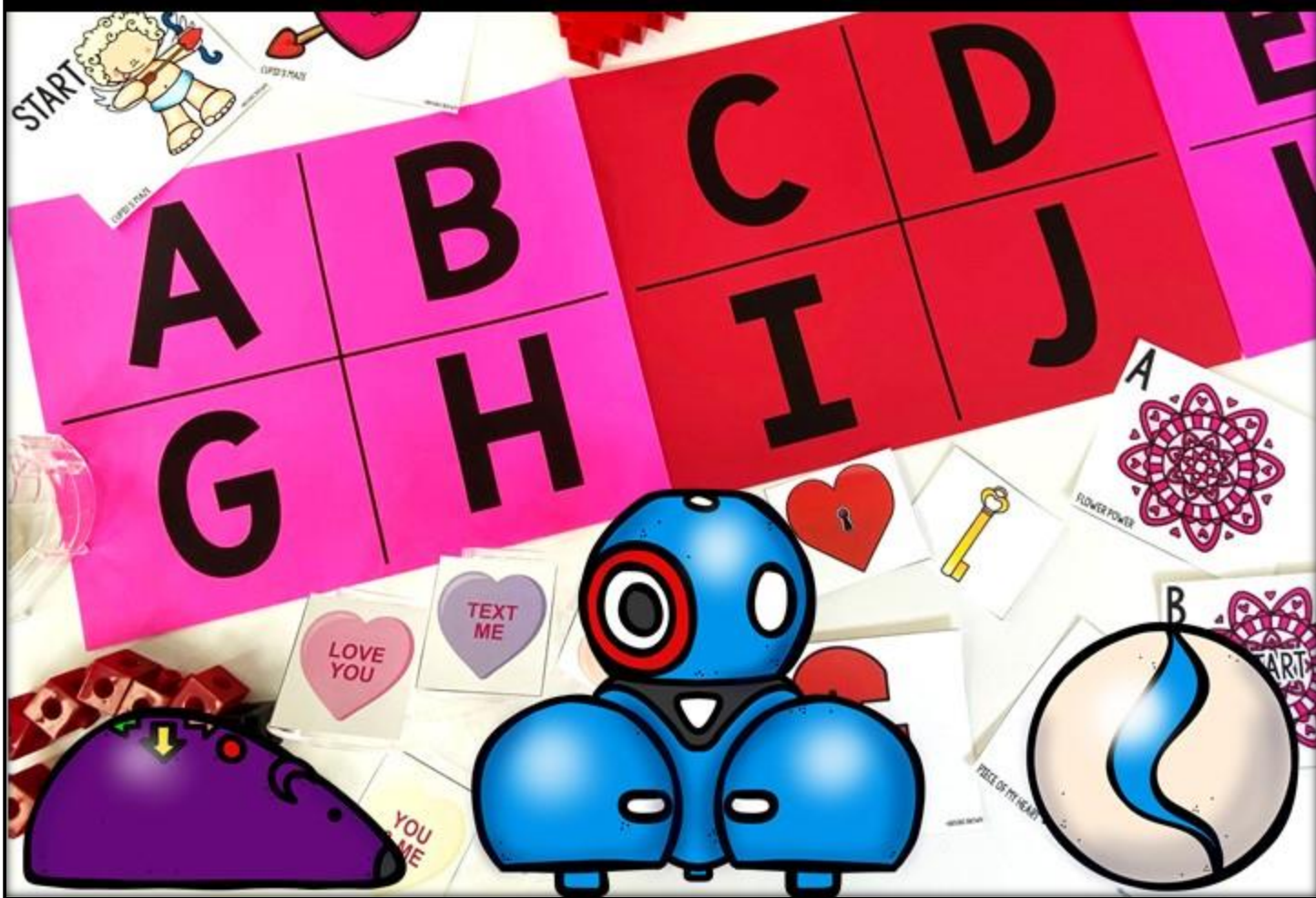
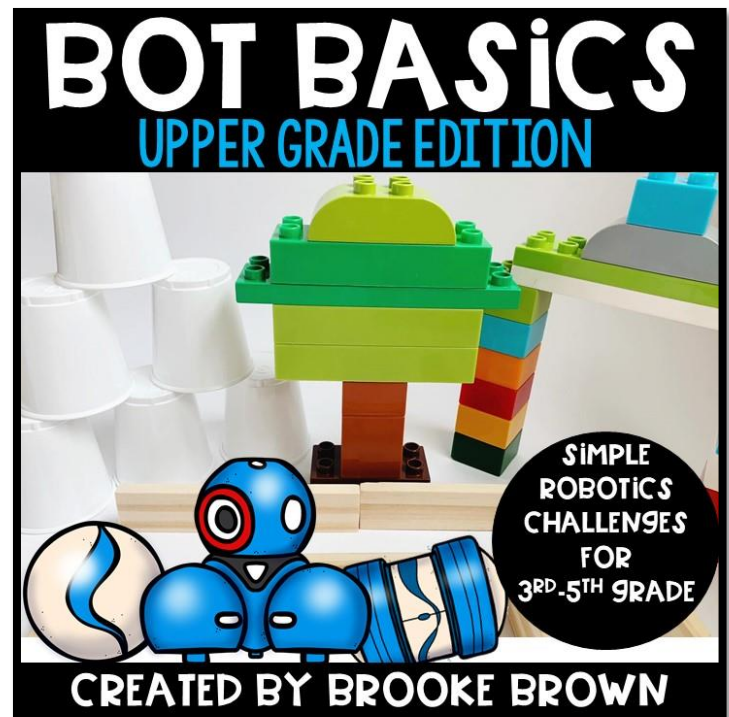
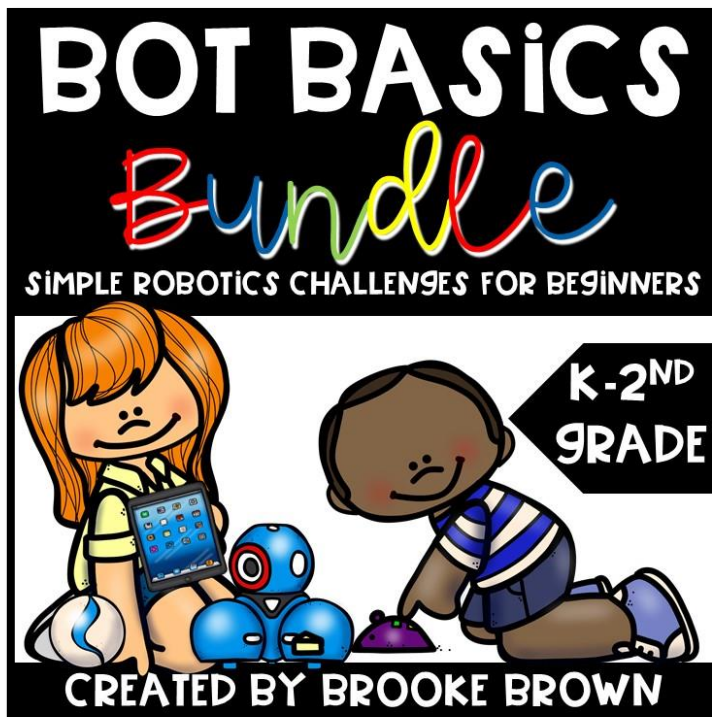
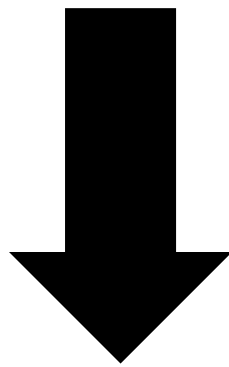


# Valentine's Day BOT BASICS

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)

Pages 8-9: CANDY CRASH

**\*Requires 6-12 mini cups**

Pages 10-11: YOU'VE GOT MAIL

**\*Requires 3 mini cups and masking/painters tape**

Page 12-13: KEY TO MY HEART

**\*Requires 1 glue stick and paper cutouts**

Pages 14-22: SECRET MESSAGE

**\*Requires alphabet letter charts**

Pages 23: SPECIAL DELIVERY

**\*Requires construction paper or aluminum foil, tape, and candy**

Page 24: LOVE IS ALL AROUND

**\*Requires small tub of building bricks**

Page 25: TUNNEL OF LOVE

**\*Requires small tub of linking cubes**

Pages 26-28: PIECE OF MY HEART

**\*Requires heart puzzle cards**

Pages 29-32: FLOWER POWER

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

Pages 33-33: CUPID'S MAZE

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

Page 34: Credits

# WHAT YOU NEED

The following 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

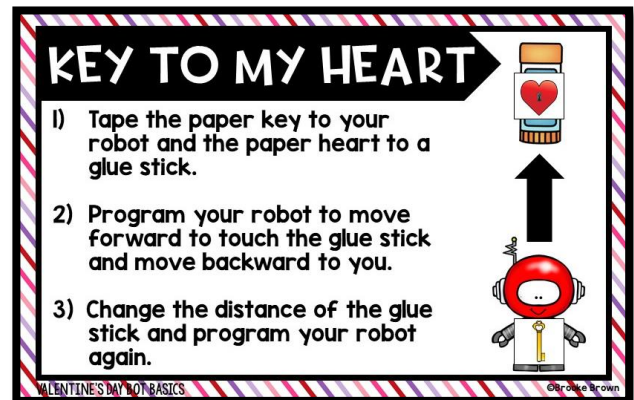


# HOW TO USE

**Valentine's Day Bot Basics** can be used as robotics stations and can also 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.

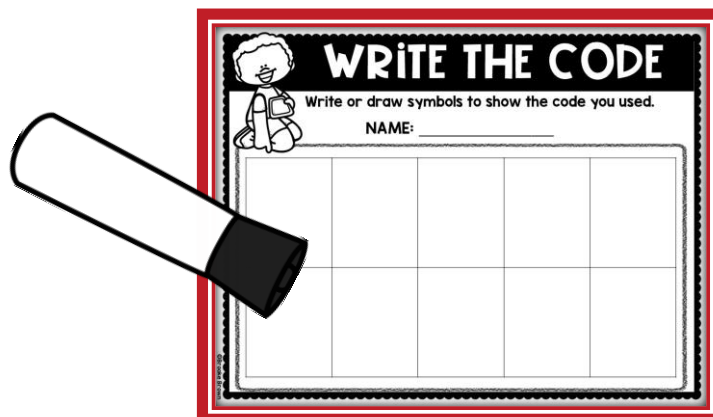
Direction cards can be folded in half as tents to display at each station. These cards can be stored in gallon-sized Ziplock baggies with extra pieces when not in use.

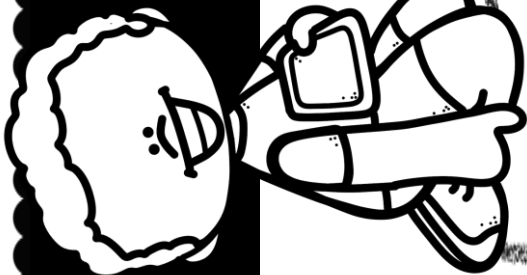
Students follow the challenge instructions to program their robots. Some challenges may include basic school supplies or building materials or may require students to build a path or maze.



## OPTIONAL WRITTEN CODES:

Make copies of the most appropriate templates for your robots on pages 7-8 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: \_\_\_\_\_





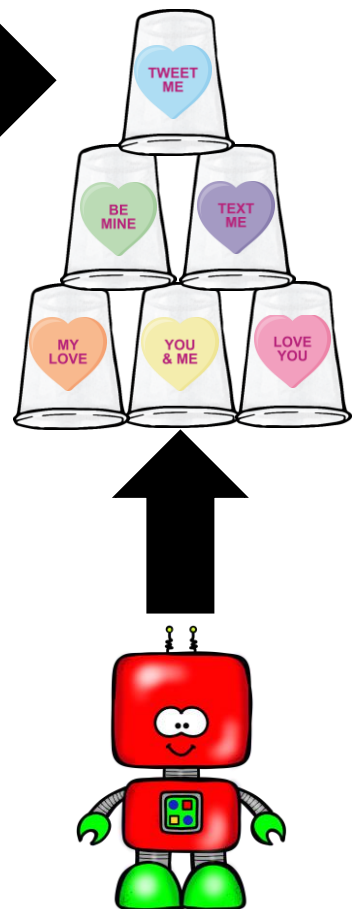

# WRITE THE CODE

Write or draw symbols to show the code you used.

**NAME:** \_\_\_\_\_


# CANDY CRASH

- 1) Build a tower out of your heart mini cups.
- 2) Program your robot to crash into the cups and knock down as many as possible.
- 3) Change your tower design and program your robot again.





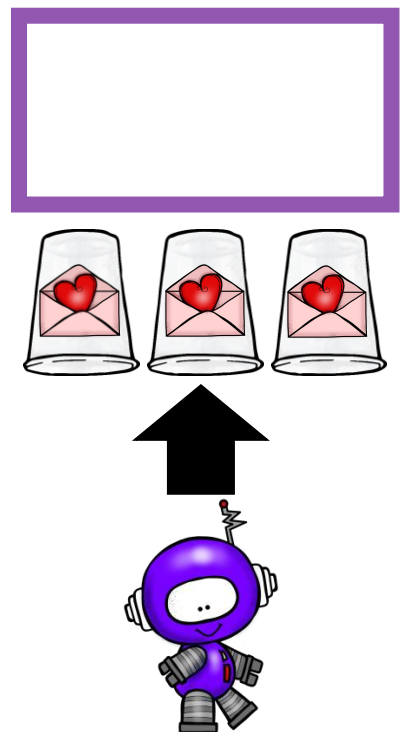
# CANDY CRASH

Tape the paper candy hearts to the front of mini cups.



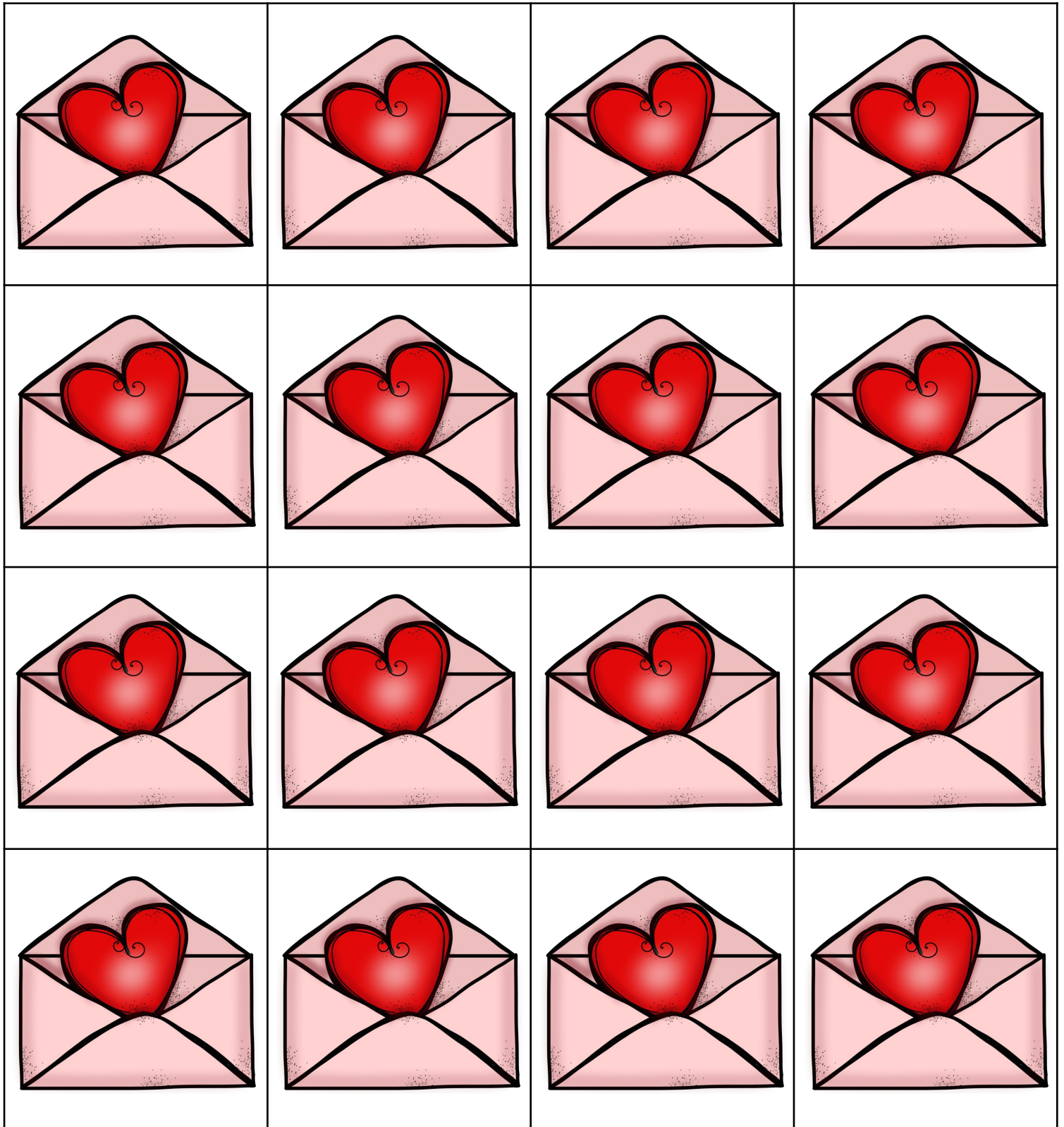
# YOU'VE GOT MAIL

- 1) Tape a rectangle on the floor and set up three mini cups outside of it.
- 2) Program your robot to "deliver" the Valentine cups by pushing them inside the rectangle.
- 3) Move the cups to different spots and program your robot again.



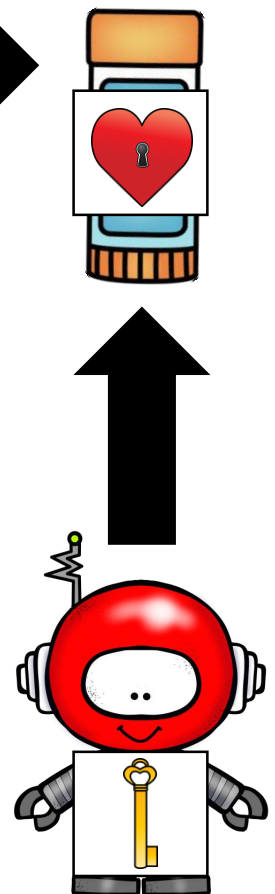
# YOU'VE GOT MAIL

Tape the paper Valentines to the front of mini cups.



# KEY TO MY HEART

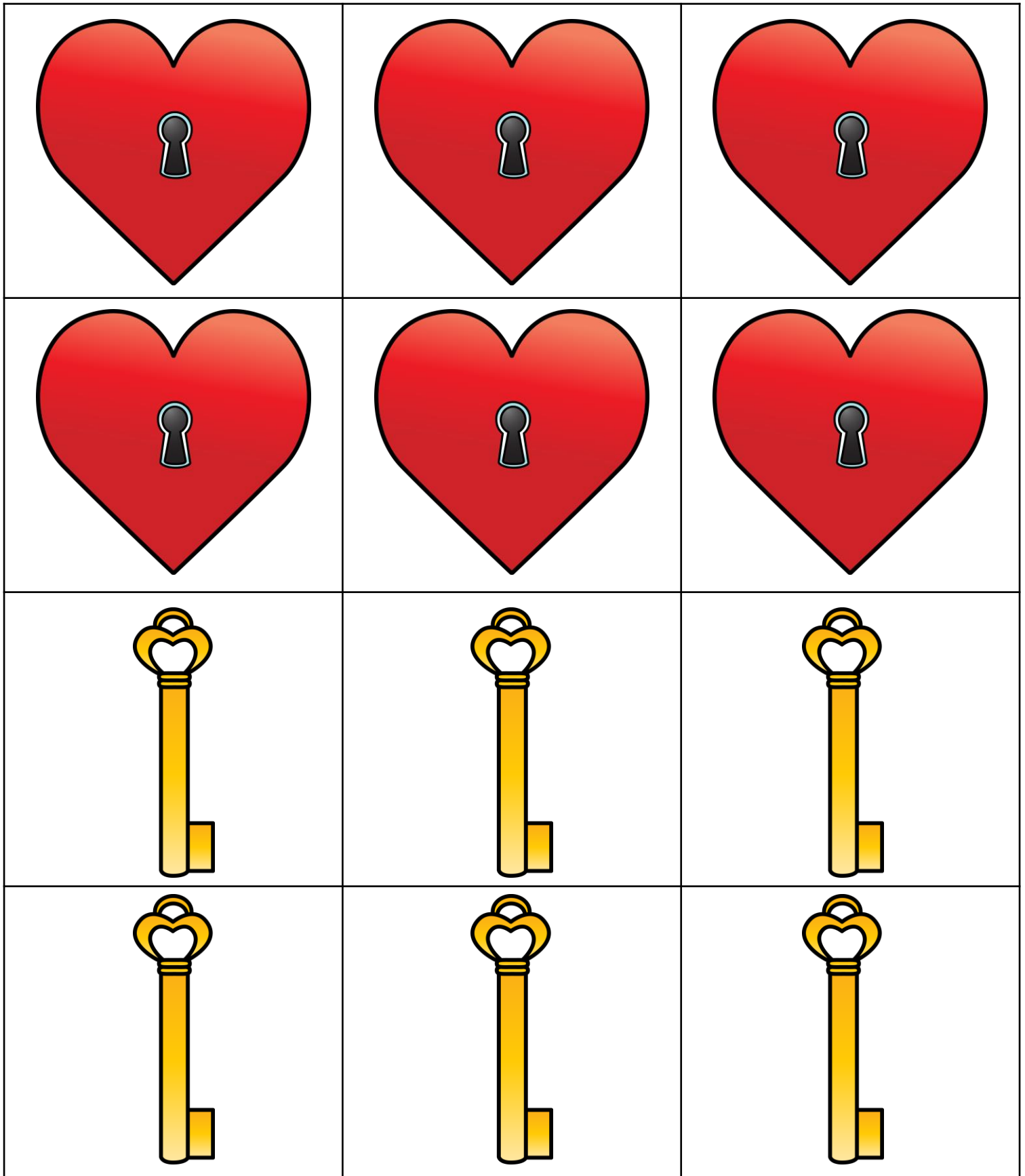
- 1) Tape the paper key to your robot and the paper heart to a glue stick.
- 2) Program your robot to move forward to touch the glue stick and move backward to you.
- 3) Change the distance of the glue stick and program your robot again.





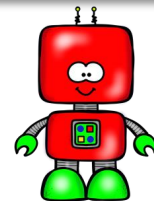
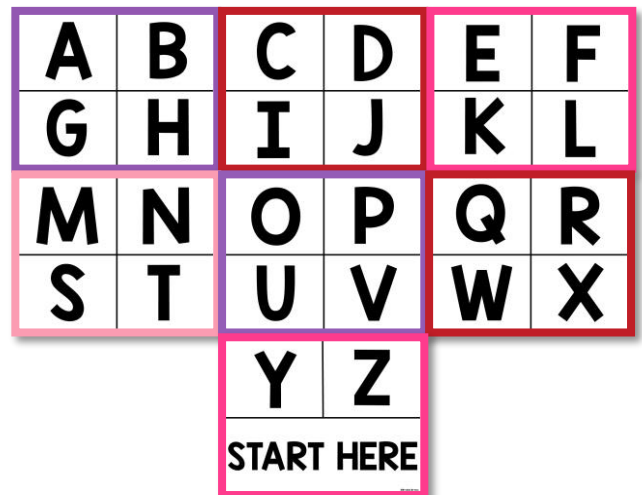
# KEY TO MY HEART

Tape the paper hearts to the front of glue sticks.  
Tape the keys to the robots.



# SECRET MESSAGE

- 1) Connect the letter mats with tape to make a large grid.
- 2) Choose a mystery word from your teacher's list.
- 1) Program your robot to move to the letters to spell the word. Your partner must try to guess the mystery word.
- 2) Trade places with your partner and repeat with a different mystery word.



# WORD LIST

**Teacher Directions:** Type your spelling words, sight words, or vocabulary words directly into the boxes. Students may select their mystery words from this list.

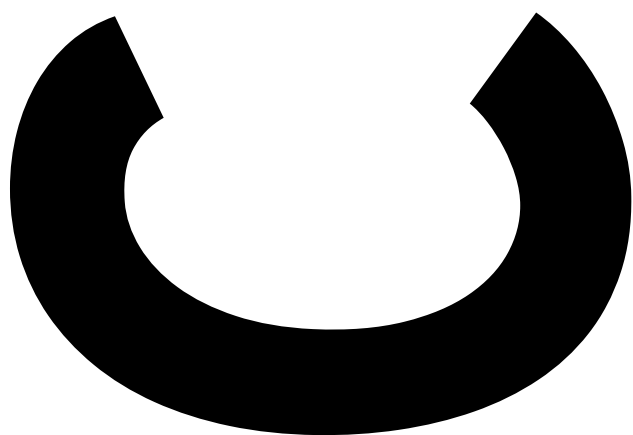
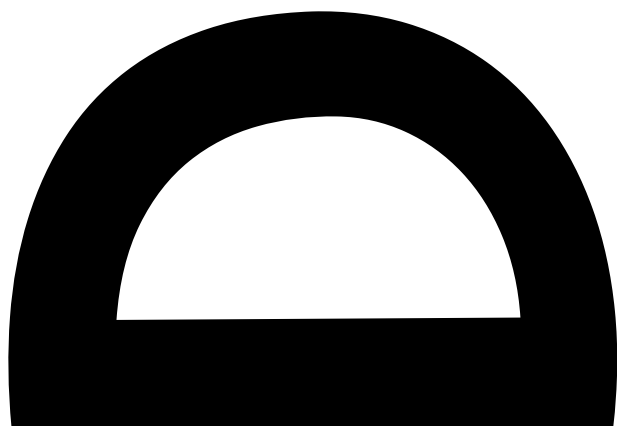

**м**

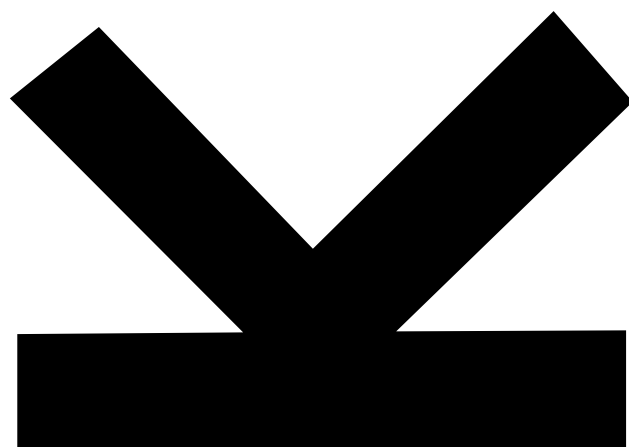
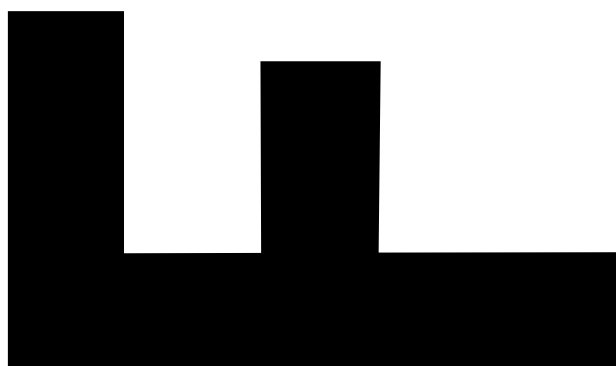
**И**

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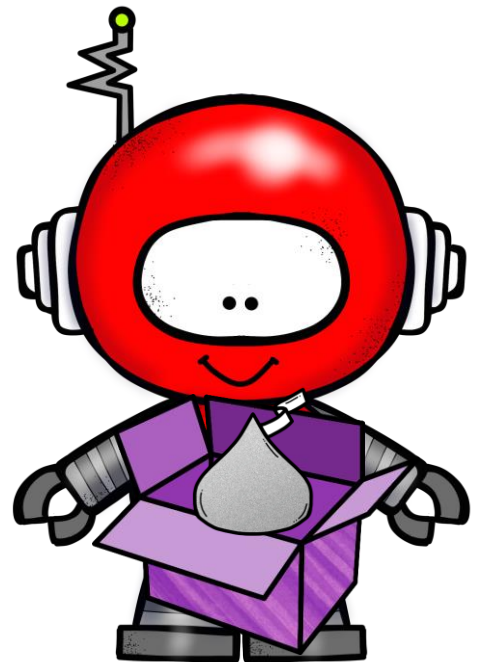
**Y**

**Z**

**START HERE**

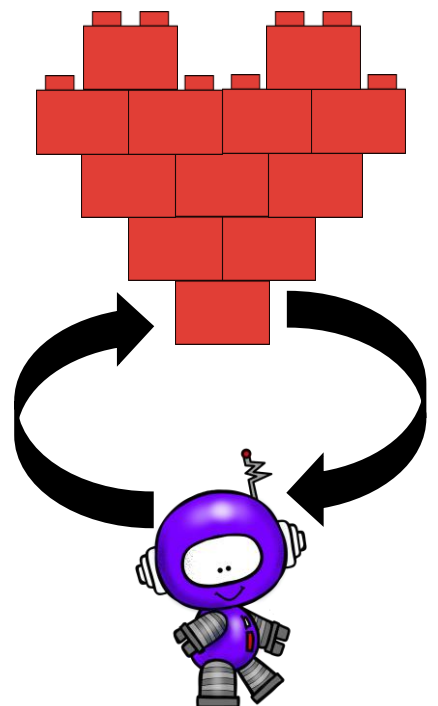
# SPECIAL DELIVERY

- 1) Use construction paper, aluminum foil, and tape to create a small container that will attach to your robot.
- 2) Put a piece of candy inside your container. Program your robot to deliver the candy to a friend!
- 3) Program your robot to make another special delivery to a friend.



# LOVE IS ALL AROUND

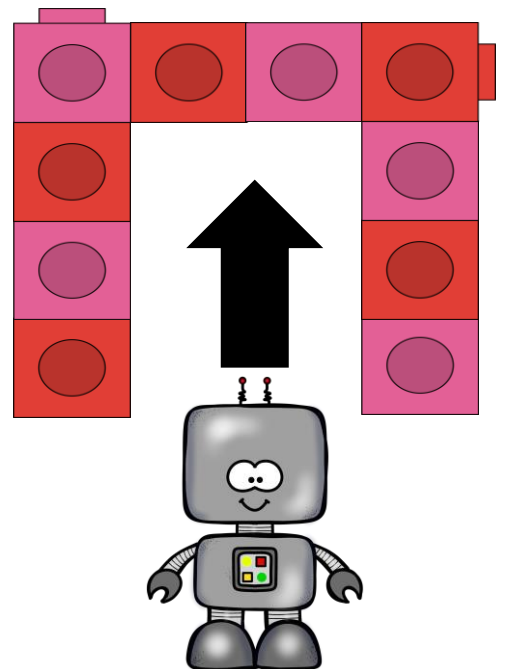
- 1) Build a heart out of building bricks.
- 2) Program your robot to go all the way around the heart.
- 3) Program your robot to go all the way around the heart 3 times.





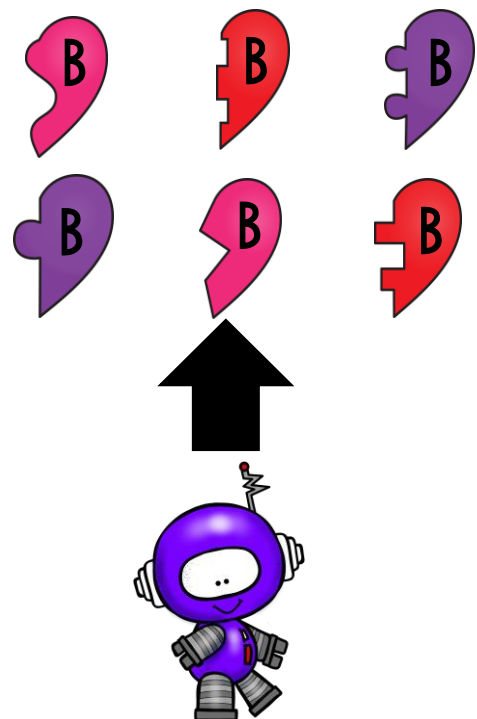
# TUNNEL OF LOVE

- 1) Build a "tunnel" out of linking cubes.
- 2) Program your robot to move forward and go all the way underneath the tunnel.
- 3) Make more tunnels for your robot to go through. Try changing the tunnel directions!



# PIECE OF MY HEART

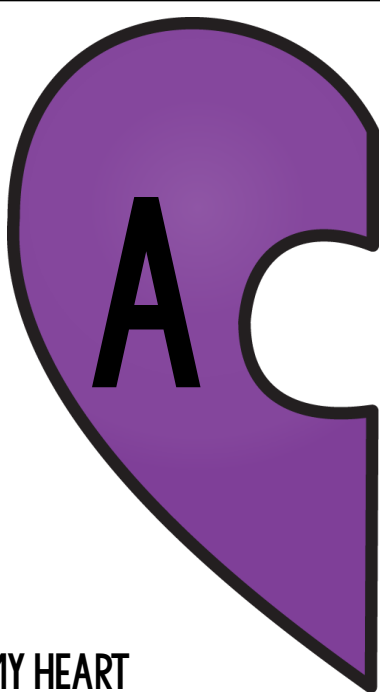
- 1) Spread out your 6 "B" puzzle pieces on the floor. Put the other 6 "A" puzzle pieces in a stack facedown.
- 2) Flip over the top "A" puzzle piece and program your robot to the matching puzzle piece.
- 3) Repeat with the other puzzle pieces in the stack.





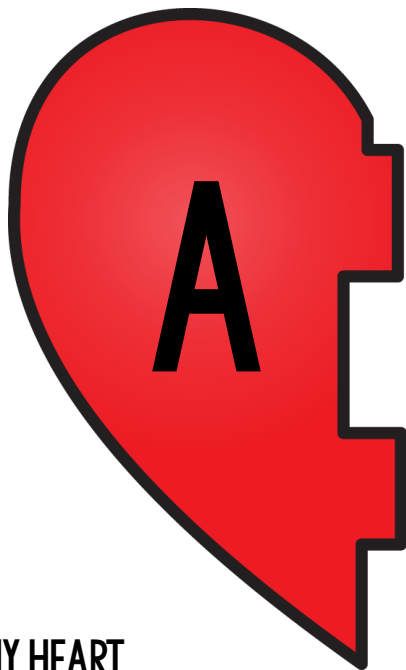
PIECE OF MY HEART

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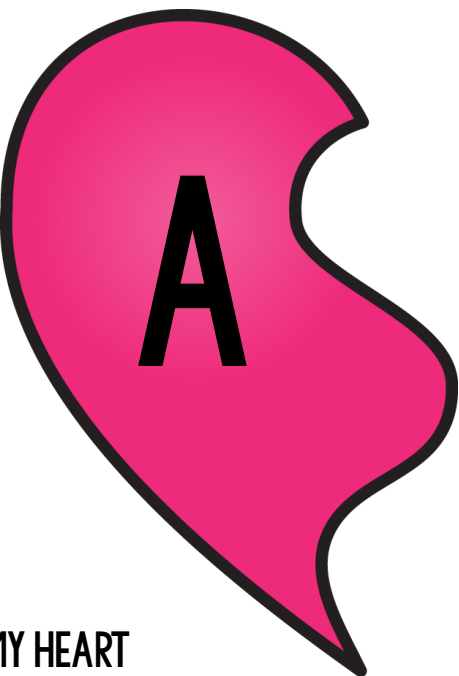
PIECE OF MY HEART

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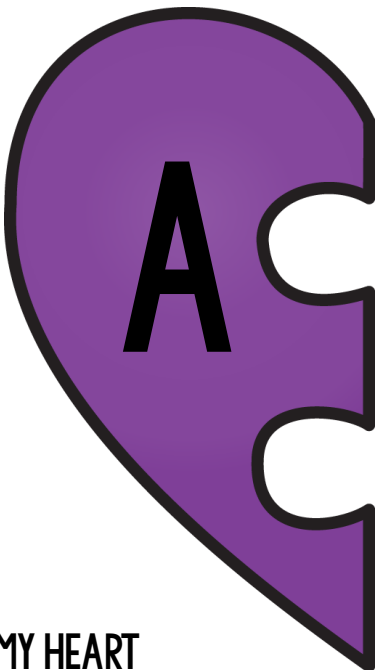
PIECE OF MY HEART

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PIECE OF MY HEART

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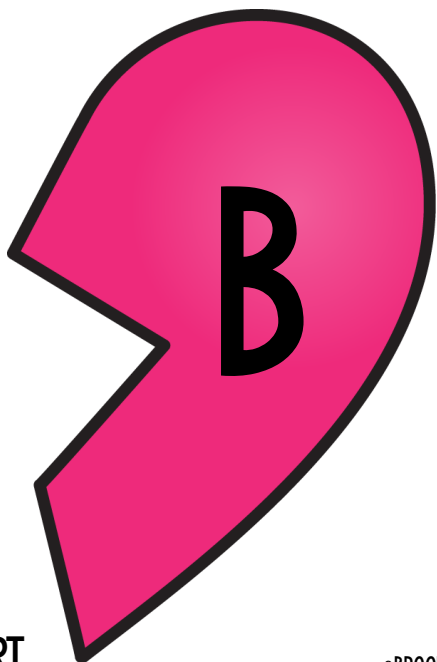
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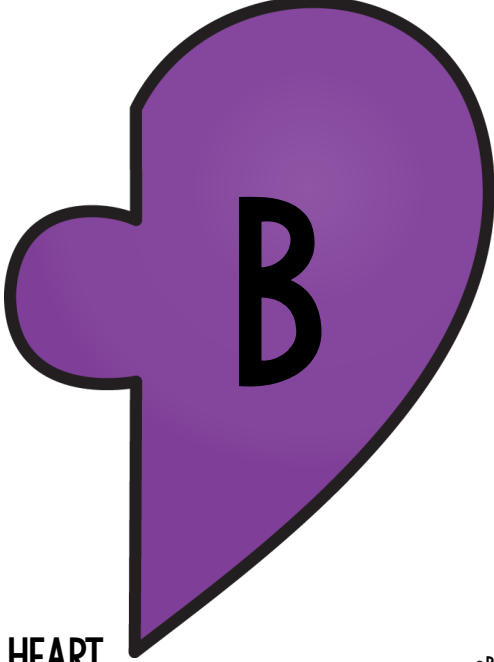
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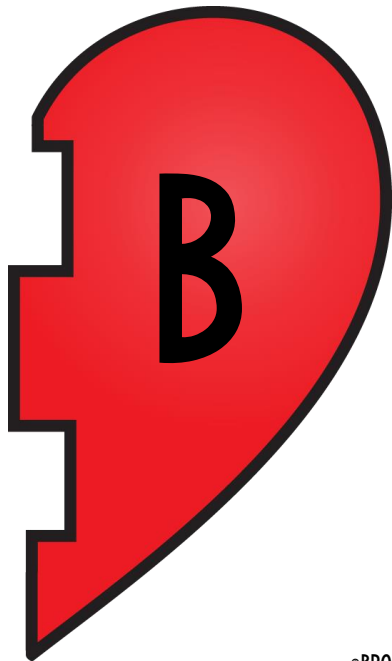
PIECE OF MY HEART

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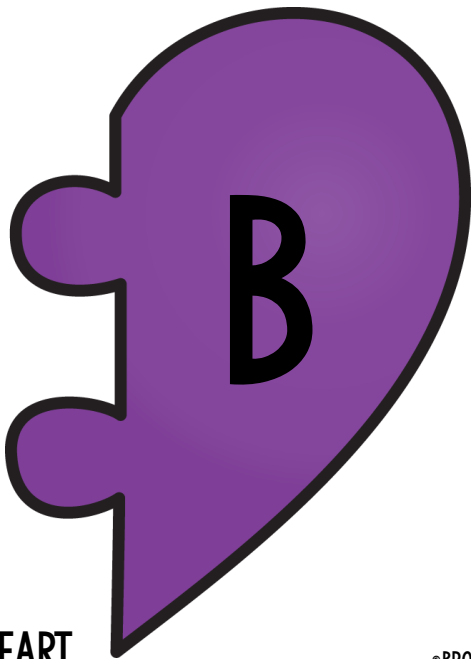
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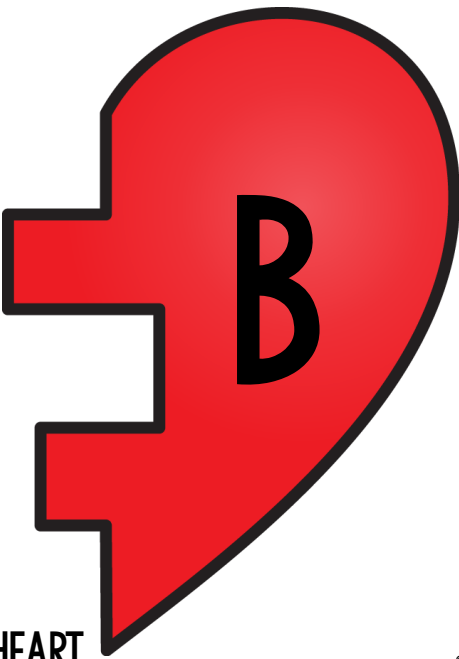
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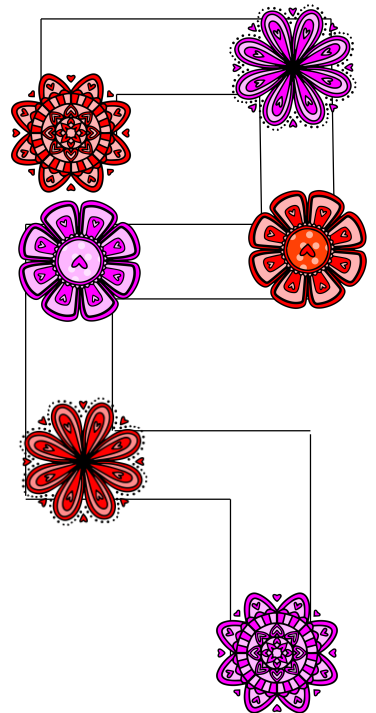


PIECE OF MY HEART

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# FLOWER POWER

- 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" flowers along the path. Put the other 6 "A" flowers in a stack facedown.
- 3) The "B" flower is your starting spot on your maze.
- 4) Flip over the top "A" flower and program your robot to reach that same flower in ONE sequence of code.
- 5) Repeat with the other flowers in the stack.



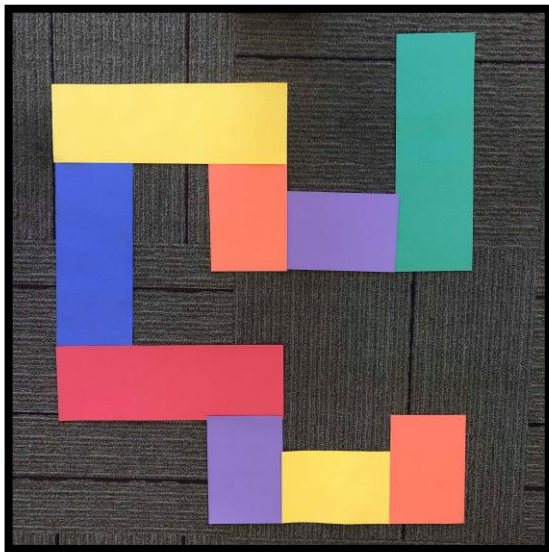


# MAZE EXAMPLES

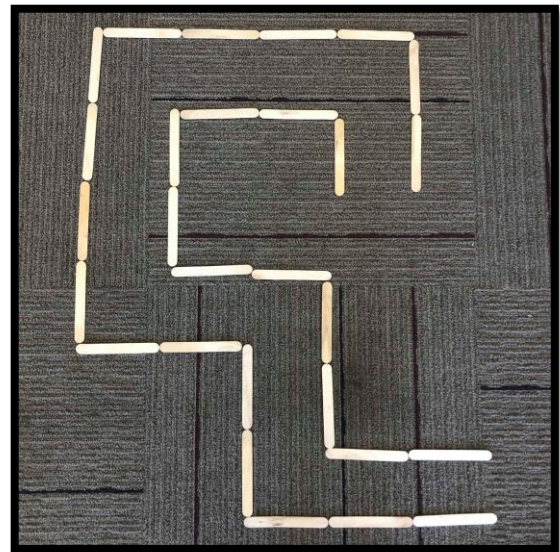
Mazes can be created out of any straight edge materials such as popsicle sticks, wooden planks, base ten rods, or laminated construction paper strips. (SEE EXAMPLES BELOW)

6" X 18" AND 6" X 9"

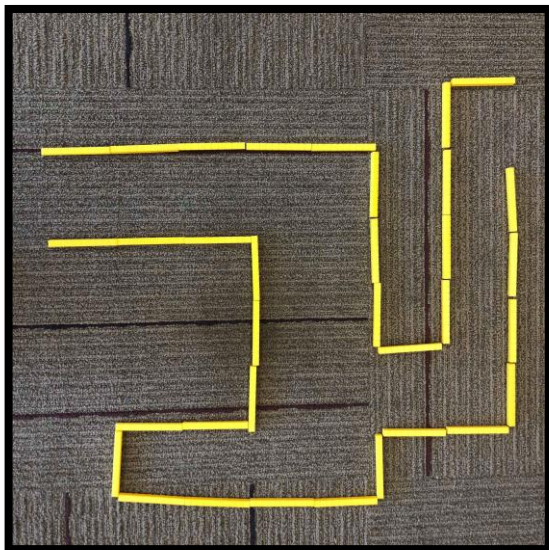
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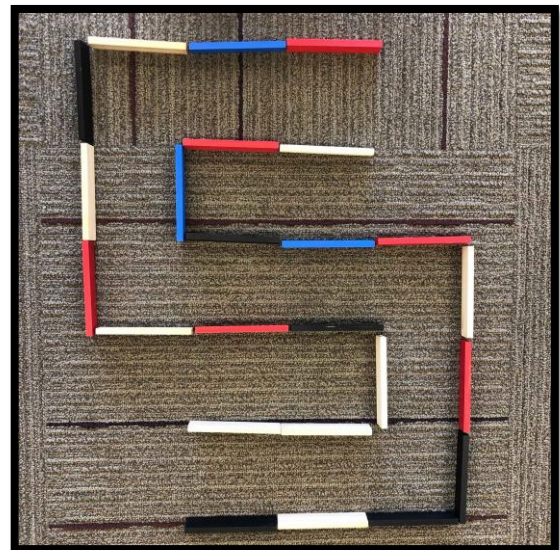
POPSICLE STICKS



BASE TEN RODS

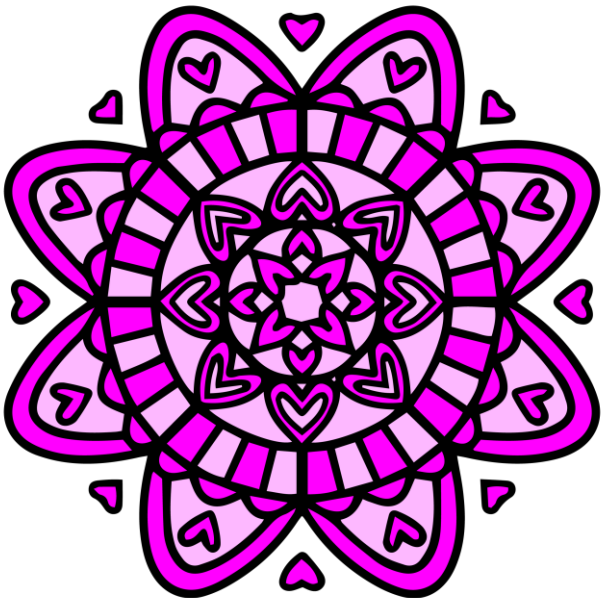


WOODEN PLANKS





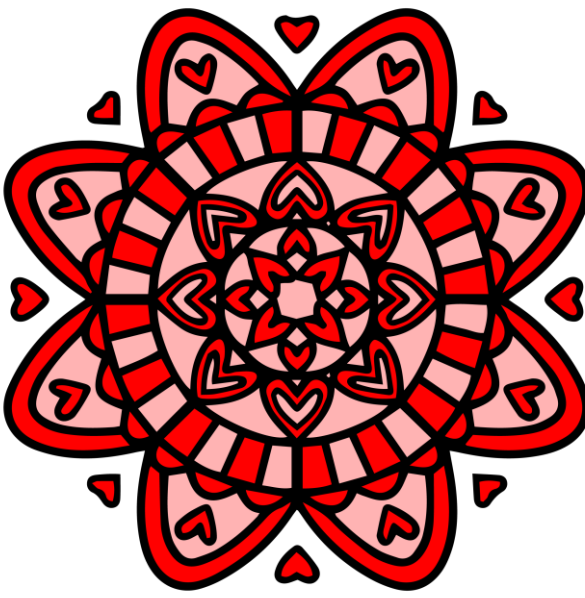
A



FLOWER POWER

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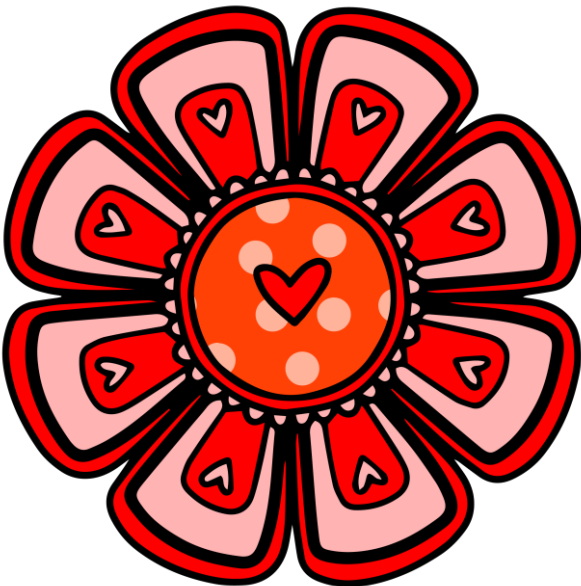
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FLOWER POWER

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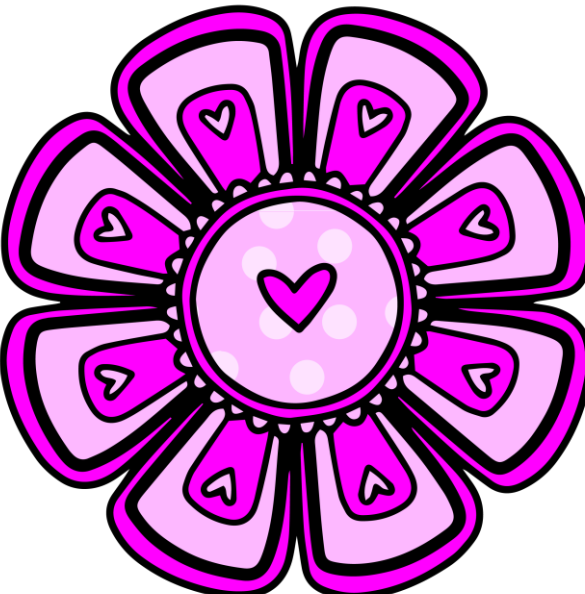
A



FLOWER POWER

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A



FLOWER POWER

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FLOWER POWER

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FLOWER POWER

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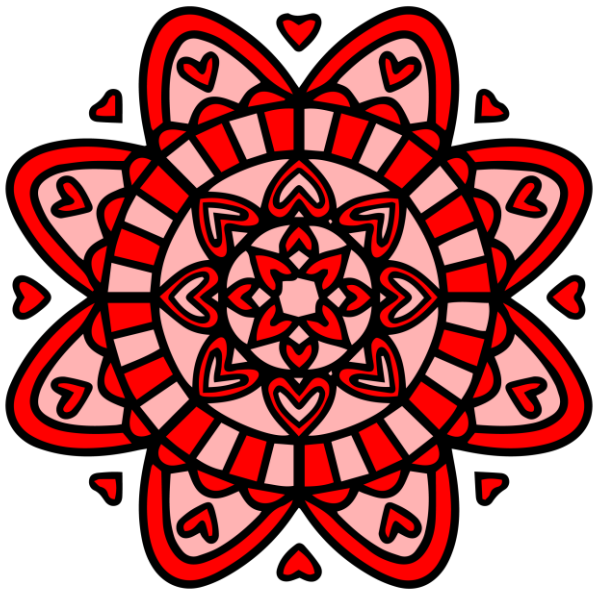
B



FLOWER POWER

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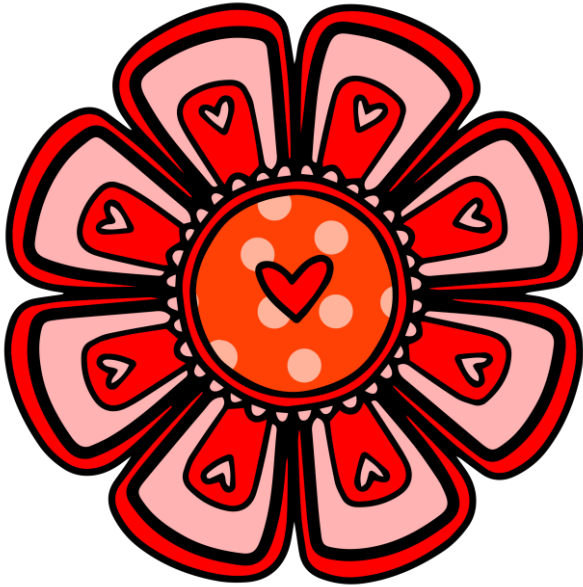
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FLOWER POWER

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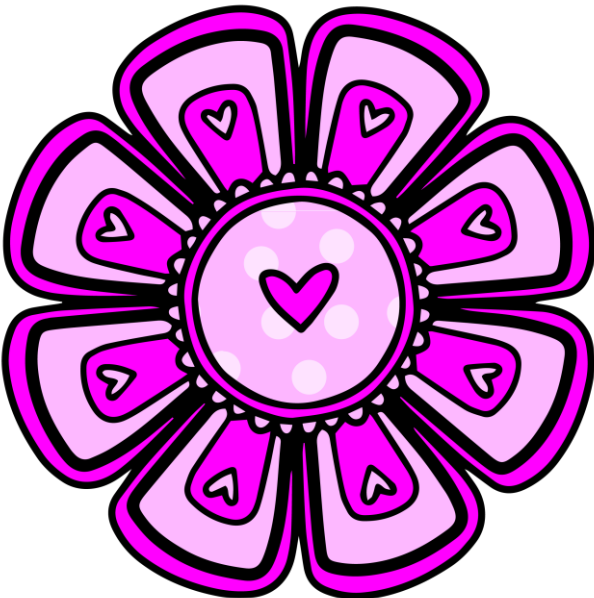
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FLOWER POWER

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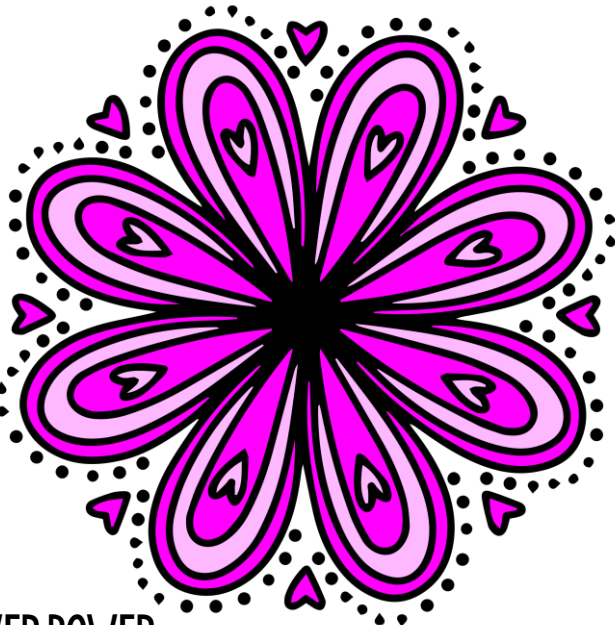
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FLOWER POWER

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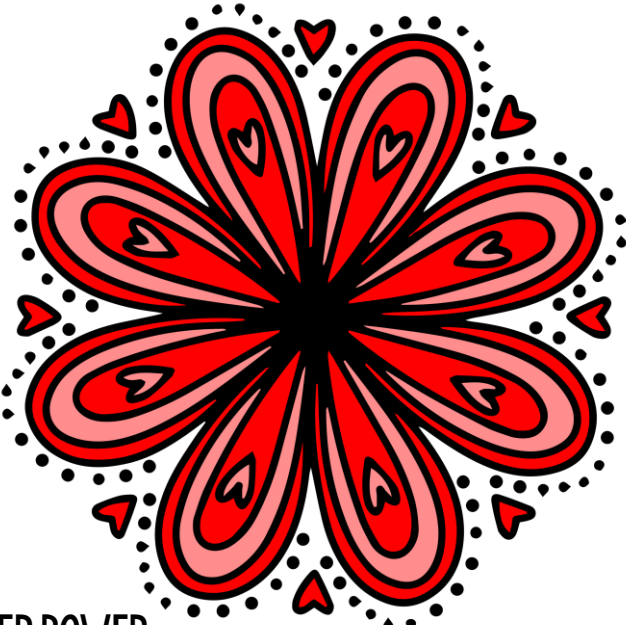
B



FLOWER POWER

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B

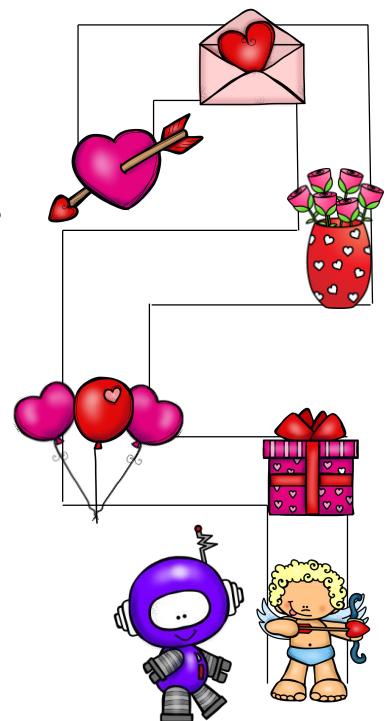


FLOWER POWER

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# CUPID'S MAZE

- 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) Put the CUPID at the beginning of your maze and HEART at the end. Put the GIFTS along the path.
- 3) Program your robot to move from the CUPID to the HEART and collect all the GIFTS along the way. Try to use only ONE sequence of code.



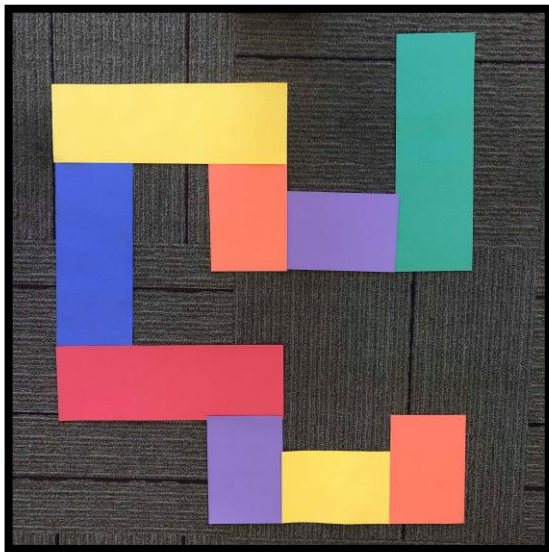


# MAZE EXAMPLES

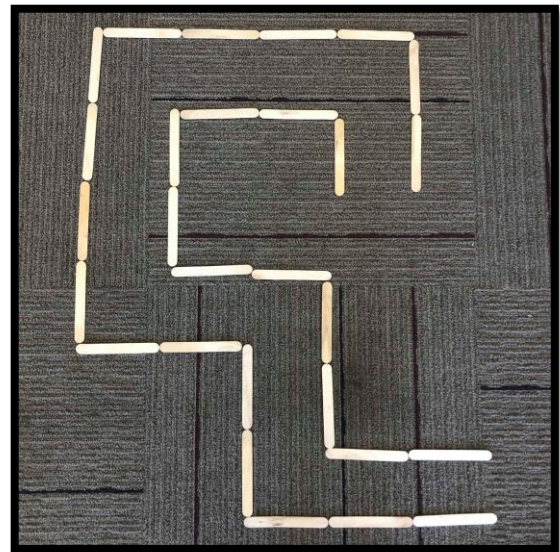
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6" X 18" AND 6" X 9"

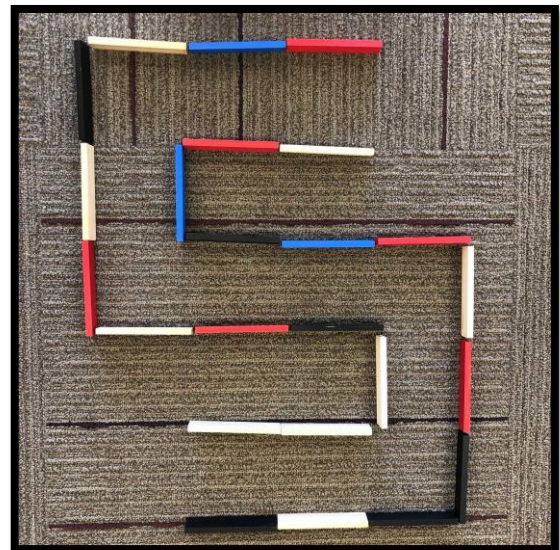
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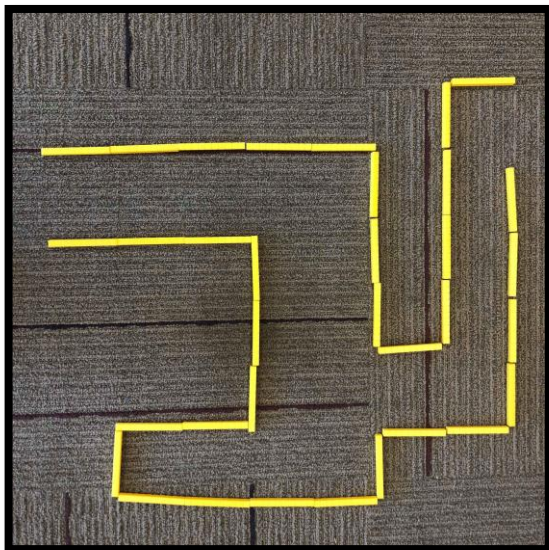
POPSICLE STICKS



WOODEN PLANKS

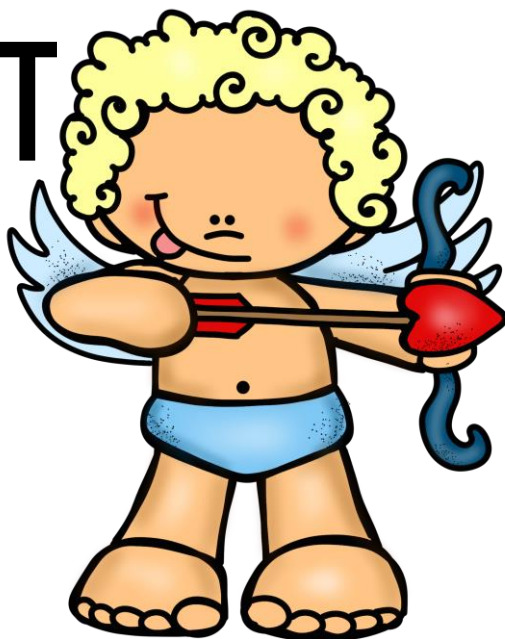


BASE TEN RODS





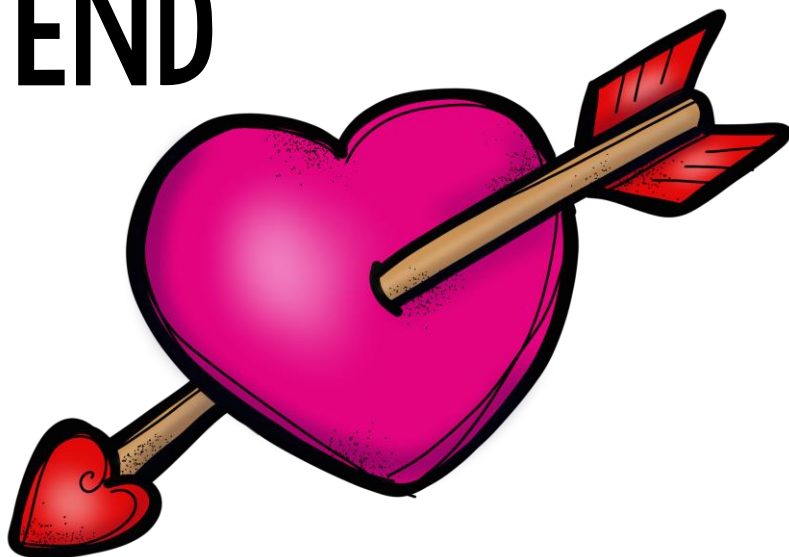
# START



CUPID'S MAZE

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# END



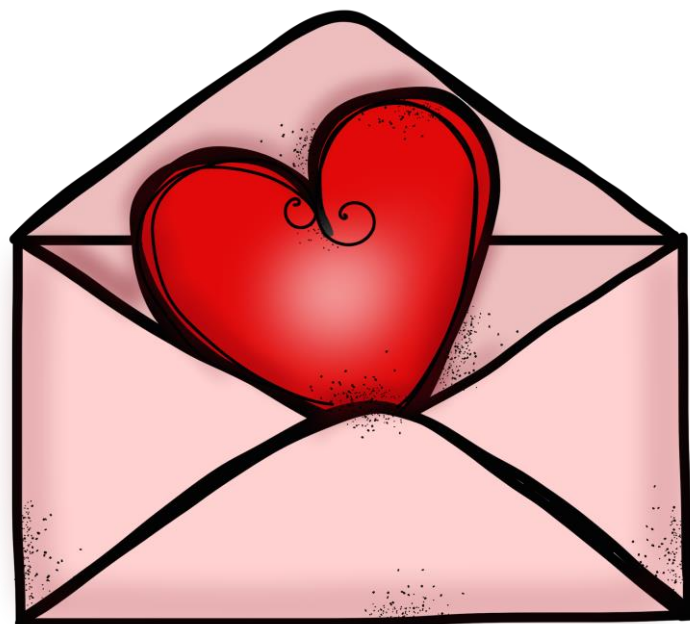
CUPID'S MAZE

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