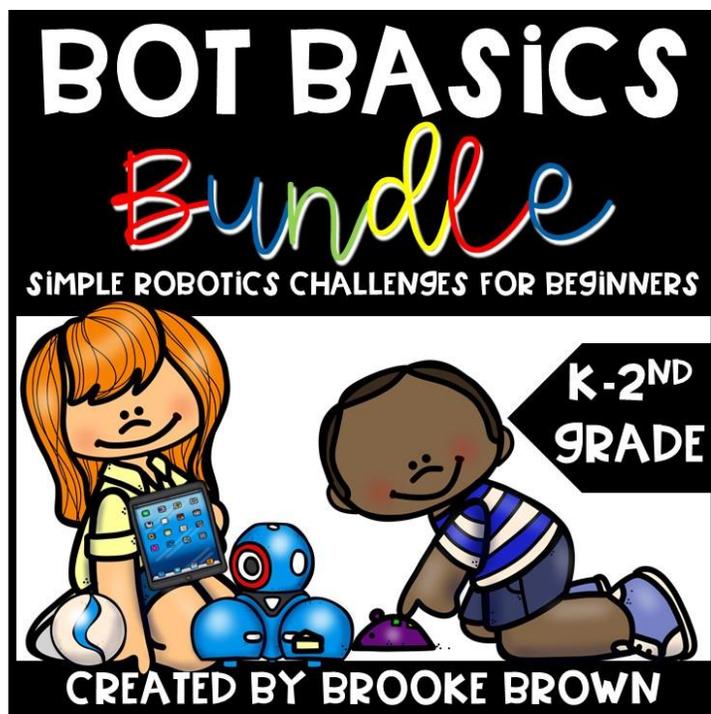
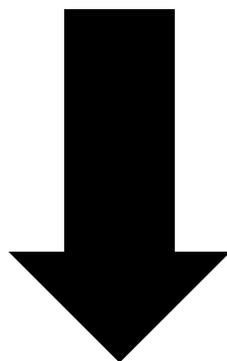


APRIL / EASTER BOT BASICS

SIMPLE ROBOTICS CHALLENGES FOR BEGINNERS



LOVE THESE ROBOTICS CHALLENGES? YOU'LL LOVE MY OTHER BOT BASICS PACKS!



CONTENTS

Page 4: What You Need

Page 5: How to Use

Pages 6-7: Write the Code templates (optional)

Page 8: EGG HUNT

*Requires plastic eggs and small ceramic magnets

Page 9: STORM SHELTER

*Requires wooden planks, linking cubes, or building bricks

Pages 10-11: POLLINATOR POWER

*Requires glue stick, paper flowers and insects

Pages 12-13: BUNNY BOT

*Requires construction paper and tape, plastic eggs, large cup for Sphero robots only, paper bunny heads

Pages 14-16: CRACKING UP

*Requires egg puzzle pieces

Pages 17-18: FLOWER FACTS

*Requires flower cards and dominoes

Pages 19-22: CIRCLE OF LIFE

*Requires life cycle cards

Pages 23-26: WHAT'S THE WEATHER?

*Requires weather cards

Page 27-35: SPRING SPELLING

*Requires alphabet mats and spelling list

Pages 36-38: RAINY DAY MAZE

*Requires paper maze pieces and maze materials such as wooden planks, base ten rods, popsicle sticks, or construction paper

Page 39: Credits

WHAT YOU NEED

The following April Bot Basics challenges will work with almost any moving, programmable robot and the tasks will vary slightly depending on the size and abilities of your robots.

Suggested Robots

- Sphero Spark
- Sphero Bolt
- Sphero Ollie
- Sphero Mini
- Ozobot Bit (OzoBlockly)
- Ozobot Evo (OzoBlockly or Evo app)
- Dash
- Bee-Bot
- Code and Go Mouse
- Botley



HOW TO USE

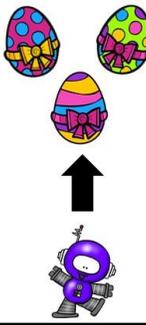
April Bot Basics can be used as robotics stations or challenges and can be used as a whole class if you have multiple robots for students to share. Print the provided instruction cards and pieces and laminate for durability.

Direction cards can be folded in half as tents to display at each station. These cards can be stored in gallon-sized Ziplock baggies with extra pieces when not in use.

Students follow the challenge instructions to program their robots. Some challenges may include basic school supplies or building materials or may require students to build a path or maze.

EGG HUNT

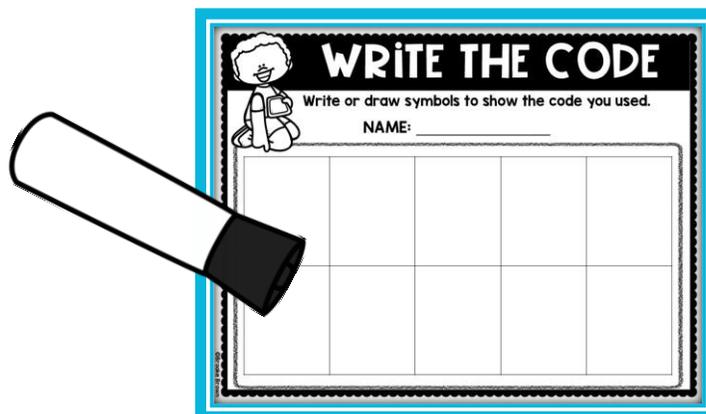
- 1) Put small ceramic magnets inside 6-12 plastic eggs. Tape another magnet to the front of your robot. Spread the plastic eggs out on the floor.
- 2) Program your robot to touch the eggs one at a time so that the magnets attract.
- 3) Rearrange the eggs and program your robot again.



APRIL BOT BASICS © Brooke Brown

OPTIONAL WRITTEN CODES:

Make copies of the most appropriate templates for your robots on pages 6-7 for students to write the codes OR place inside dry erase pockets or page protectors for students to use with write and wipe markers.



WRITE THE CODE

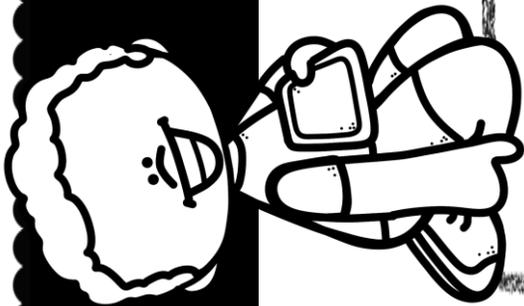
Write or draw symbols to show the code you used.

NAME: _____

WRITE THE CODE

Write or draw symbols to show the code you used.

NAME: _____





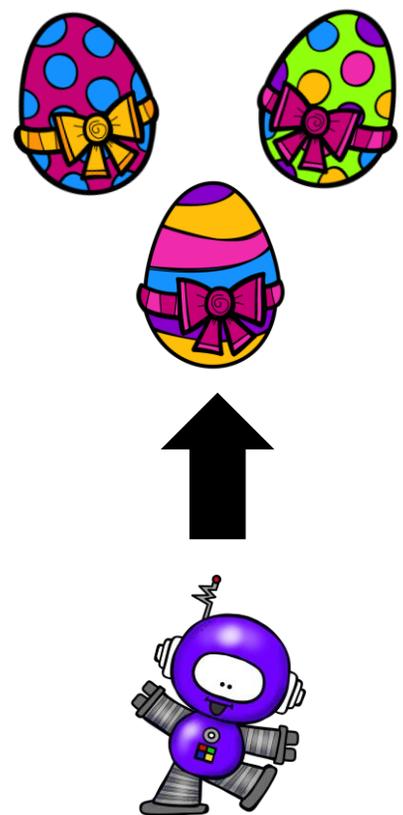
WRITE THE CODE

Write or draw symbols to show the code you used.

NAME: _____

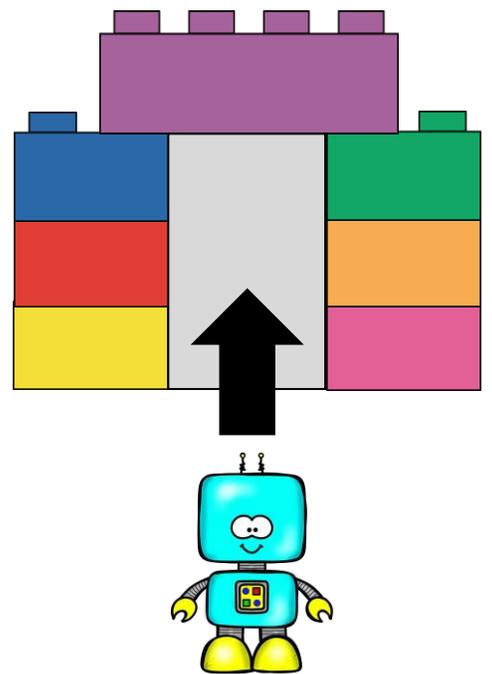
EGG HUNT

- 1) Put small ceramic magnets inside 6-12 plastic eggs. Tape another magnet to the front of your robot. Spread the plastic eggs out on the floor.
- 2) Program your robot to touch the eggs one at a time so that the magnets attract.
- 3) Rearrange the eggs and program your robot again.



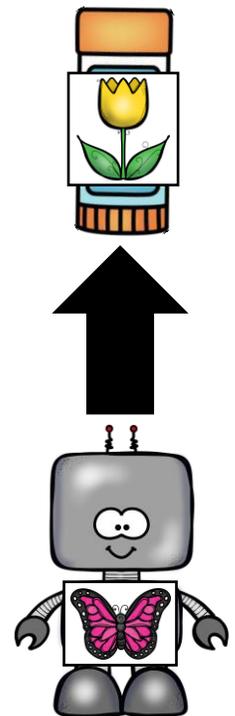
STORM SHELTER

- 1) Build a sturdy storm shelter out of linking cubes, building bricks, or wooden planks. The shelter must have walls and a roof and must be large enough to fit your robot inside.
- 2) Program your robot to move forward to go inside the storm shelter.
- 3) Change the distance of the storm shelter and program your robot again.



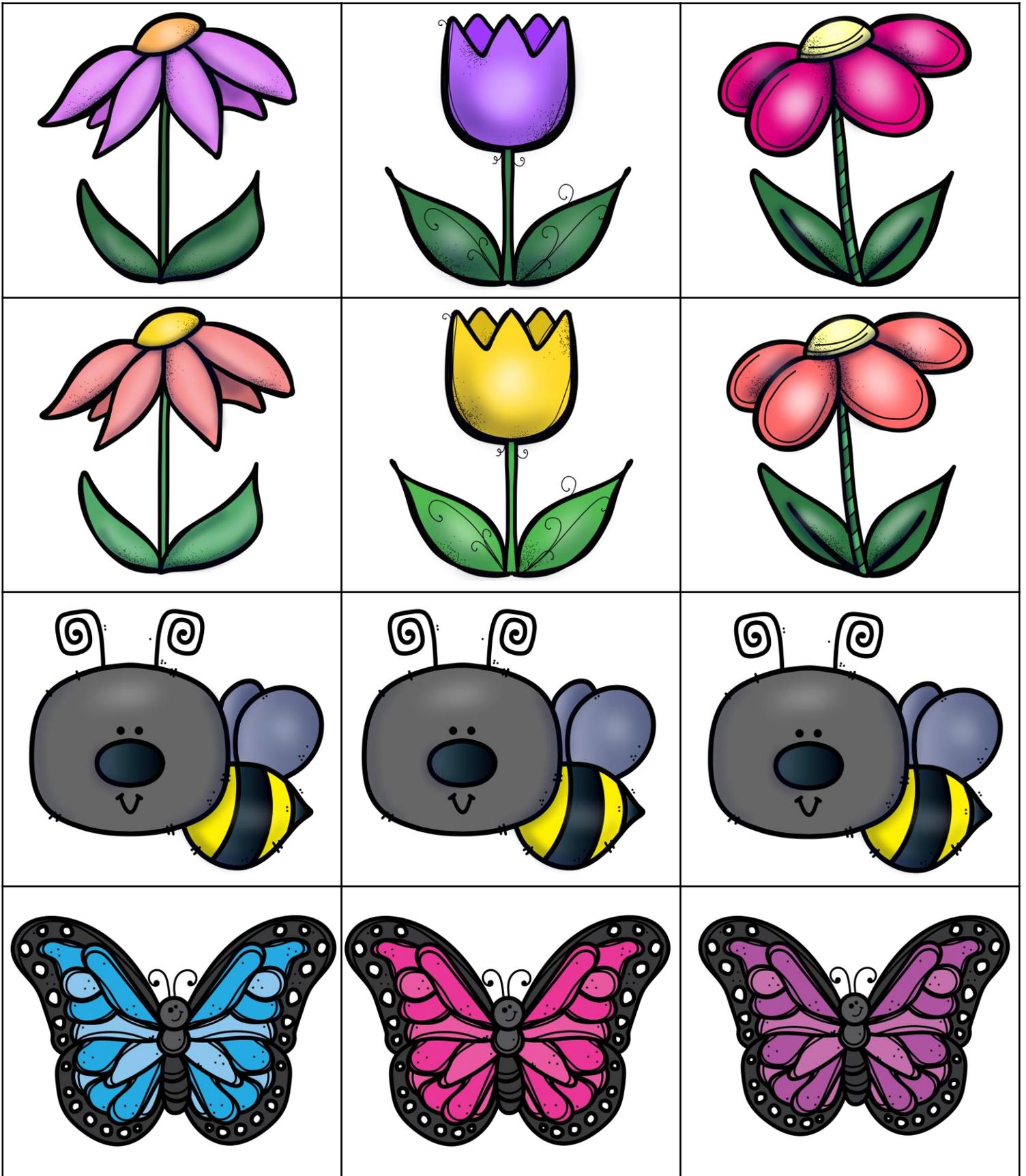
POLLINATOR POWER

- 1) Tape a paper bee or butterfly to your robot. Tape a paper flower to a glue stick.
- 2) Program your robot to move forward to touch the glue stick and move backward to you.
- 3) Change the distance of the glue stick and program your robot again.



POLLINATOR POWER

Tape the paper flowers to the front of glue sticks.
Tape the bees and butterflies to the robots.



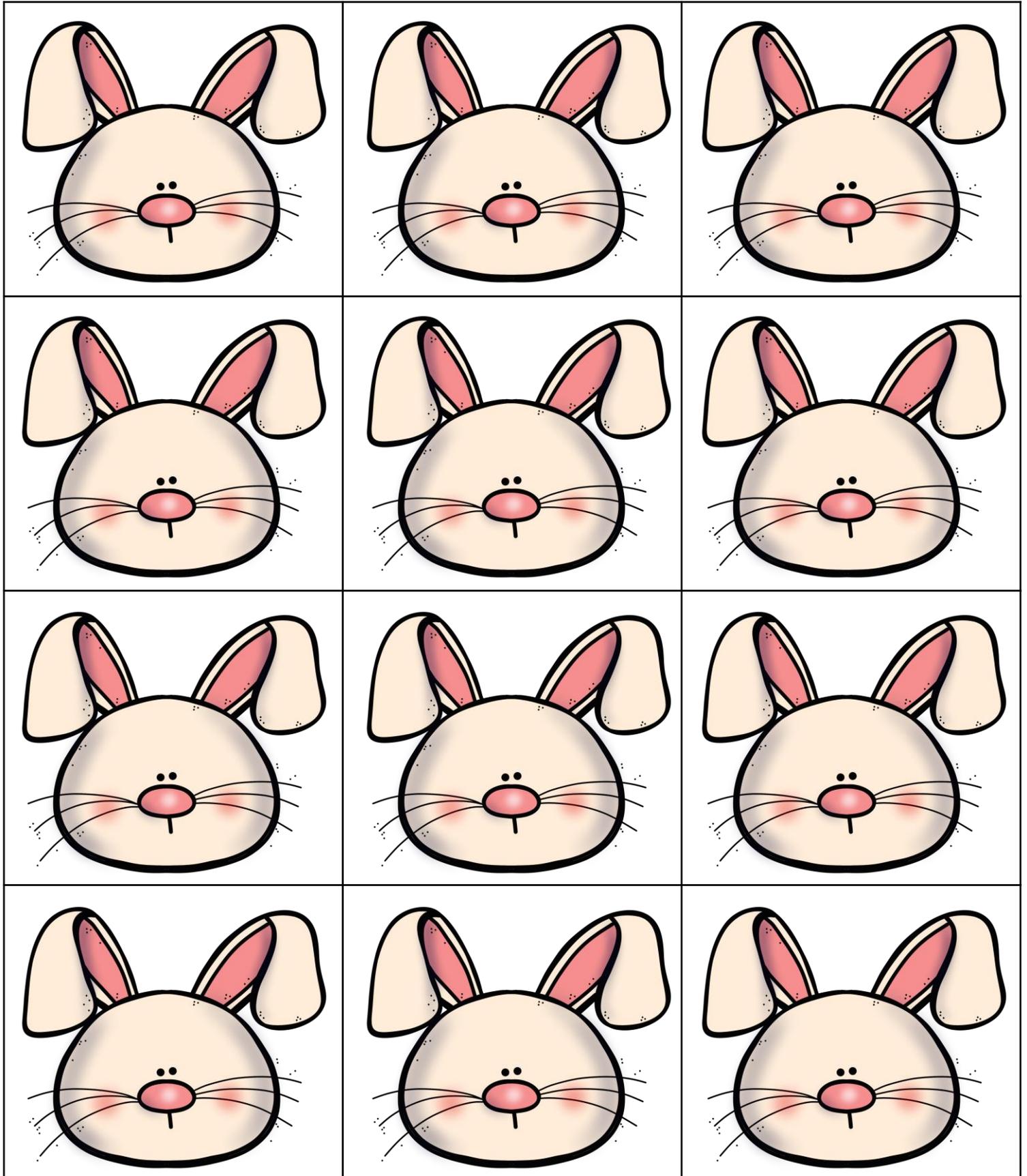
BUNNY BOT

- 1) Use construction paper and tape to create a small basket that will attach to your robot. (For sphere-shaped robots, you will also need a large cup.) Tape a bunny head to your robot OR create your own bunny costume out of construction paper!
- 2) Put plastic eggs inside your container. Program your robot to deliver the eggs to a friend!
- 3) Program your robot to make another egg delivery to a friend.



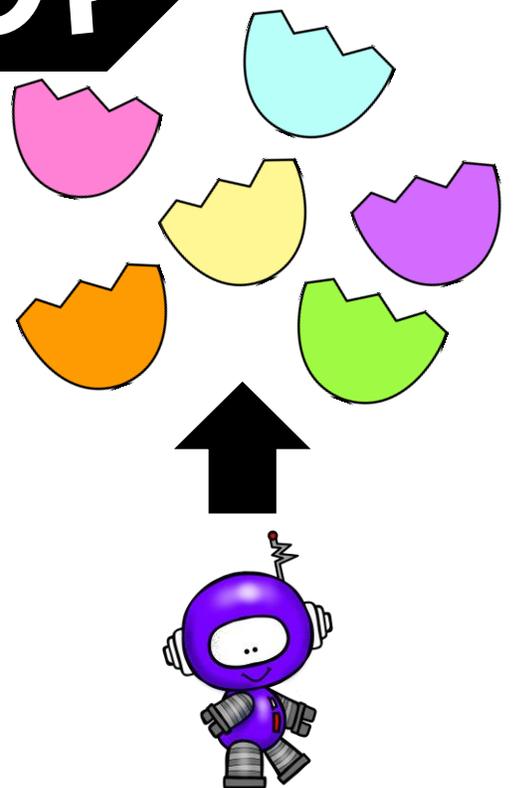
BUNNY BOT

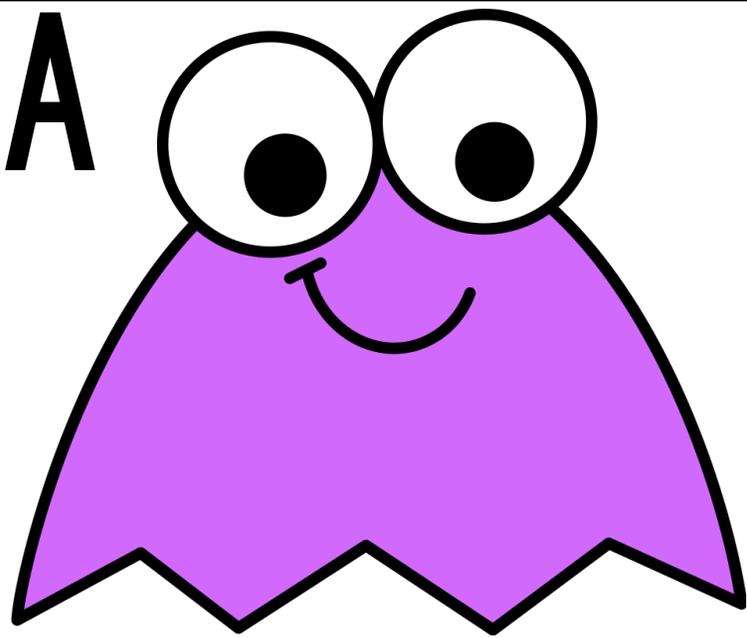
Tape a paper bunny head to the front of your robot.



CRACKING UP

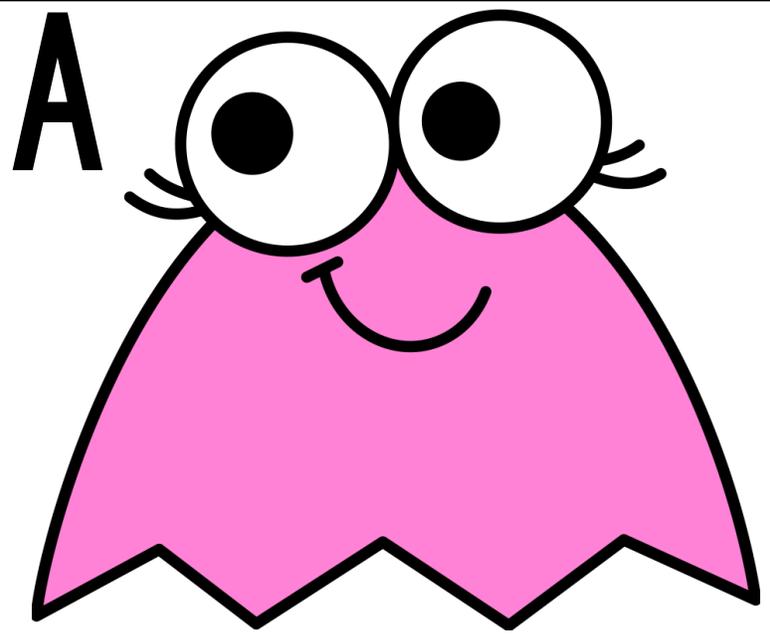
- 1) Spread out your 6 "B" egg puzzle pieces on the floor. Put the other 6 "A" egg puzzle pieces in a stack facedown.
- 2) Flip over the top "A" puzzle piece and program your robot to the matching puzzle piece.
- 3) Repeat with the other puzzle pieces in the stack.





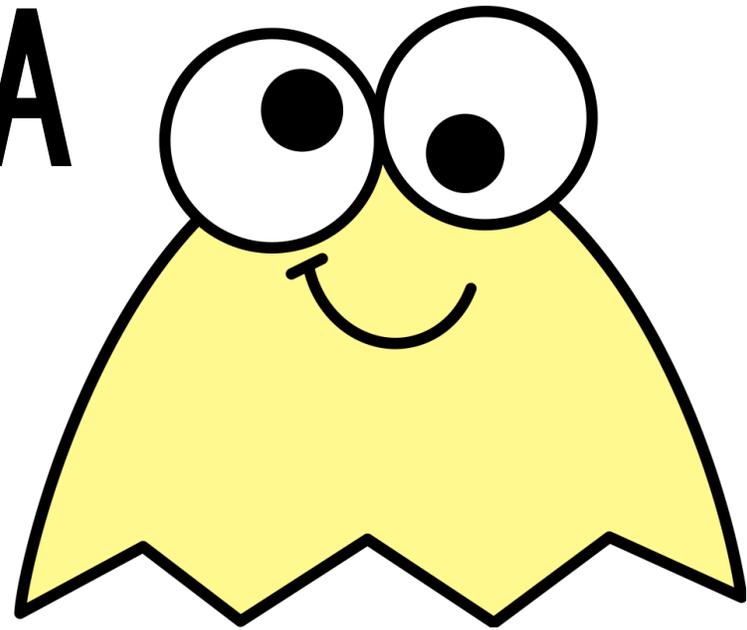
CRACKING UP

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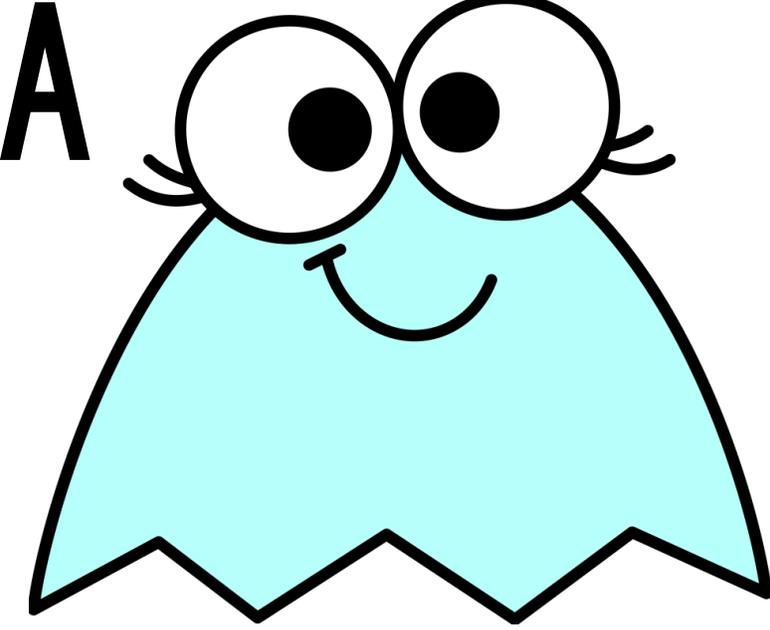
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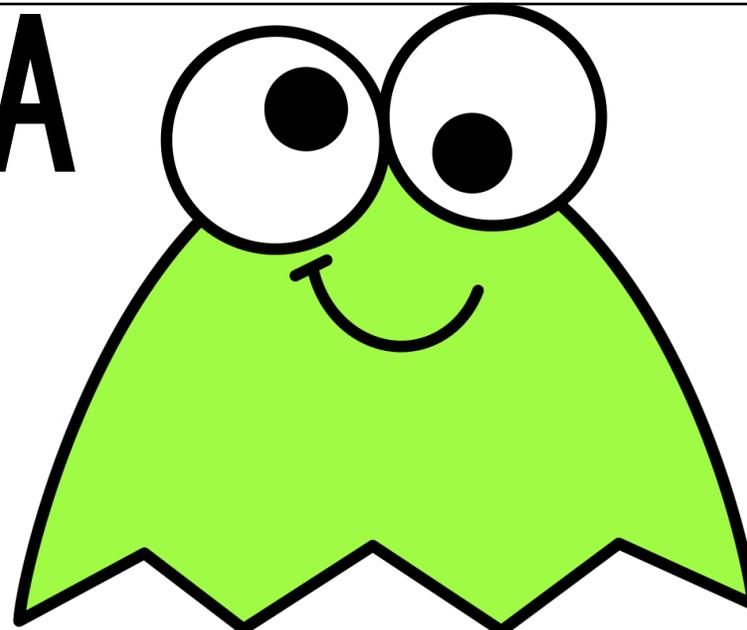
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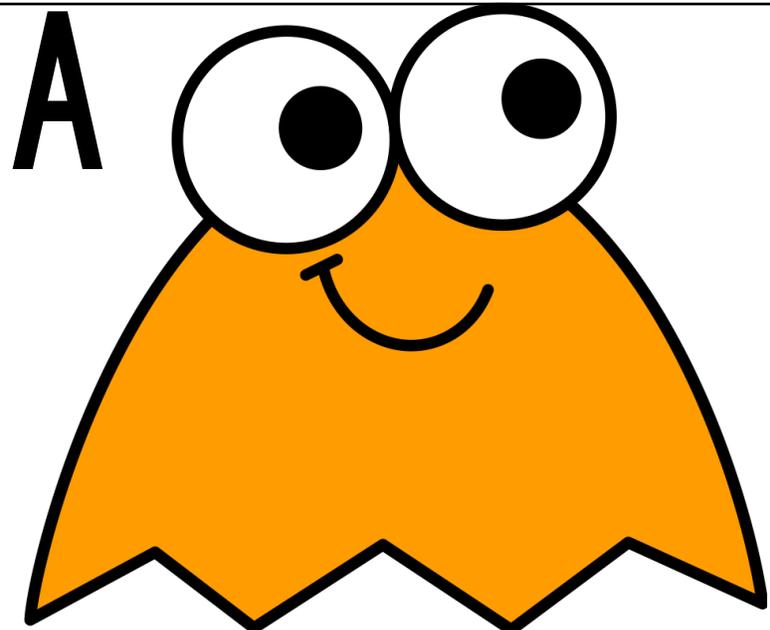
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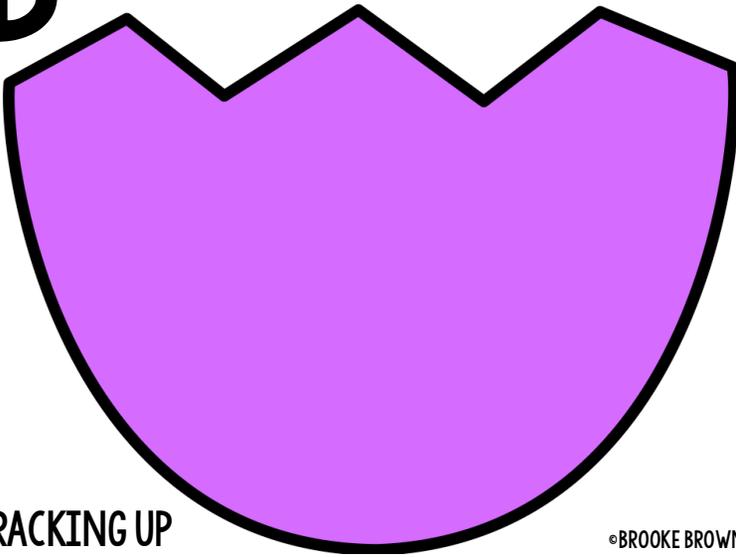
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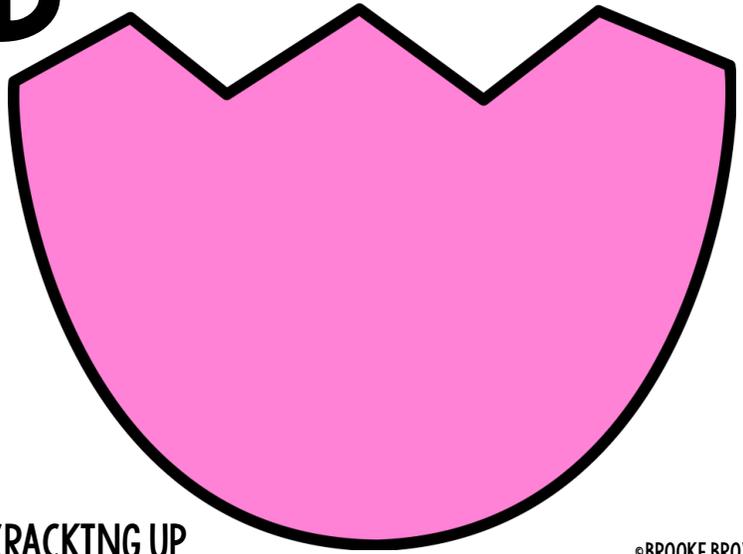
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CRACKING UP

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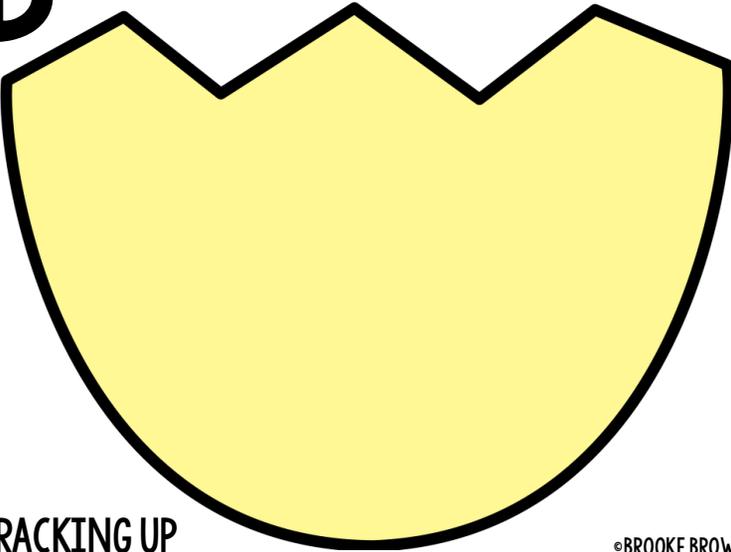
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CRACKING UP

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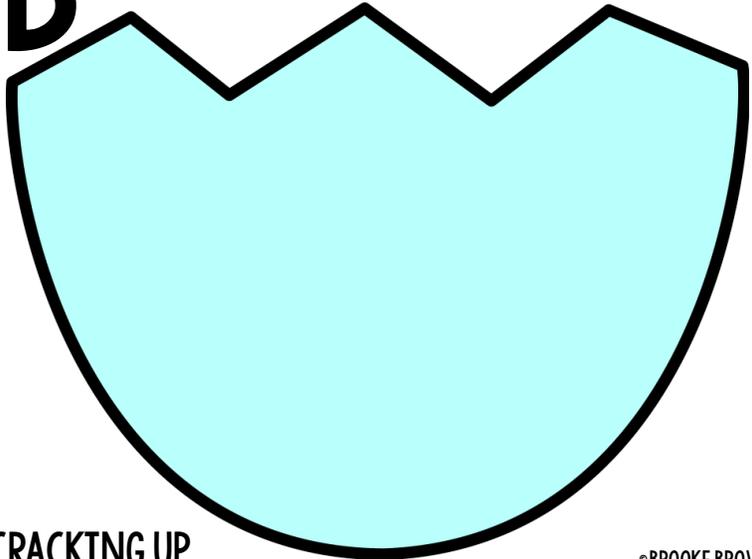
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CRACKING UP

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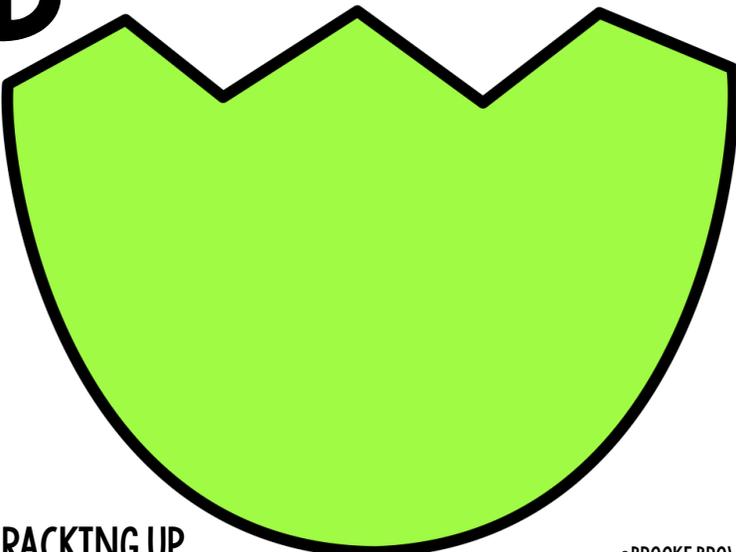
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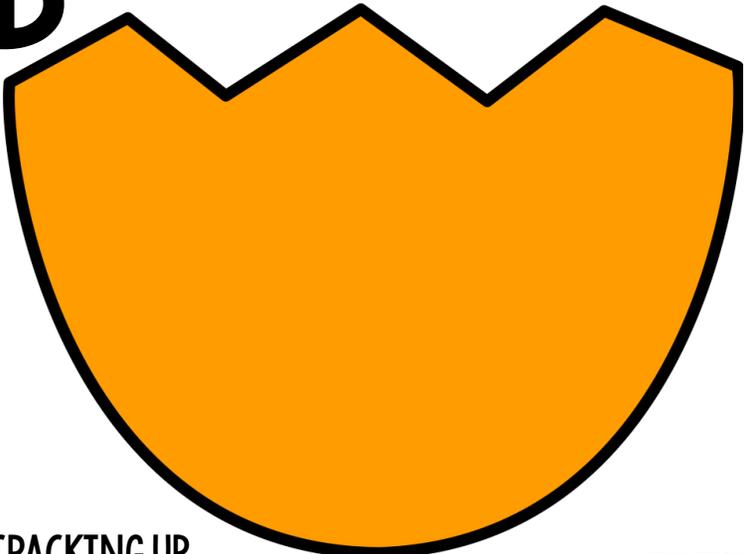
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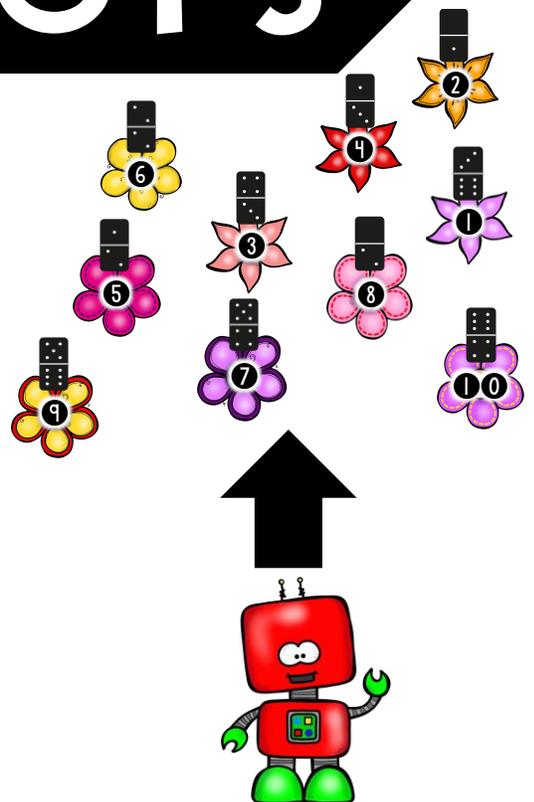


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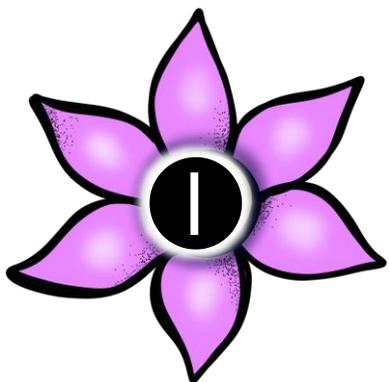
FLOWER FACTS

- 1) Spread out the number flower cards on the floor. Stand up one domino on top of each card.
- 2) Program your robot to knock over one of the dominoes. Add or multiply the number on the card with the number on the domino.
- 3) Program your robot to knock over other dominoes and repeat.



FLOWER FACTS CARDS

(Put one domino on top of each card)



FLOWER FACTS

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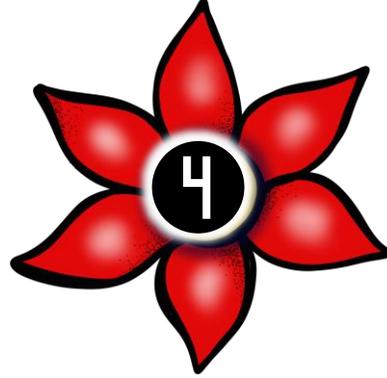
FLOWER FACTS

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FLOWER FACTS

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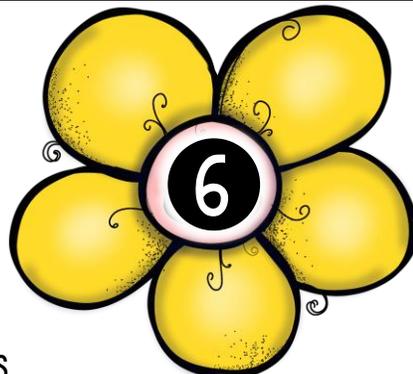
FLOWER FACTS

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FLOWER FACTS

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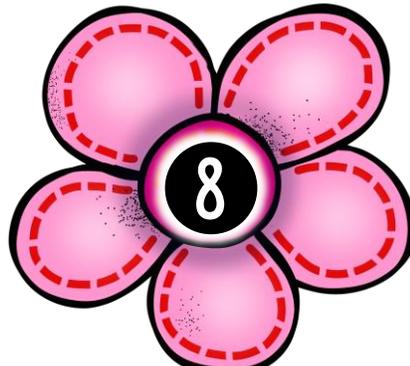
FLOWER FACTS

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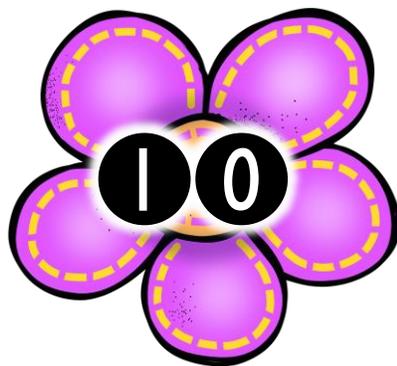
FLOWER FACTS

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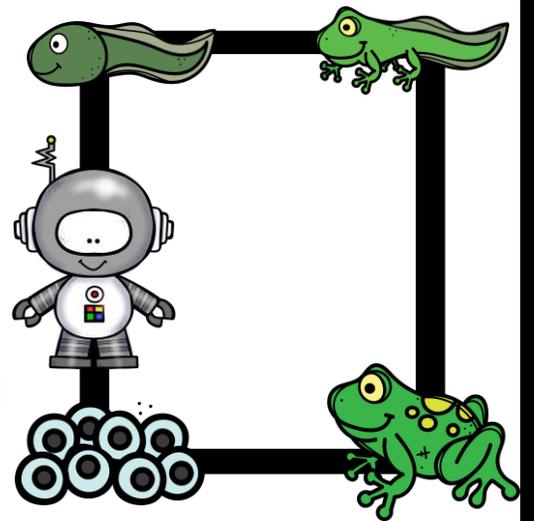


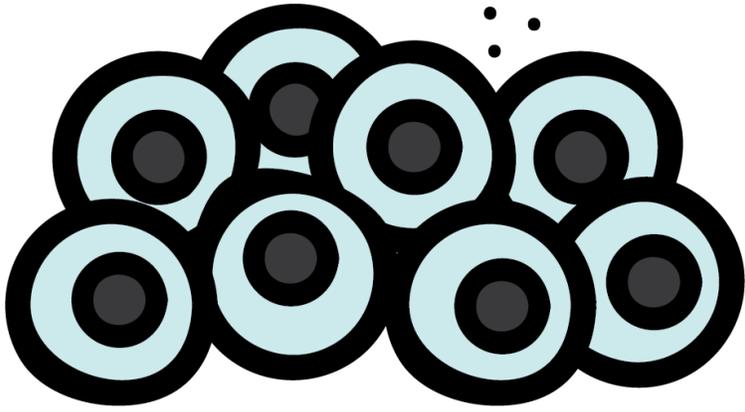
FLOWER FACTS

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CIRCLE OF LIFE

- 1) Choose a set of life cycle cards and arrange them in the shape of a square or rectangle.
- 2) Program your robot to touch each phase of the life cycle in order.
- 3) Choose a different set of life cycle cards and repeat.

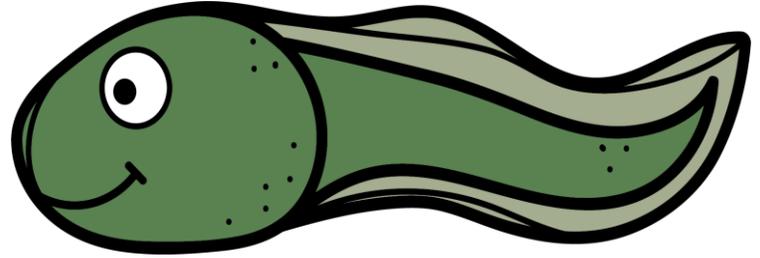




EGG

FROG LIFE CYCLE

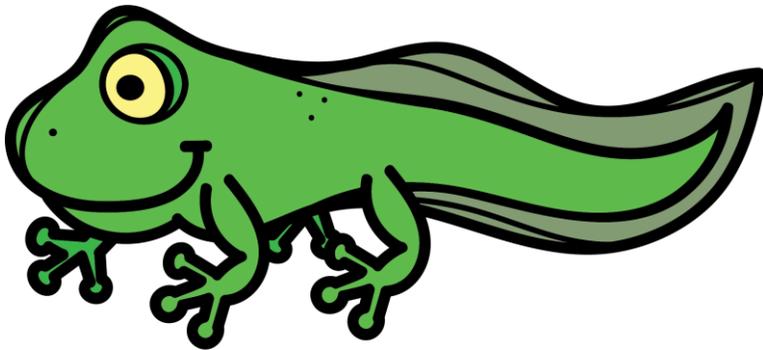
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TADPOLE

FROG LIFE CYCLE

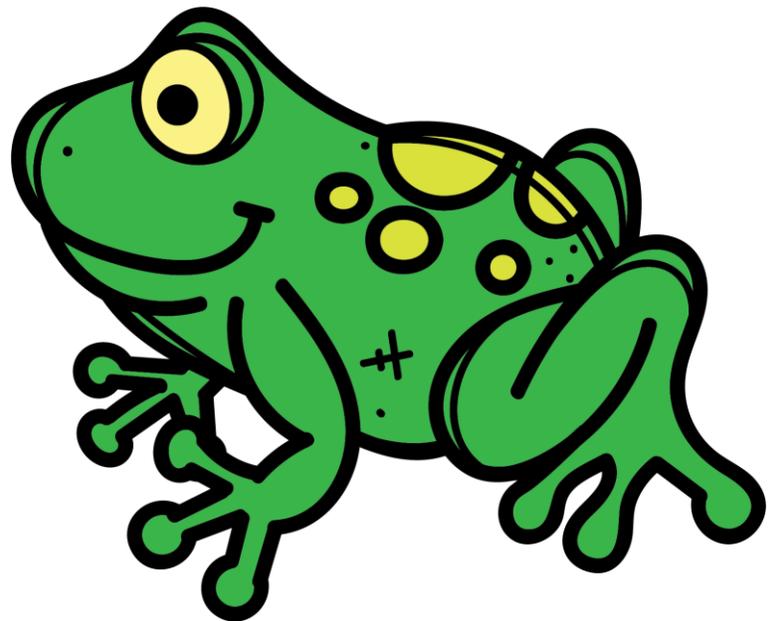
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TADPOLE WITH LEGS

FROG LIFE CYCLE

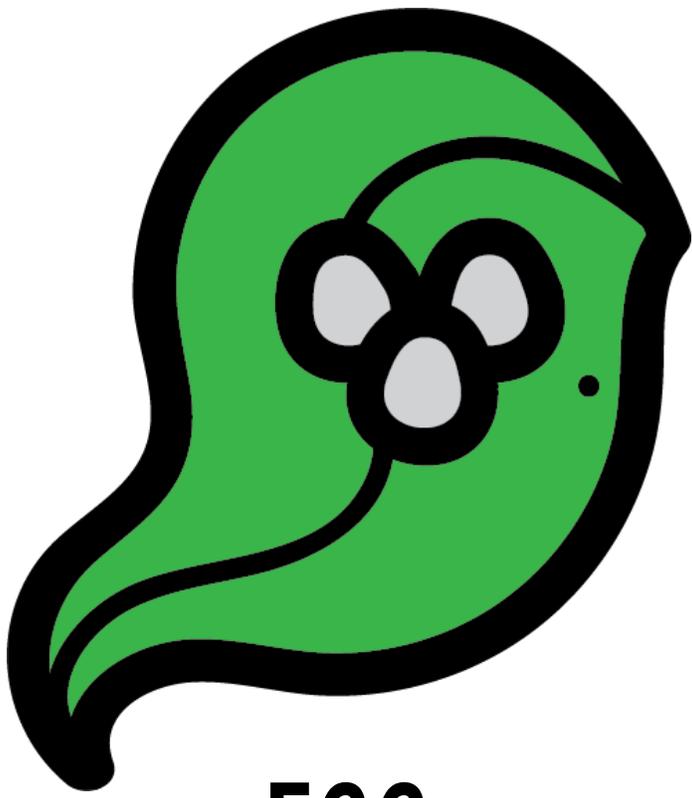
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FROG

FROG LIFE CYCLE

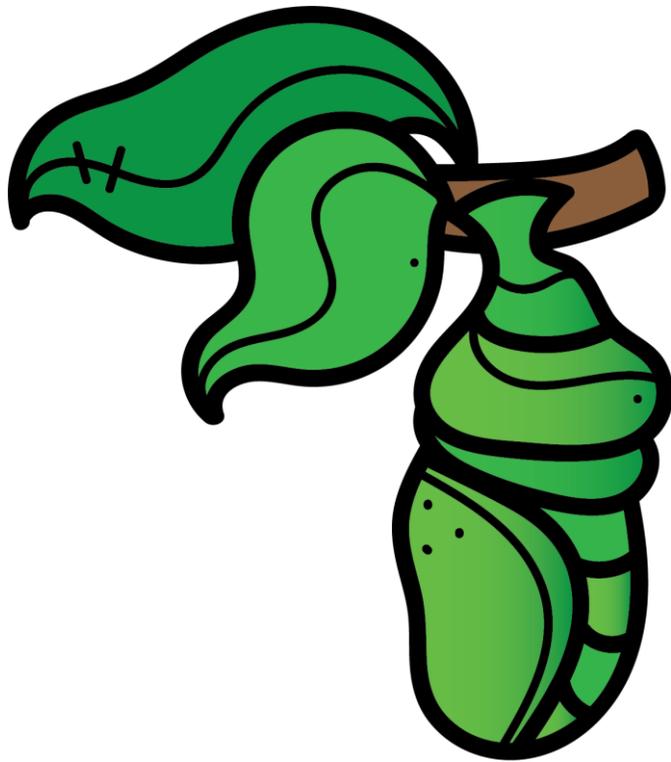
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EGG



CATERPILLAR



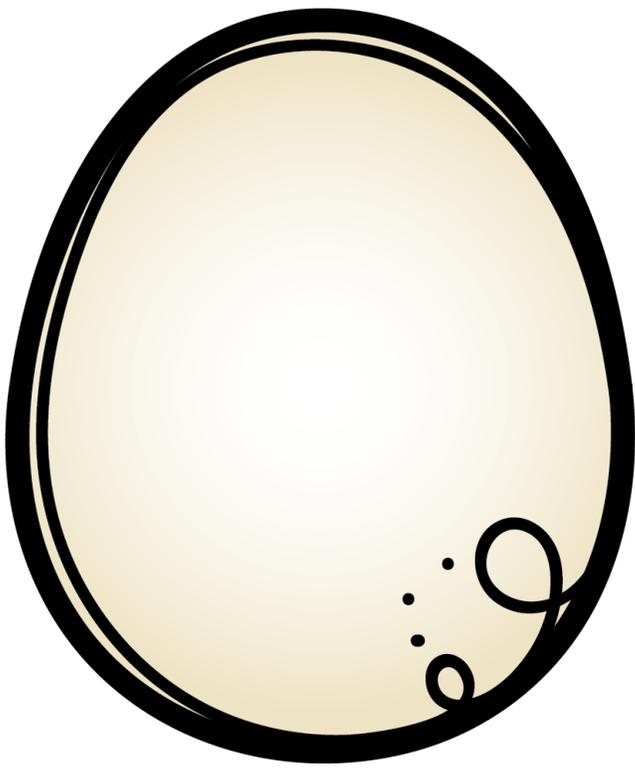
PUPA & CHRYSALIS



BUTTERFLY

BUTTERFLY LIFE CYCLE

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EGG



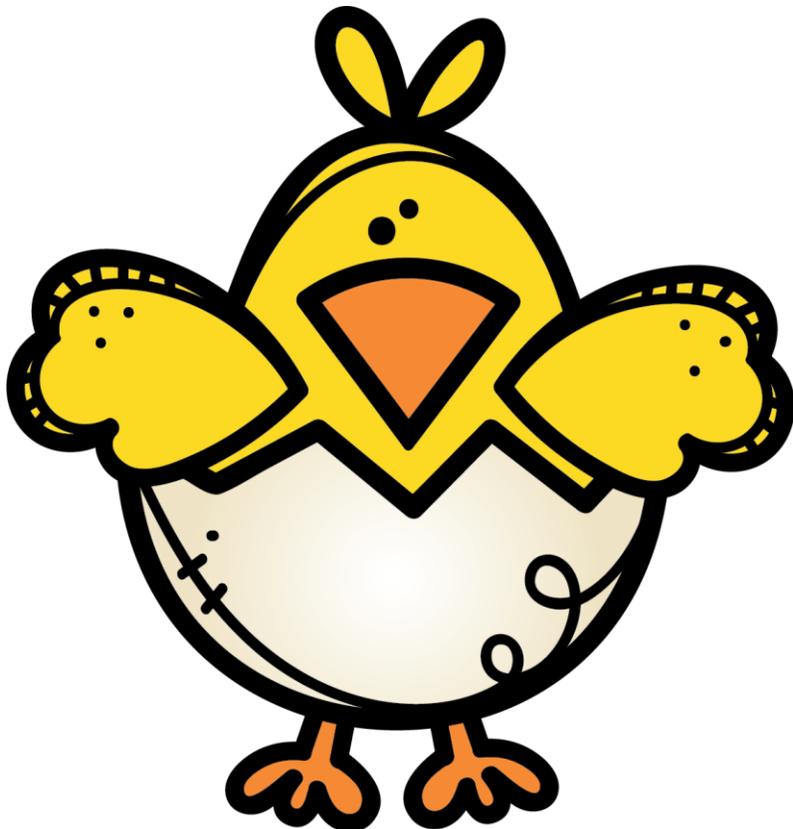
EMBRYO

CHICKEN LIFE CYCLE

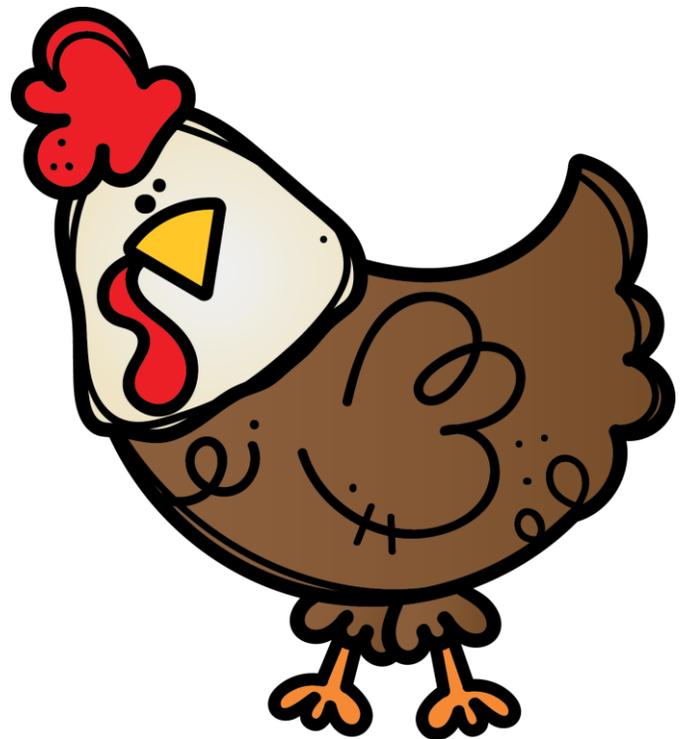
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CHICKEN LIFE CYCLE

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HATCHLING/CHICK



CHICKEN

CHICKEN LIFE CYCLE

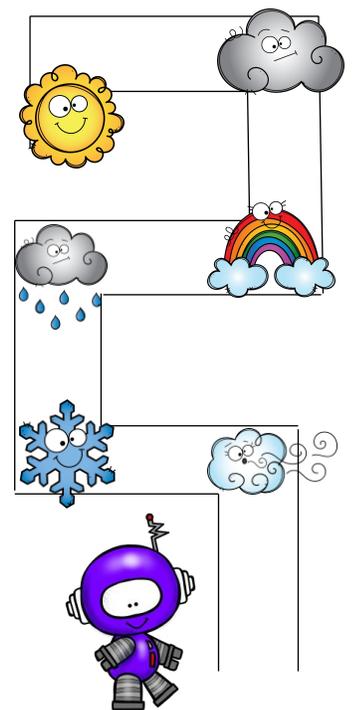
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CHICKEN LIFE CYCLE

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WHAT'S THE WEATHER?

- 1) Create a path or maze with straight edges. You may use wooden planks, popsicle sticks, base ten rods, or construction paper to make your maze.
- 2) Spread out your 6 "B" weather symbols along the path. Put the other 6 "A" weather symbols in a stack facedown.
- 3) Flip over the top "A" weather symbol and program your robot to reach that same symbol in ONE sequence of code.
- 4) Repeat with the other weather symbols in the stack.

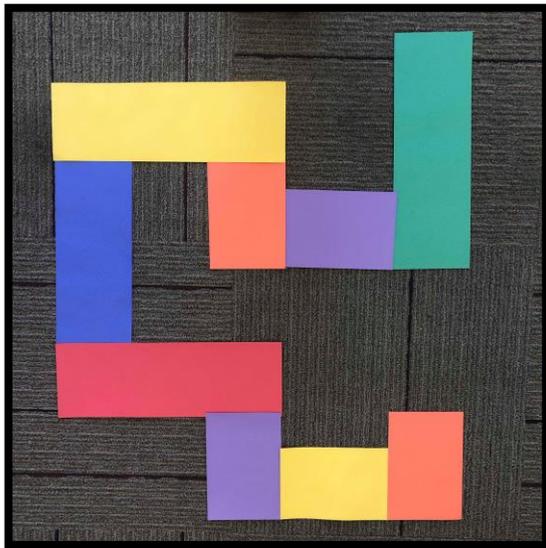


MAZE EXAMPLES

Mazes can be created out of any straight edge materials such as popsicle sticks, wooden planks, base ten rods, or laminated construction paper strips. (SEE EXAMPLES BELOW)

6" X 18" AND 6" X 9"

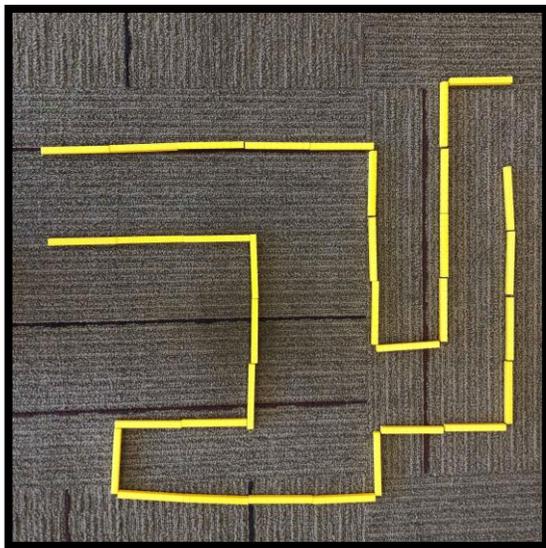
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CONSTRUCTION PAPER



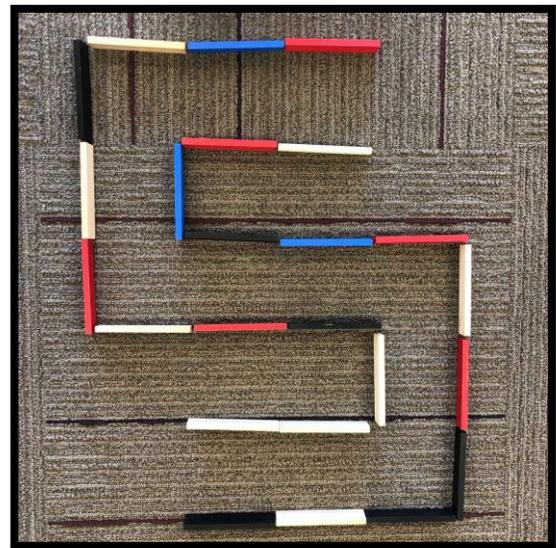
POPSICLE STICKS

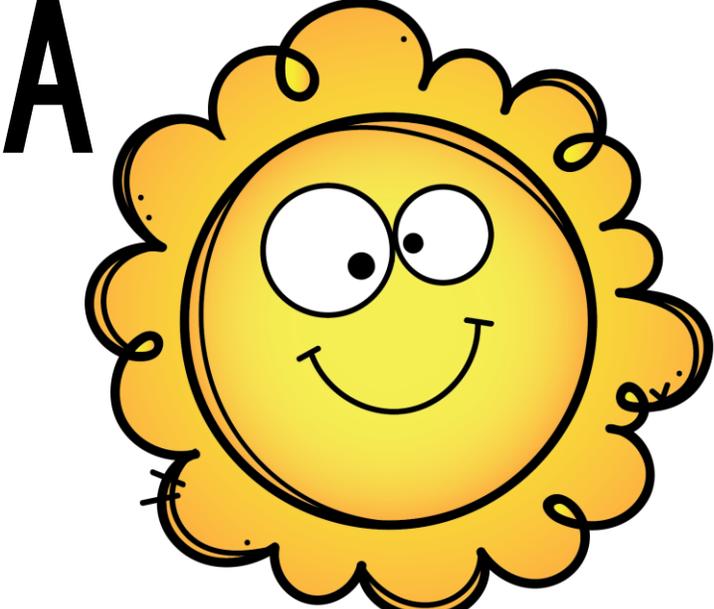


BASE TEN RODS



WOODEN PLANKS





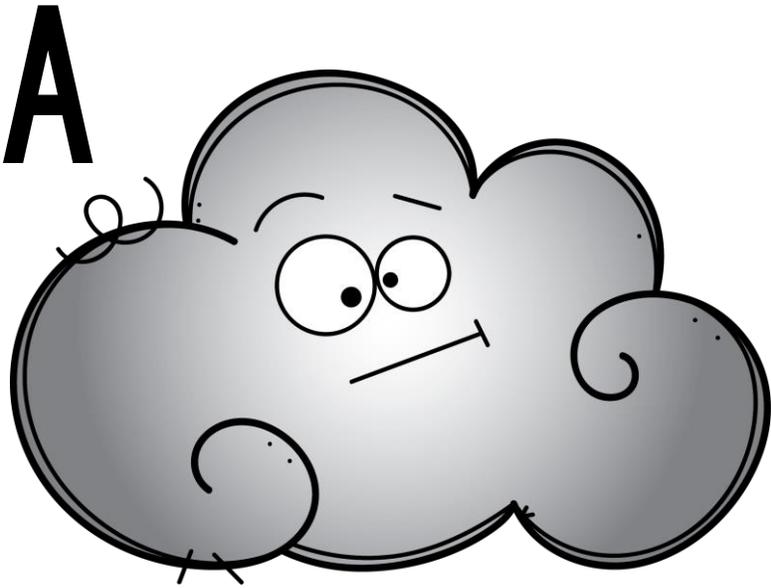
WHAT'S THE WEATHER?

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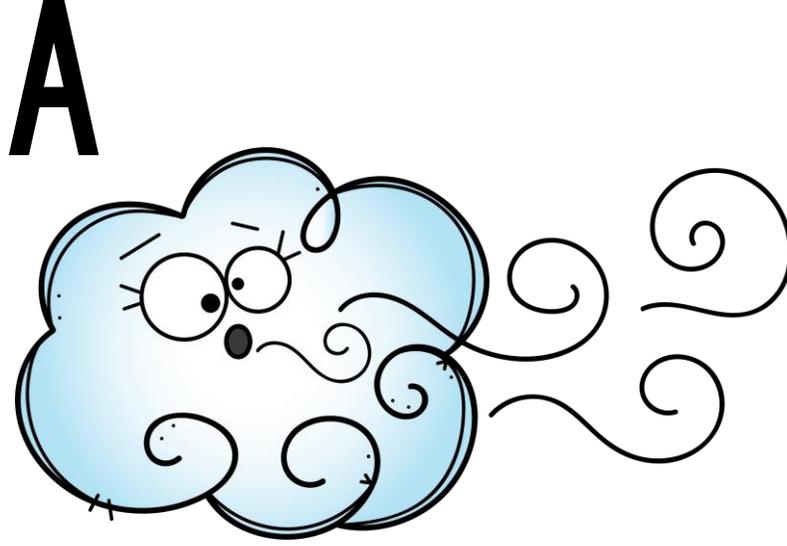
WHAT'S THE WEATHER?

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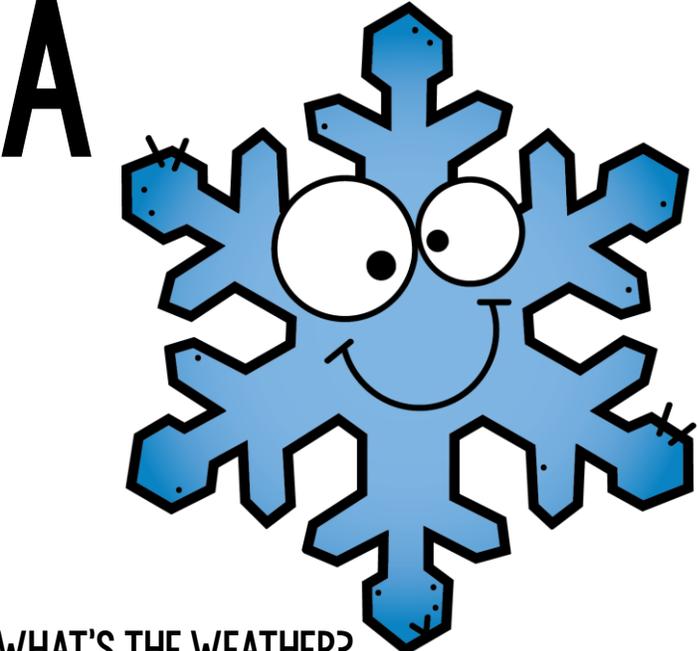
WHAT'S THE WEATHER?

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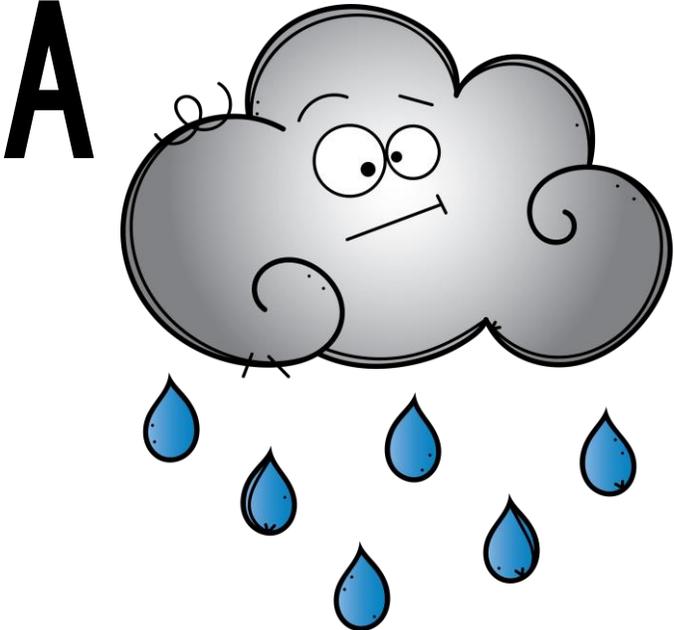
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WHAT'S THE WEATHER?

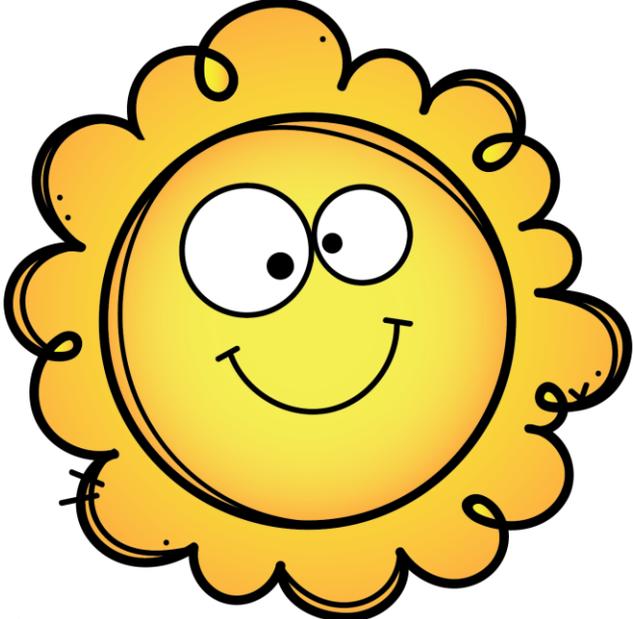
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WHAT'S THE WEATHER?

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WHAT'S THE WEATHER?

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WHAT'S THE WEATHER?

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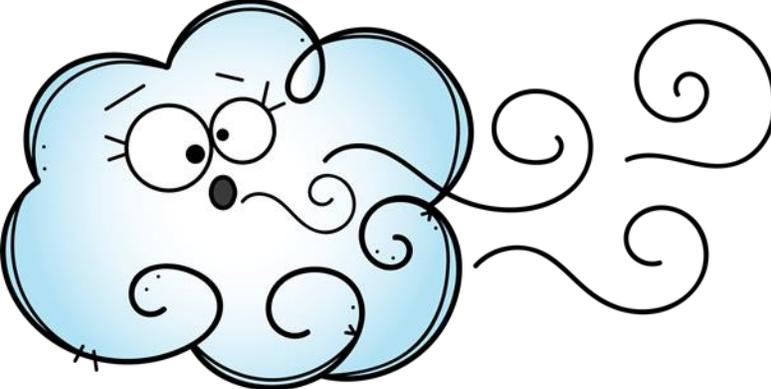
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WHAT'S THE WEATHER?

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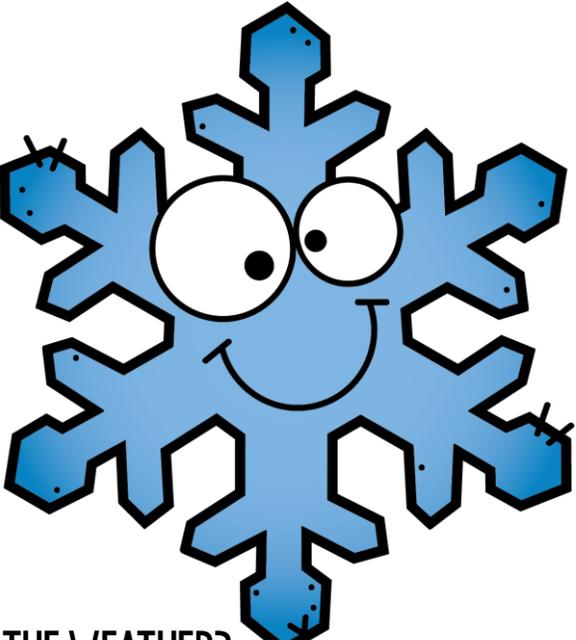
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WHAT'S THE WEATHER?

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WHAT'S THE WEATHER?

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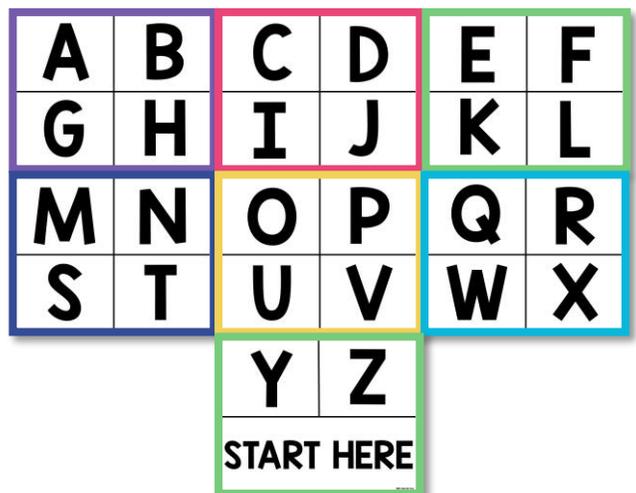


WHAT'S THE WEATHER?

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SPRING SPELLING

- 1) Connect the letter mats with tape to make a large grid.
- 2) Draw a spelling word out of the baggie.
- 3) Program your robot to move to the letters to spell the word.
- 4) Repeat with the remaining words in the baggie.

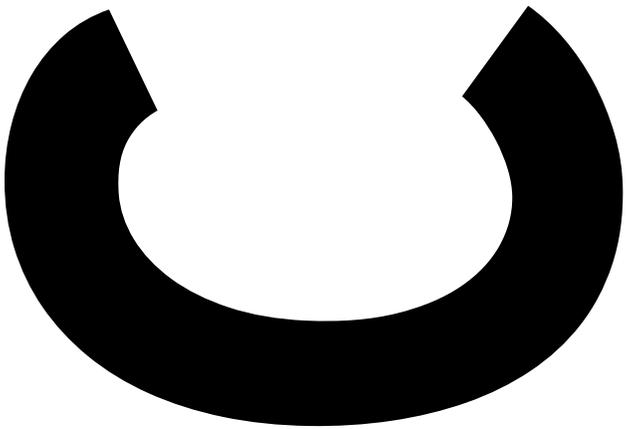
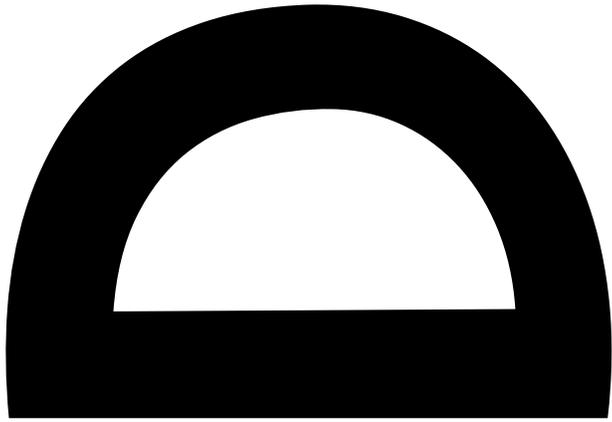


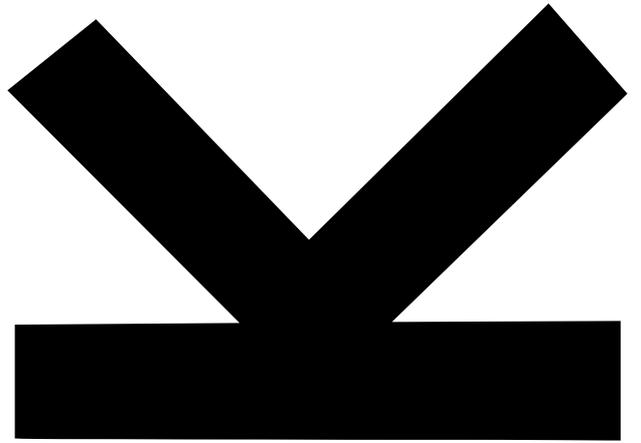
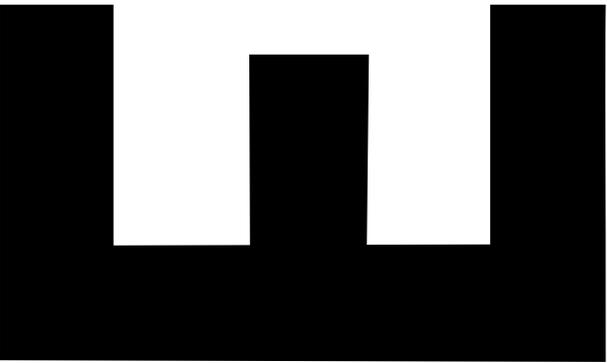
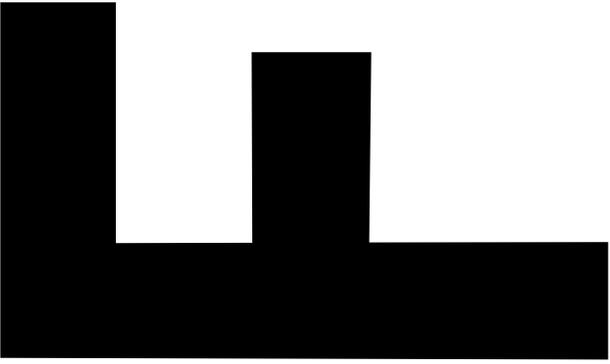
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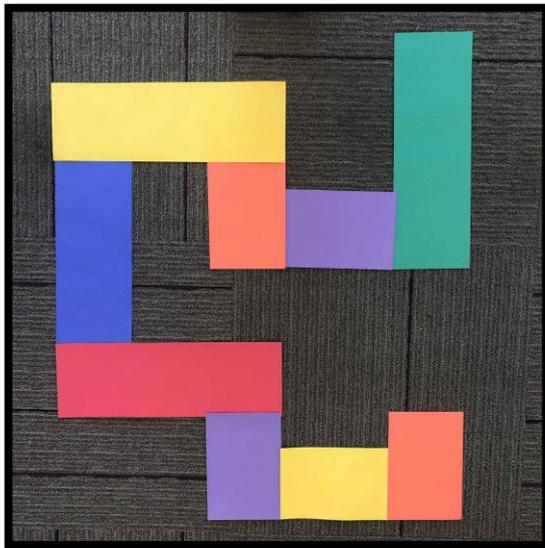
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MAZE EXAMPLES

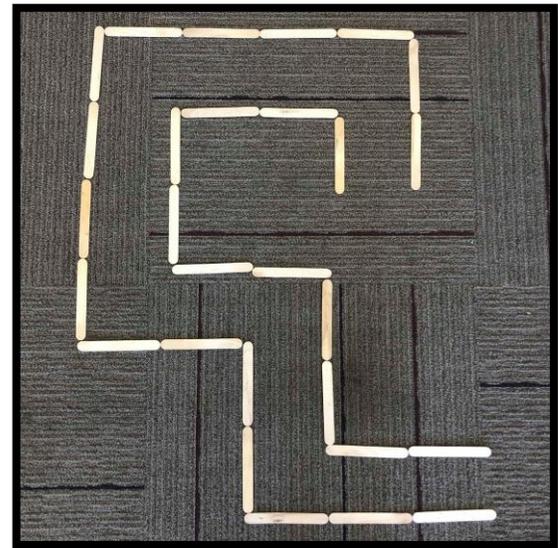
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LAMINATED
CONSTRUCTION PAPER

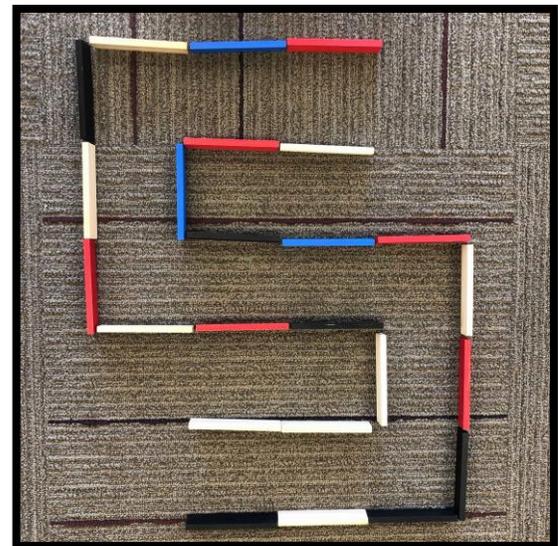
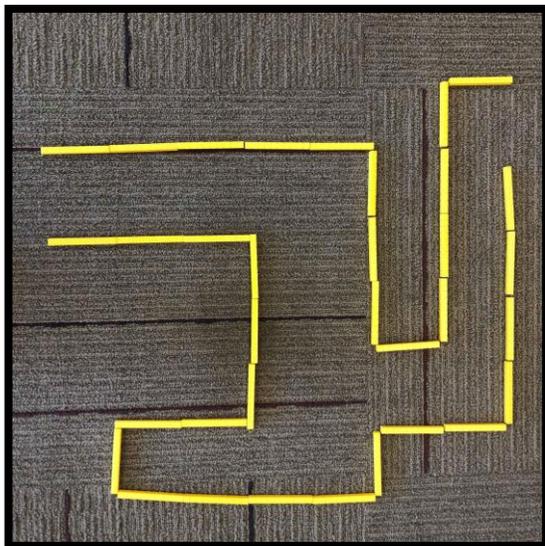


POPSICLE STICKS



WOODEN PLANKS

BASE TEN RODS



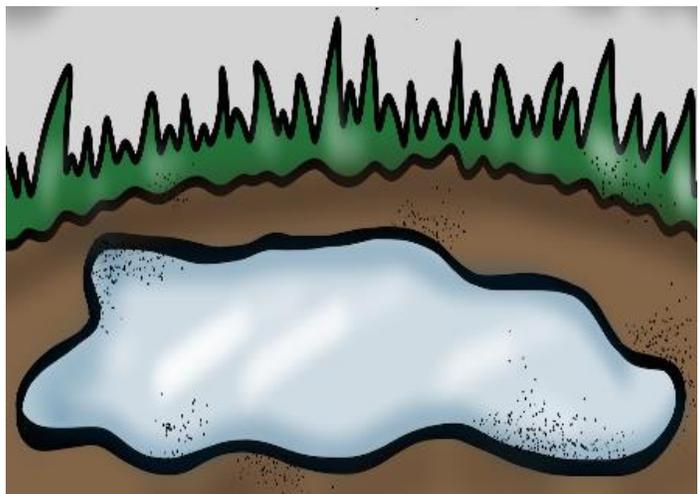
START



MAZE MAKER (APRIL)

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END



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