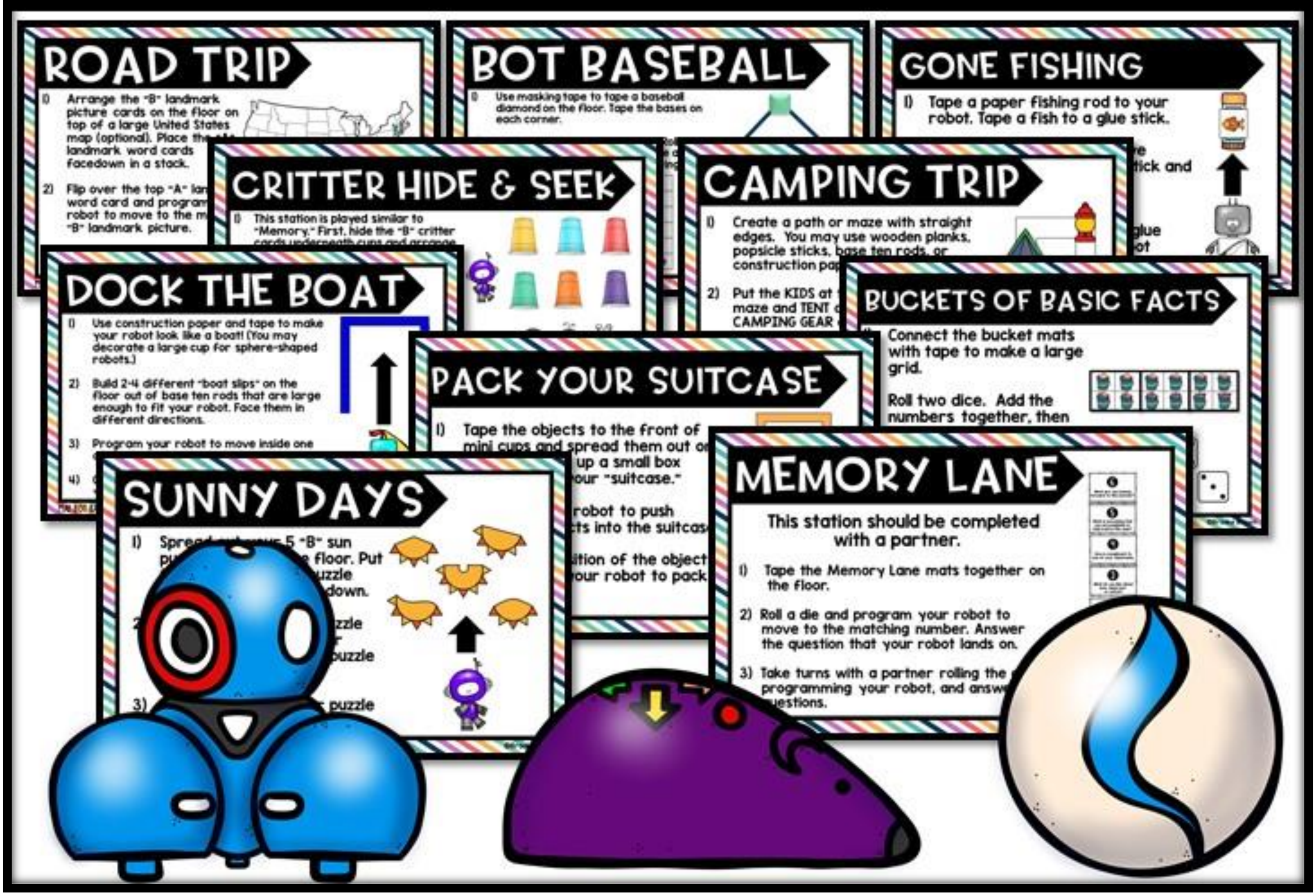
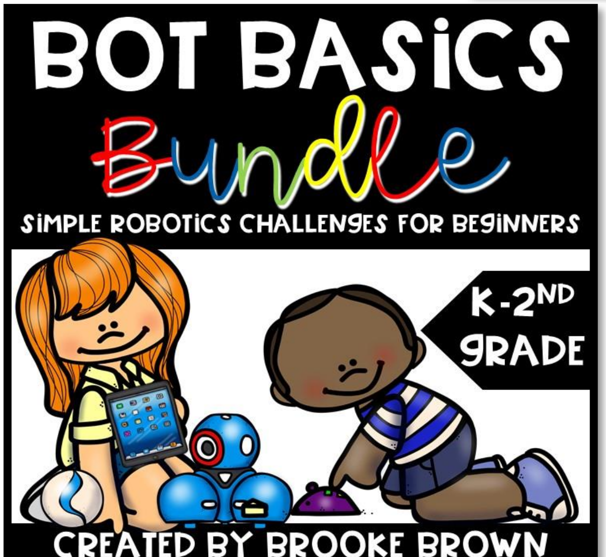
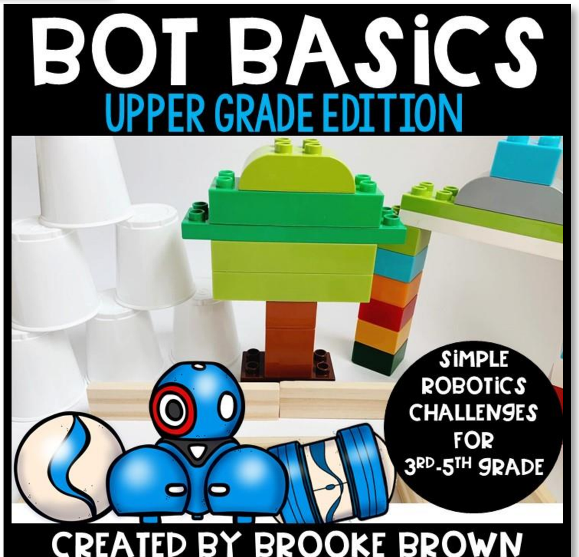
MAY & SUMMER BOT BASICS

SIMPLE ROBOTICS CHALLENGES FOR BEGINNERS



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





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*Requires camping cutouts and maze materials such as wooden planks, base ten rods, popsicle sticks, or construction paper
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WHAT YOU NEED

The following May/Summer 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

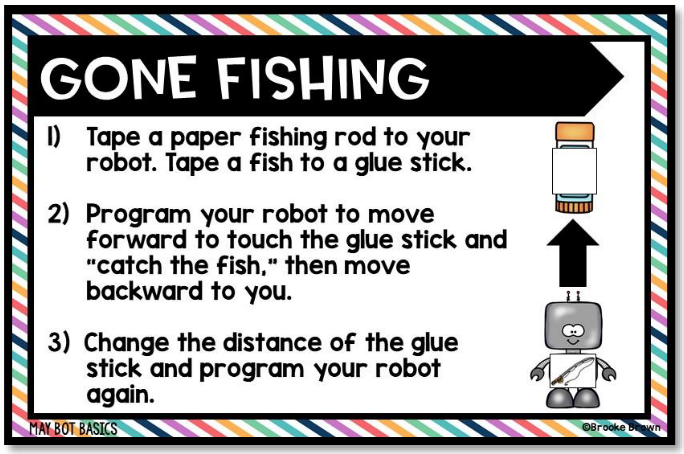
-Sphero Spark
-Sphero Bolt
-Sphero Ollie
-Sphero Mini
-Ozobot Bit (OzoBlockly)
-Ozobot Evo (OzoBlockly or Evo app)
-Dash
-Bee-Bot
-Code and Go Mouse
-Botley

HOW TO USE

May Bot Basics can used as robotics stations or challenges 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.

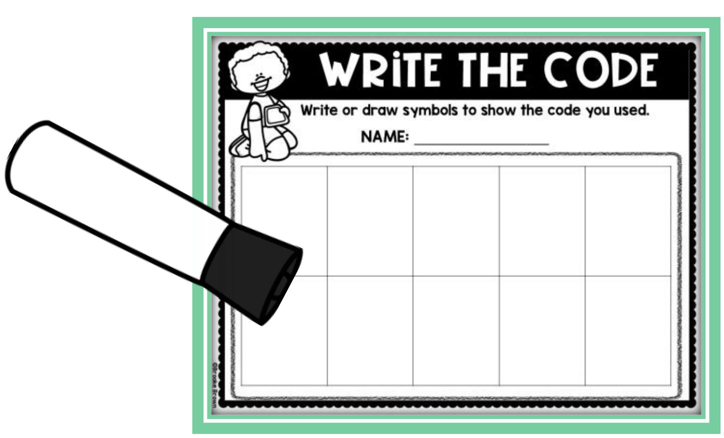
Direction cards can by folded in half as tents to display at each station. These cards can be stored in gallon-sized Ziplock baggies with extra pieces when not in use.

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 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.

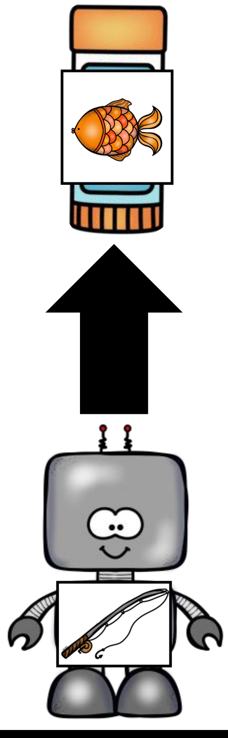
NAME: ______________________

GONE FISHING

1) Tape a paper fishing rod to your robot. Tape a fish to a glue stick.

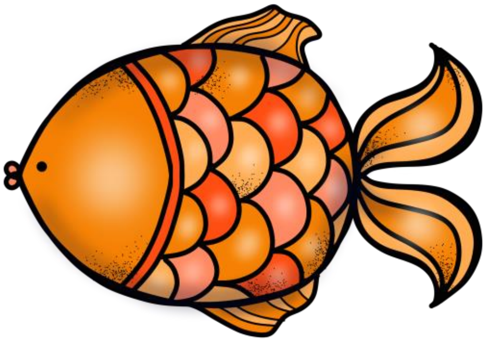
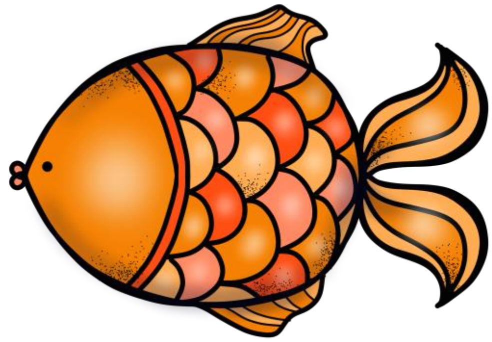
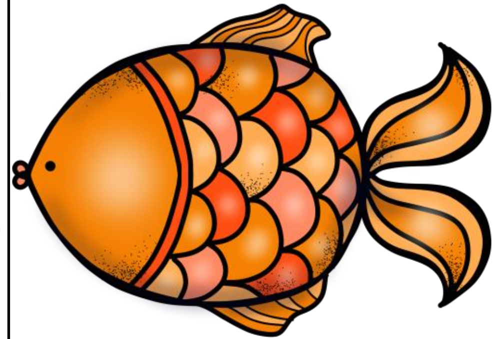
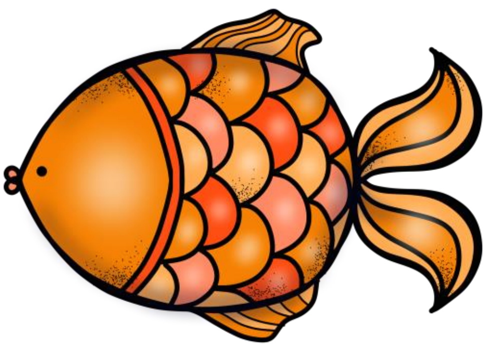
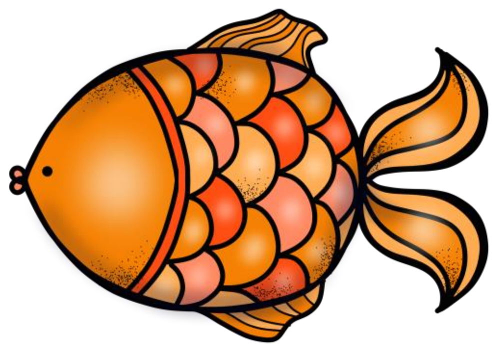
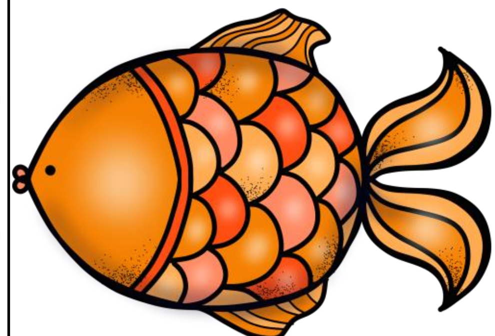
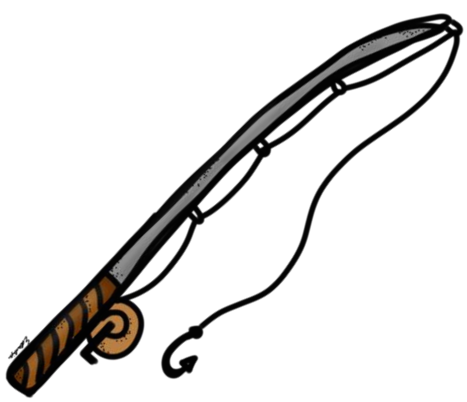
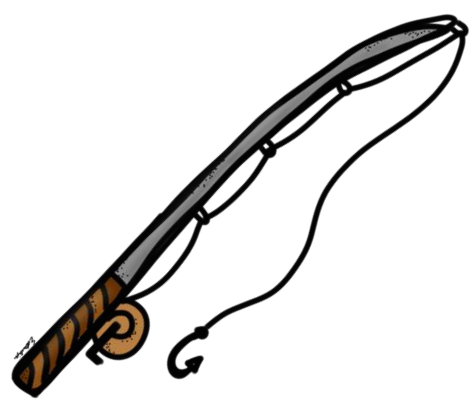
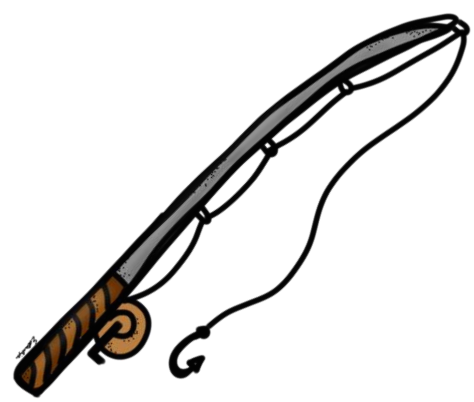
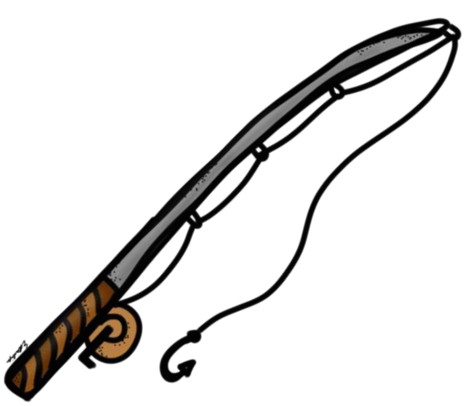
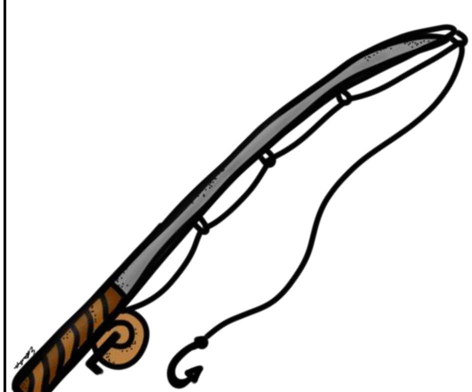
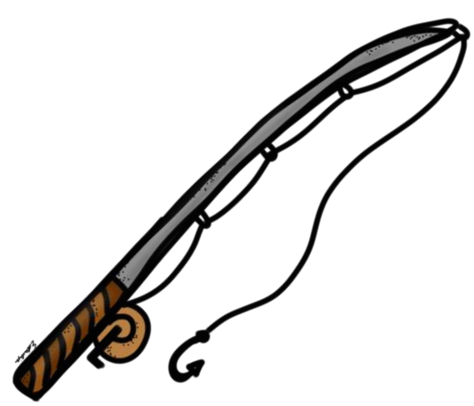
2) Program your robot to move forward to touch the glue stick and "catch the fish," then move backward to you.

3) Change the distance of the glue stick and program your robot again.



GONE FISHING

Tape the fish to the front of glue sticks.
Tape the fishing rods to the robots.

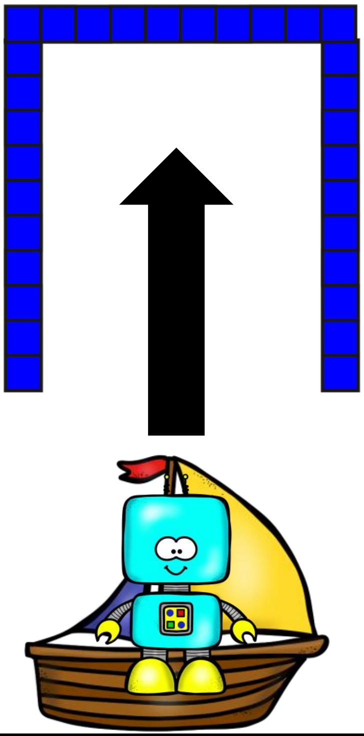
DOCK THE BOAT

1) Use construction paper and tape to make your robot look like a boat! (You may decorate a large cup for sphere-shaped robots.)

2) Build 2-4 different "boat slips" on the floor out of base ten rods that are large enough to fit your robot. Face them in different directions.

3) Program your robot to move inside one of the boat slips.

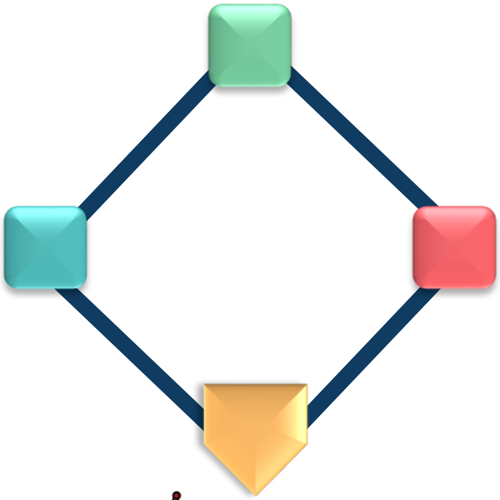
4) Choose a different boat slip and program your robot again.



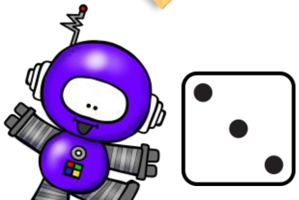
BOT BASEBALL

1) Use masking tape to tape a baseball diamond on the floor. Tape the bases on each corner.

2) Start your robot at home base. Roll the die. Program your robot to move around the diamond based on the following chart:



1	First Base
2	Second Base
3	Third Base
4	Home Run
5	Strike - Roll again
6	Walk - Go to First Base



BOT BASEBALL

Tape the bases on the corners of the baseball diamond.

FIRST BASE	SECOND BASE
THIRD BASE	HOME PLATE
FIRST BASE	SECOND BASE
THIRD BASE	HOME PLATE

PACK YOUR SUITCASE

1) Tape the objects to the front of mini cups and spread them out on the floor. Prop up a small box nearby to be your "suitcase."

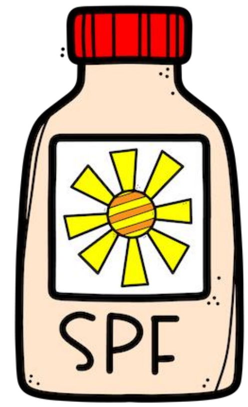
2) Program your robot to push all of the objects into the suitcase.

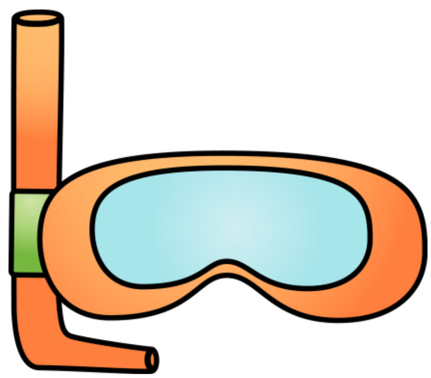
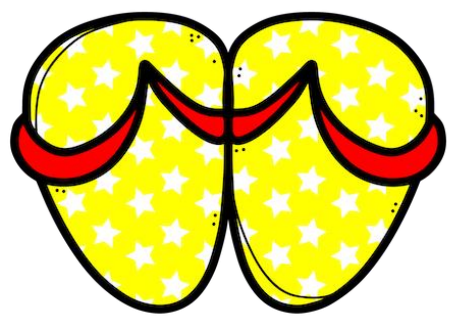
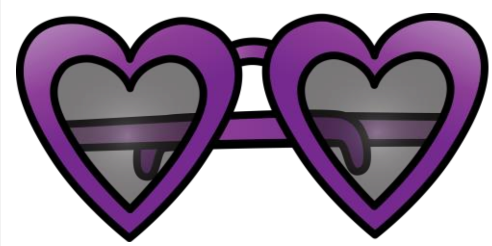
3) Change the position of the objects and program your robot to pack them again.

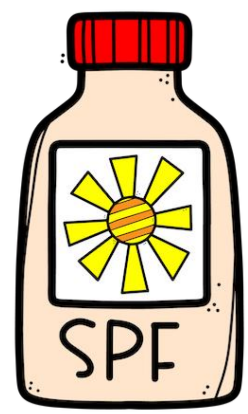
PACK YOUR SUITCASE

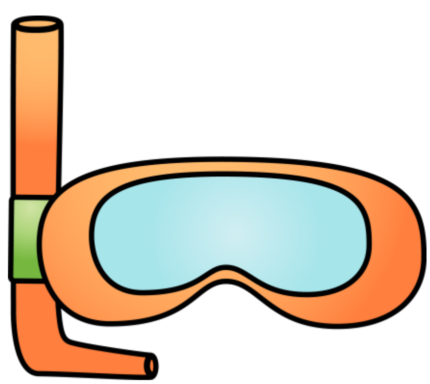
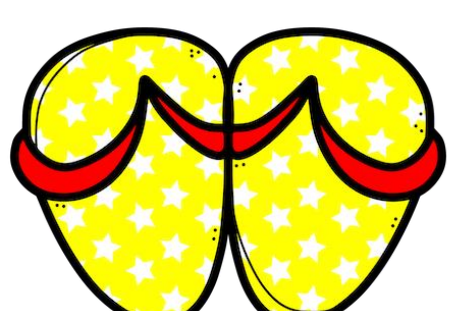
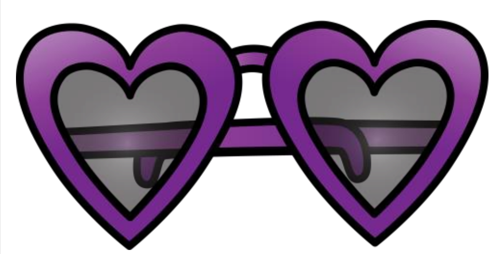
Tape the objects to the front of mini cups.





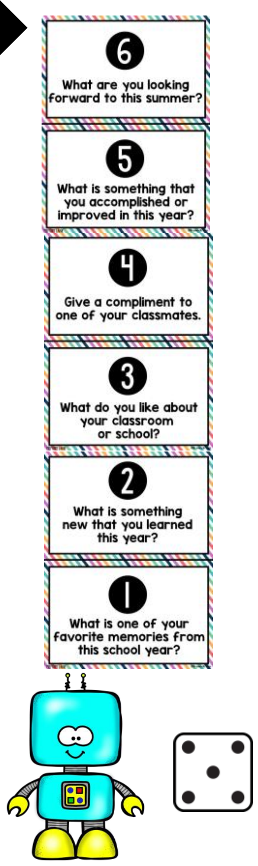
MEMORY LANE

This station should be completed with a partner.

1) Tape the Memory Lane mats together on the floor.

2) Roll a die and program your robot to move to the matching number. Answer the question that your robot lands on.

3) Take turns with a partner rolling the die, programming your robot, and answering questions.



2

What is something new that you learned this year?

1

What is one of your favorite memories from this school year?

4

Give a compliment to one of your classmates.

3

What do you like about your classroom or school?

6

What are you looking forward to this summer?

5

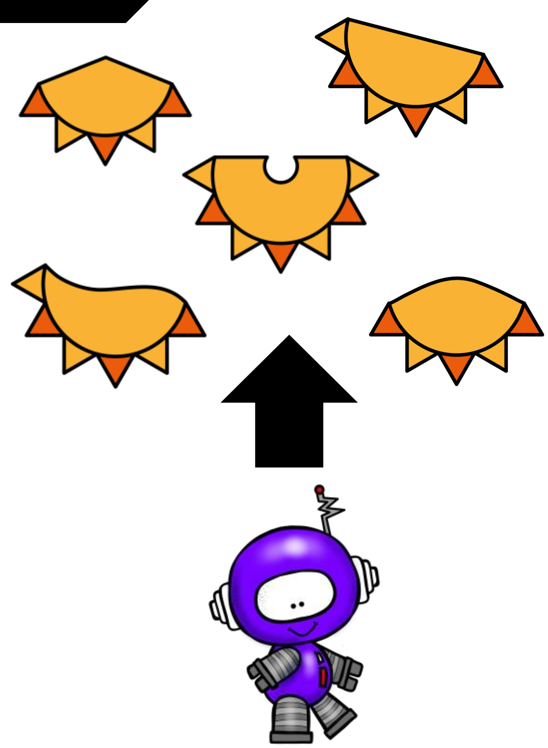
What is something that you accomplished or improved in this year?

SUNNY DAYS

1) Spread out your 5 "B" sun puzzle pieces on the floor. Put the other 5 "A" sun 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.



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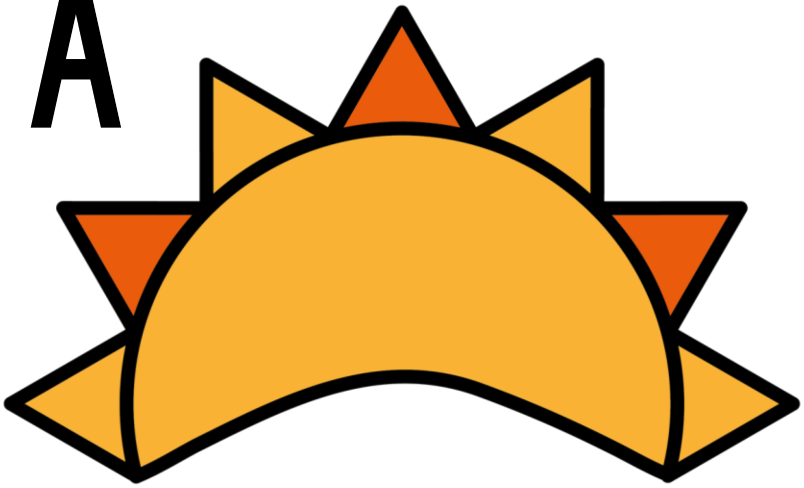

SUNNY DAYS

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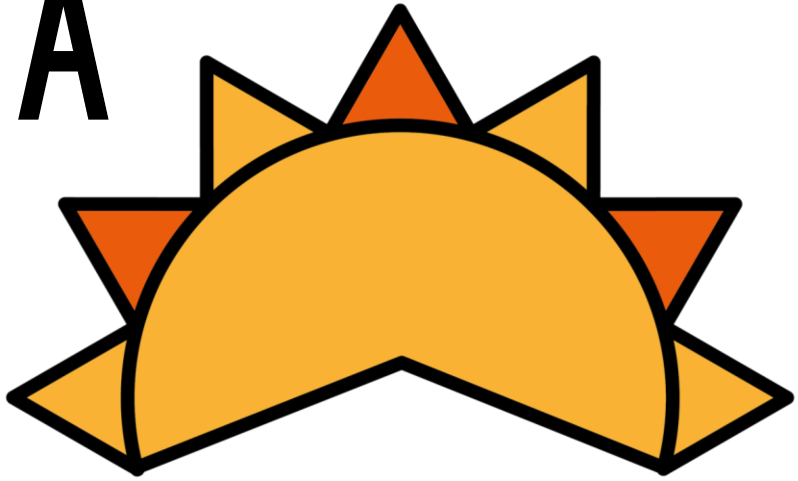

SUNNY DAYS

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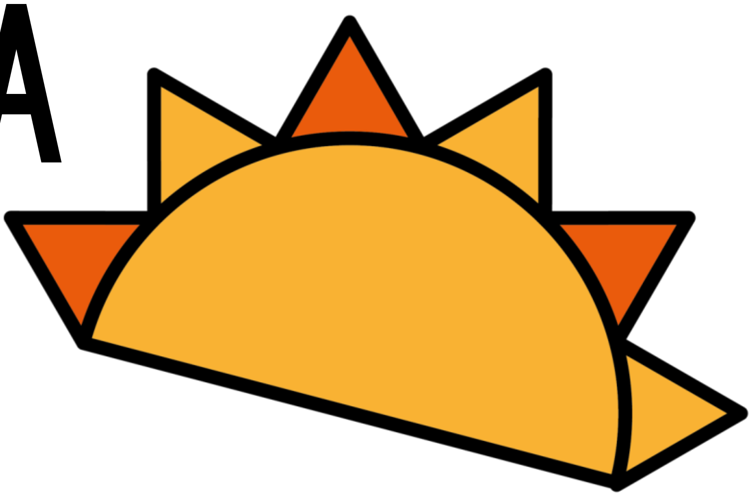

SUNNY DAYS

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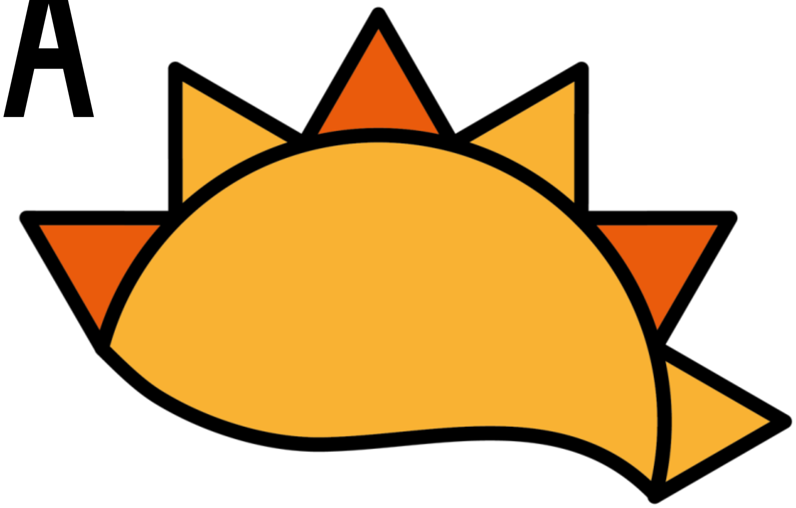

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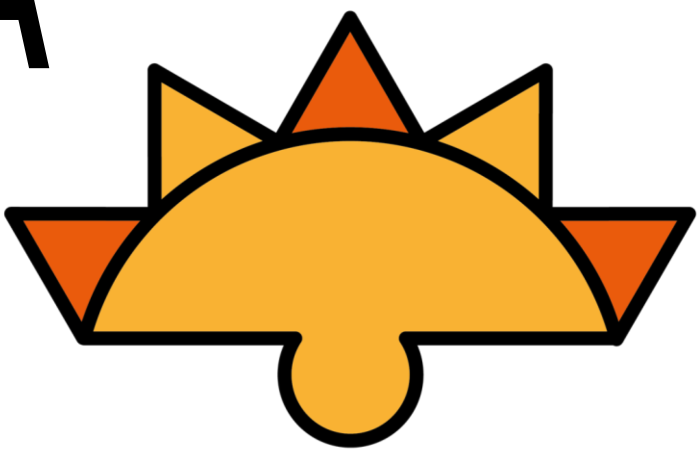
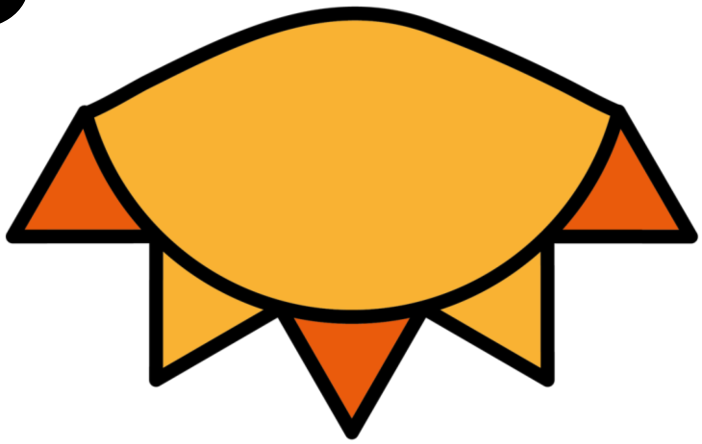


SUNNY DAYS

B



SUNNY DAYS

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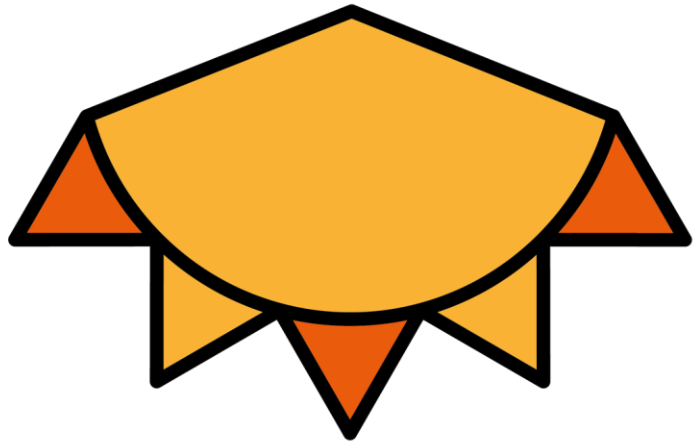

SUNNY DAYS

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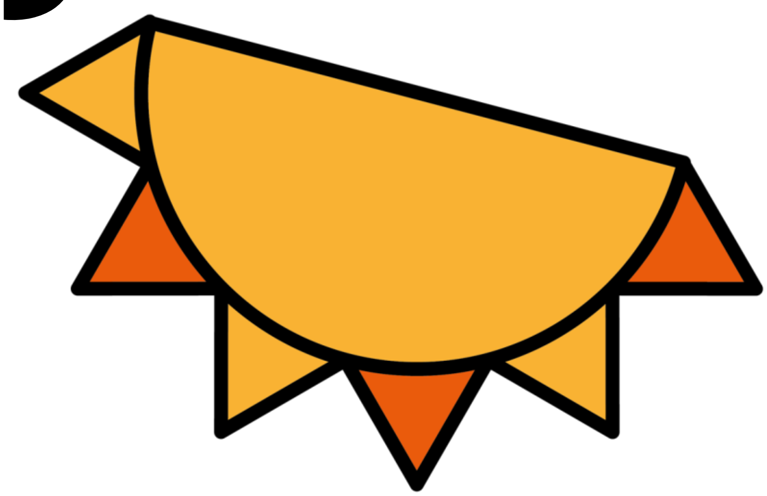

SUNNY DAYS

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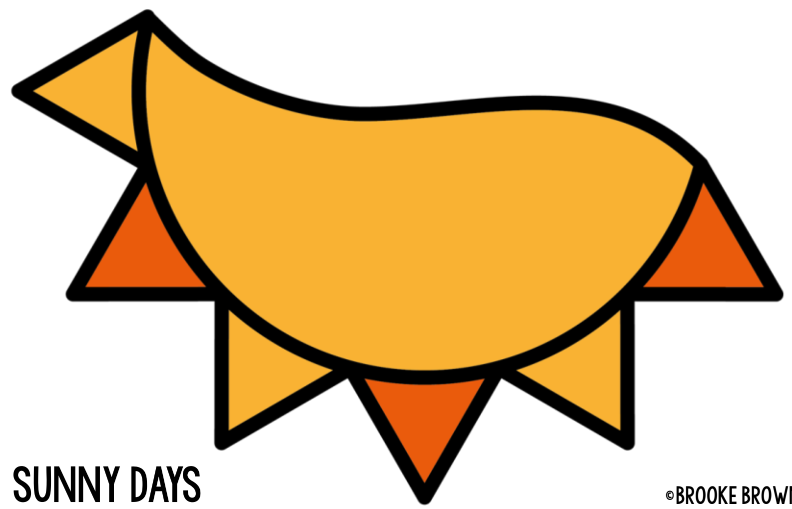
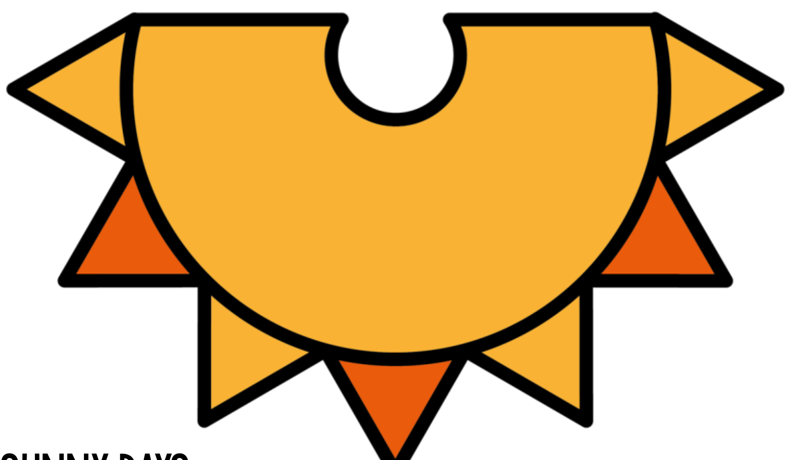


SUNNY DAYS

B



SUNNY DAYS

CRITTER HIDE & SEEK

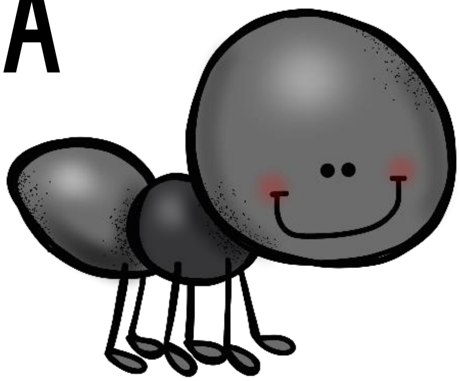
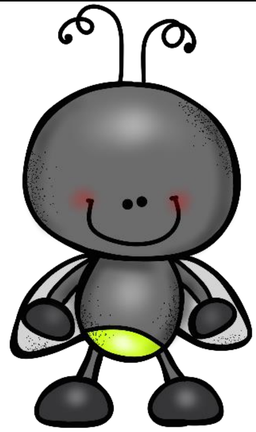
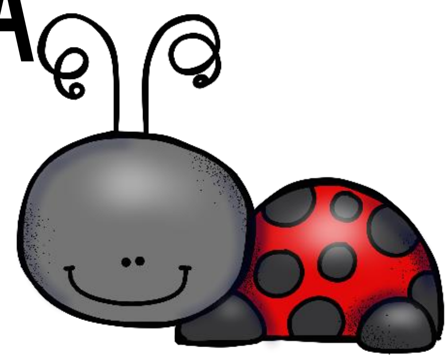
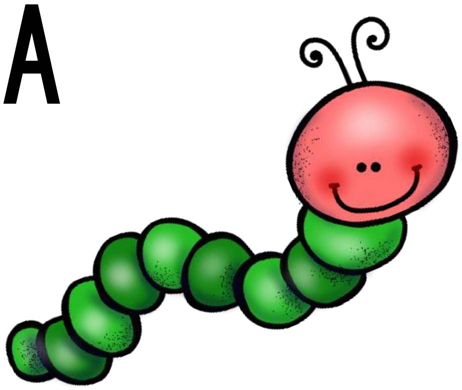
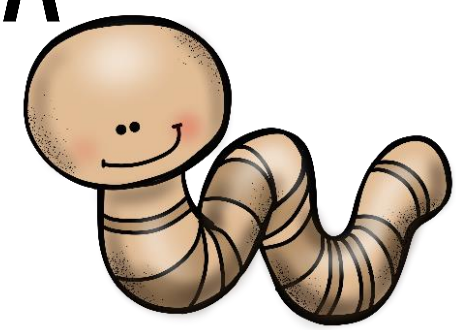
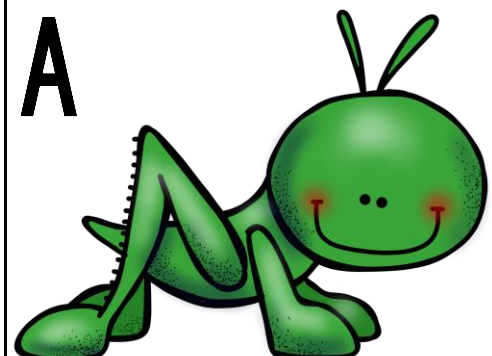
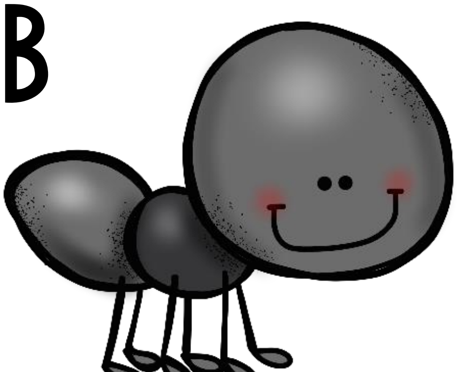
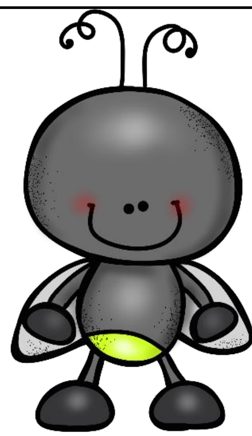
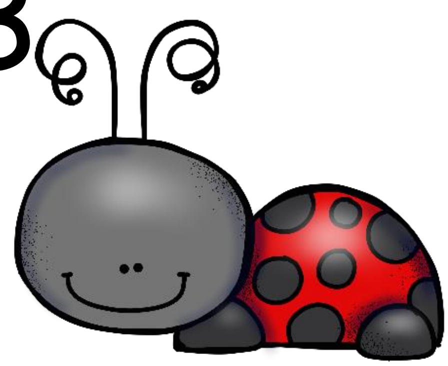
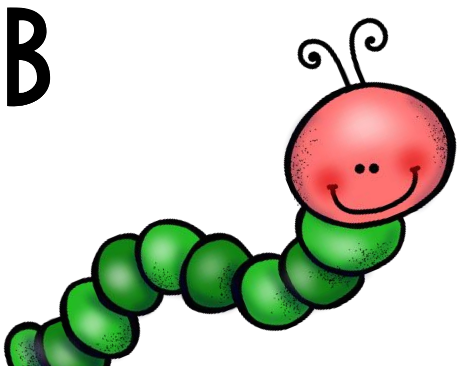
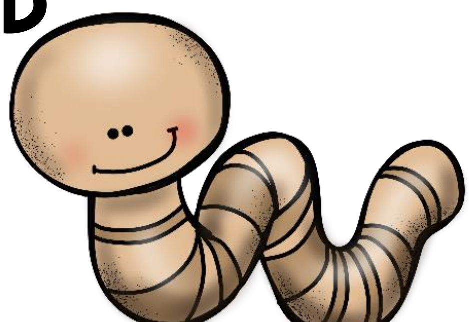
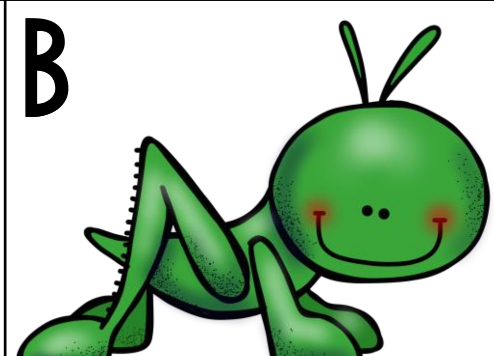
1) This station is played similar to "Memory." First, hide the "B" critter cards underneath cups and arrange the cups in rows. Spread out the "A" critter cards and place them face-down.

2) Flip over any "A" card and program your robot to move and touch any cup. Lift the cup to see if the critter cards match. If they do, keep the cards. If they don't, leave the "B" card under the cup and flip the "A" card back over.

3) Repeat until all matches are found.

CRITTER HIDE AND SEEK

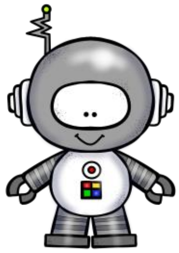
Hide the "B" critter cards underneath cups and arrange the cups in rows.
Spread out the "A" critter cards facedown on the floor.

A 	A 	A 
A 	A 	A 
B 	B 	B 
B 	B 	B 

ROAD TRIP

1) Arrange the "B" landmark picture cards on the floor on top of a large United States map (optional). Place the "A" landmark word cards facedown in a stack.

2) Flip over the top "A" landmark word card and program your robot to move to the matching "B" landmark picture.



3) Repeat with all the cards in the stack.

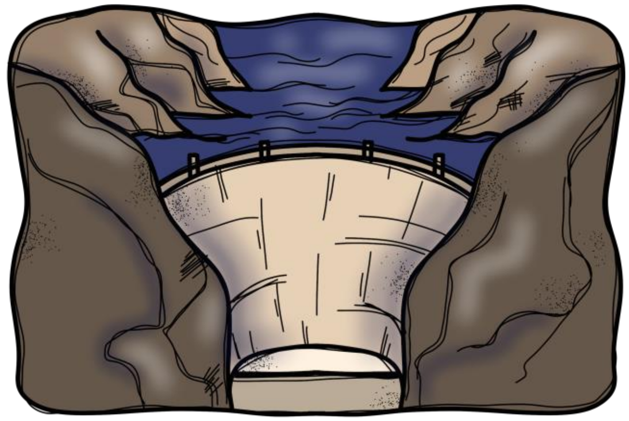
ROAD TRIP CARDS

Arrange "B" cards on the floor on a United States map (optional).

B

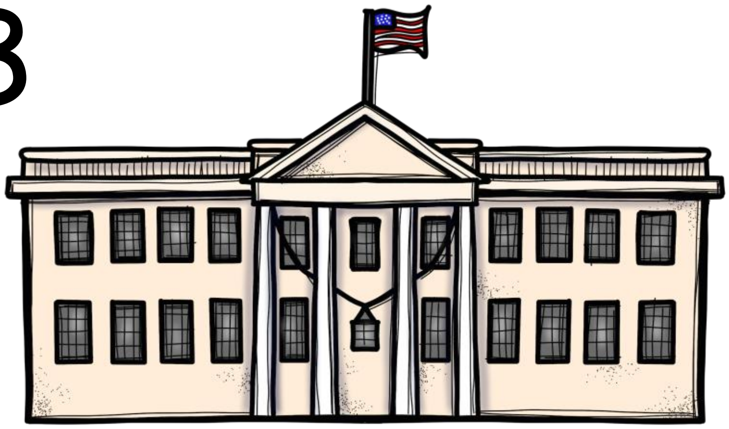
ROAD TRIP

B



ROAD TRIP

B

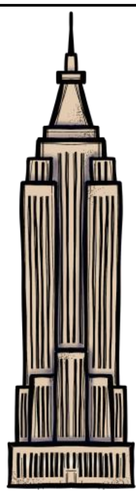


ROAD TRIP

B

ROAD TRIP

B

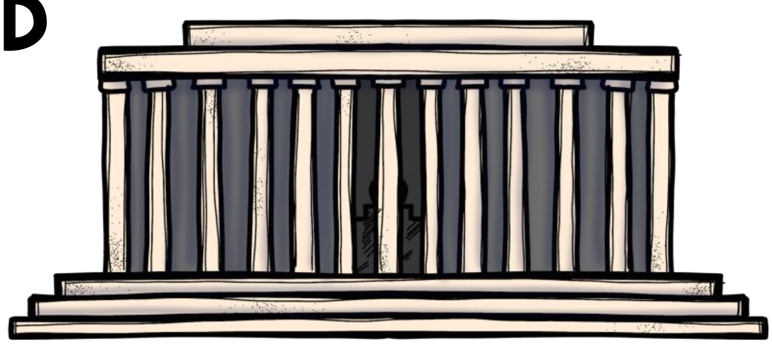


ROAD TRIP

B

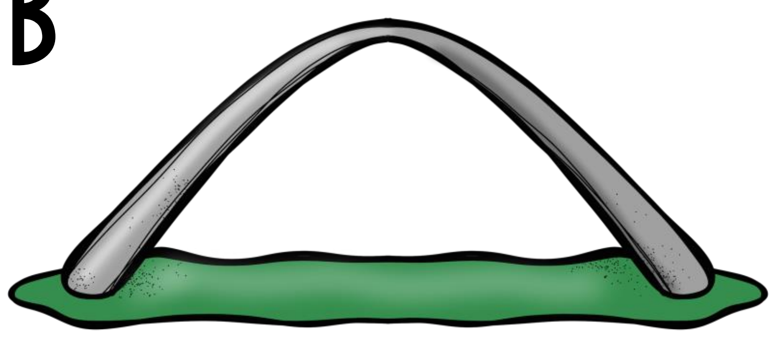
ROAD TRIP

B



ROAD TRIP

B



ROAD TRIP

ROAD TRIP CARDS

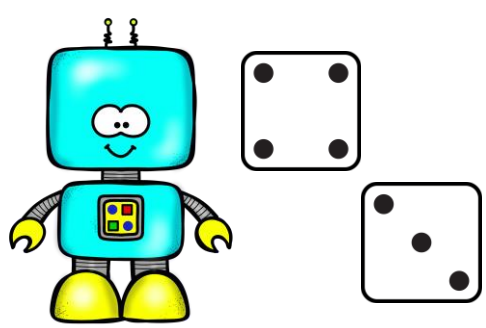
Place "A" cards facedown in a stack.

A **Statue of Liberty** NEW YORK CITY, NEW YORK ROAD TRIP ©BROOKE BROWN	A **Hoover Dam** NEVADA-ARIZONA BORDER ROAD TRIP ©BROOKE BROWN
A **White House** WASHINGTON, D.C. ROAD TRIP ©BROOKE BROWN	A **Golden Gate Bridge** SAN FRANCISCO, CALIFORNIA ROAD TRIP ©BROOKE BROWN
A **Empire State Building** NEW YORK CITY, NEW YORK ROAD TRIP ©BROOKE BROWN	A **The Alamo** SAN ANTONIO, TX ROAD TRIP ©BROOKE BROWN
A **Lincoln Memorial** WASHINGTON, D.C. ROAD TRIP ©BROOKE BROWN	A **Gateway Arch** ST. LOUIS, MISSOURI ROAD TRIP ©BROOKE BROWN

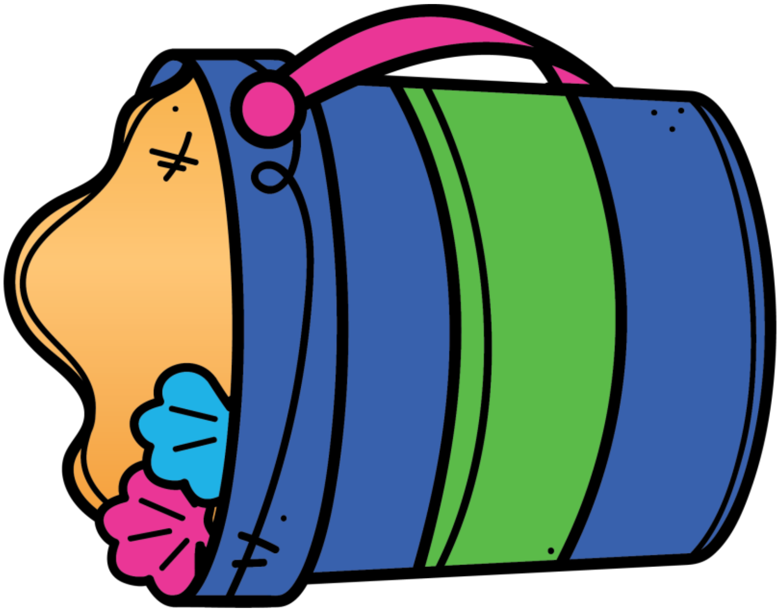
BUCKETS OF BASIC FACTS

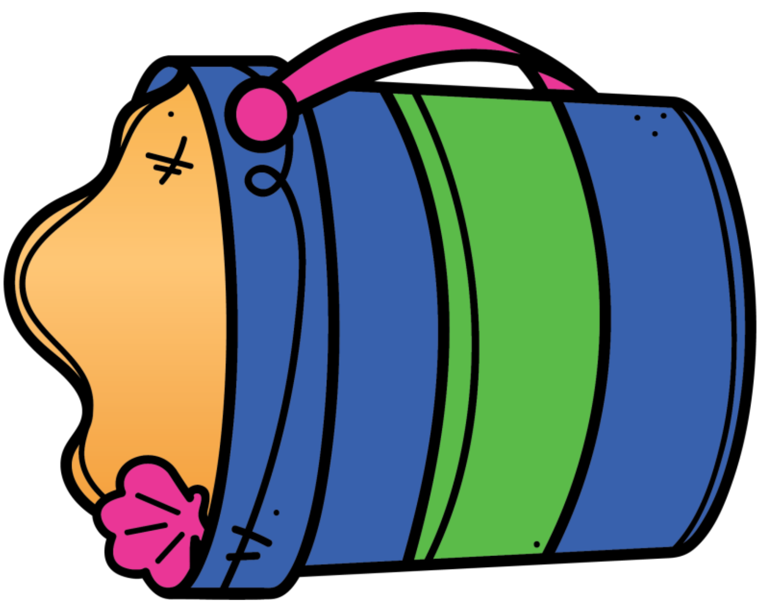
1) Connect the bucket mats with tape to make a large grid.

2) Roll two dice. Add the numbers together, then program your robot to move to the matching sum (number of shells).



3) Roll again and repeat.



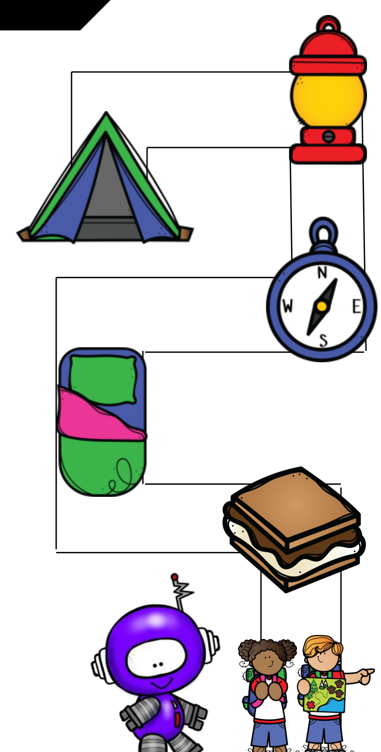


CAMPING TRIP

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 KIDS at the beginning of your maze and TENT at the end. Put the CAMPING GEAR along the path.

3) Program your robot to move from the KIDS to the TENT and collect all the CAMPING GEAR along the way. Try to use only ONE sequence of code.

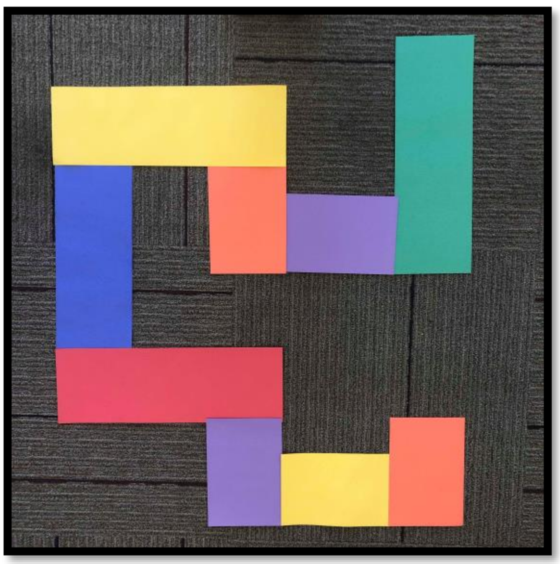


MAZE EXAMPLES

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)

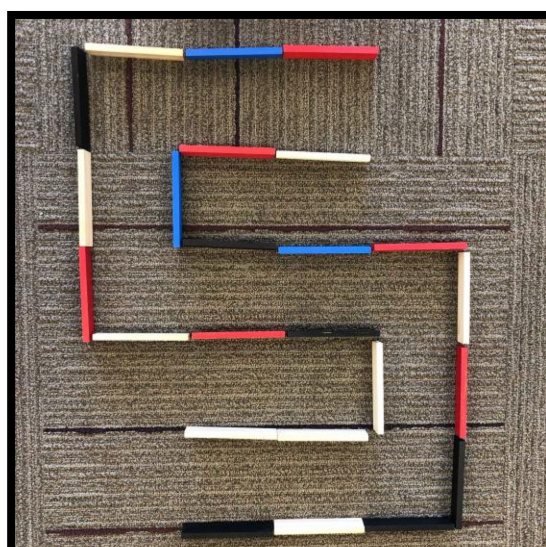
6" X 18" AND 6" X 9"

LAMINATED CONSTRUCTION PAPER



POPSICLE STICKS

BASE TEN RODS

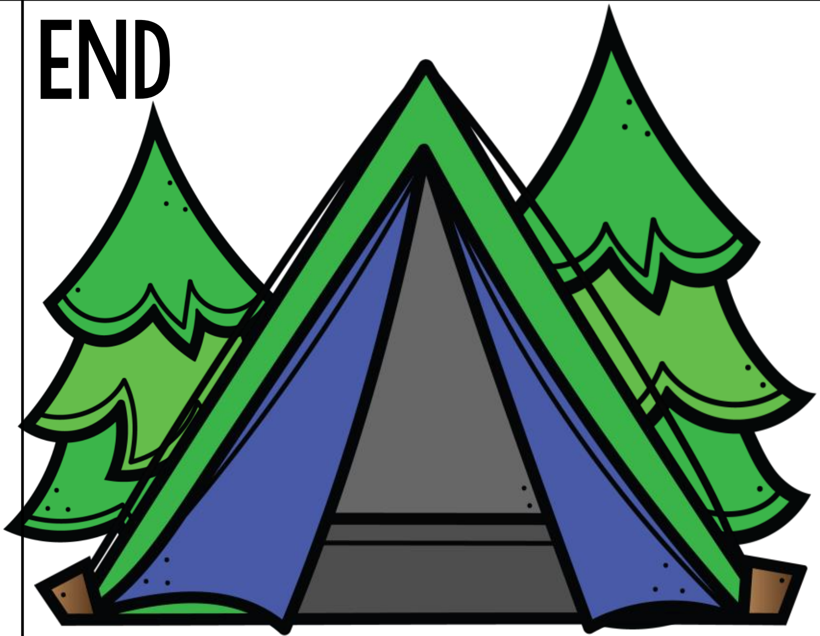


WOODEN PLANKS

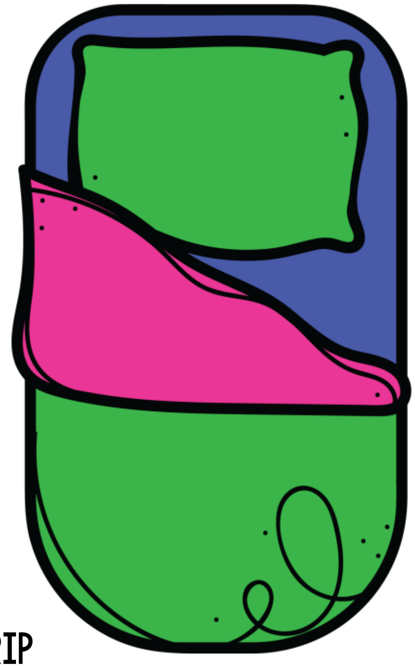
START

CAMPING TRIP

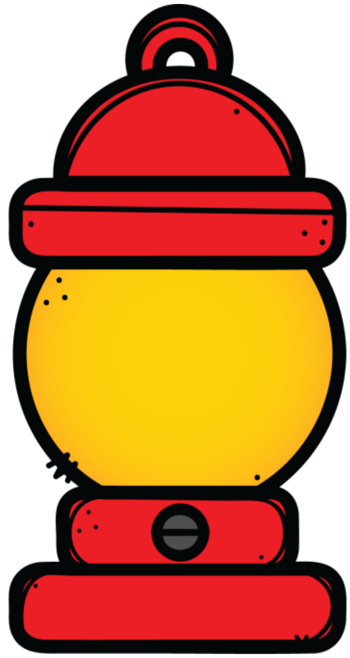
END



CAMPING TRIP



CAMPING TRIP



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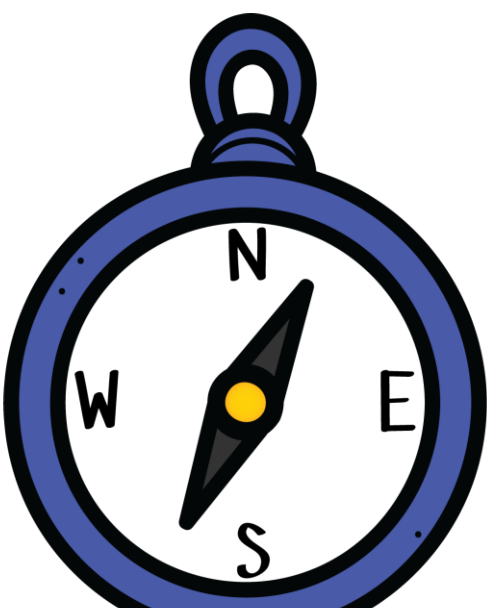

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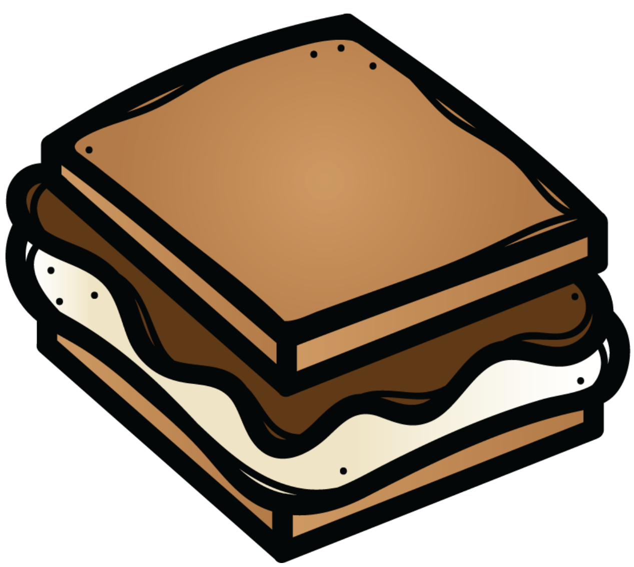

CAMPING TRIP

CREDITS

Thank you for your download!

Created by Brooke Brown

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