



**This journal belongs to** \_\_\_\_\_



## CAMP OATH

During MATH CAMP-IN it is so true,  
There are seven Math Trail Posts to visit and do.

Each one a good problem--and all about math,  
Like adding, subtracting, patterns and graphs.

And as a Math Camper, I will give it my best-  
I will put my brain to the MATHEMATICS test!

I'm here to have fun and enjoy each one-  
because Math Camp-In  
is going to be

## LOTS OF FUN!

# TRAIL POST 1



## The Squirrel Solution

Campers love watching wildlife at camp and sketching their ideas in their journal! Be sure to use a visual model to explain your thinking about this problem.

A squirrel is climbing a tree at camp. Each time it tries to climb the tree it goes up 6 feet and slides down 1 foot. How many tries does it take the squirrel to climb a tree that is 23 feet tall? Show your thinking using visual models and numbers.

Explain how you solved the problem in words. What patterns do you notice?

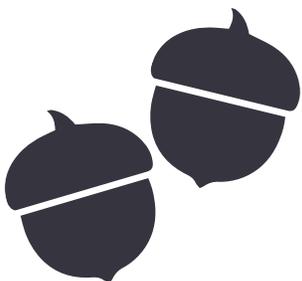


# TRAIL POST 1

What if the squirrel slid down 2 feet each time instead of 1 foot? How might your thinking change? Prove your thinking using visuals and numbers.

What patterns do you notice?

Create a table that shows a pattern you noticed. Represent the problems or patterns noticed using an equation.



# TRAIL POST 2



## We want s'more math!

Campers love to sit around the campfire, tell stories and make s'mores! Help figure out what you will need to be sure everyone gets a s'more!

Each camper gets to make one s'more at the campfire. To make one s'more, each camper will get:

2 graham cracker halves

$\frac{3}{4}$  of a chocolate bar

1 marshmallow

How many chocolate bars, graham cracker halves, and marshmallows are needed for 12 campers? Record you thinking in the table below. Use visuals to justify your reasoning.

Campers	Chocolate Bar	Graham Crackers	Marshmallows
1			
2			
3			
4			
5			
6			



## TRAIL POST 2



How could you use your thinking from the chart and the patterns you noticed to determine how many ingredients are needed for campers 7-12? Record your thinking and explain how you used patterns and the chart above to solve for the other campers.

Explain how you got your answer using pictures, numbers and words.



# TRAIL POST 3



GONE FISHING! Be sure you have your fishing mat and all items you can use you can use as fish!

The campers went fishing at Polygon Pond but they don't remember what they caught. Find out how many fish ended up in their bucket by using the workmat and fish to help you solve the problems.

## Camper: Noseums Bar Graph

"Today was a bad day to be a fish! I remember that I caught 5 sunfish and that there were 2 more bluegill than there were sunfish. I had twice as many bass as I did sunfish, but I can't remember how many total fish were in my bucket."

Equation: \_\_\_\_\_



## Camper: Cooler Centimeter

"Well, I know I caught 12 bluegill. There were also twice as many bluegill as there were bass and there were half as many sunfish as there were bass. I can't remember how many there were total, but I think I caught more than Porcupine did."

Equation: \_\_\_\_\_



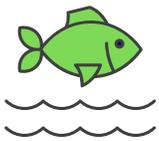
# TRAIL POST 3



## Camper: Porcupine Sphere

"They just weren't biting where I was. I only caught 15 fish all together. There were equal numbers of sunfish and bluegill. There were three times as many bass as sunfish. How many of each fish did I catch?"

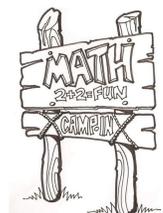
Equation: \_\_\_\_\_



**CHALLENGE:** There are 35 fish.  $\frac{3}{5}$  of the fish are sunfish.  $\frac{1}{7}$  of the fish are bluegill. There are 7 more bass than trout.

How many fish are there of each kind?

Represent the fraction of fish on a number line diagram.



# TRAIL POST 3

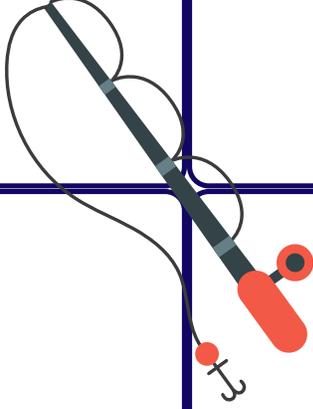
Fish work mat

Bluegill

Trout

Sunfish

Bass



# TRAIL POST 4



## LANTERN PUZZLES

There are some great items to purchase at the Camp Store, but you didn't pack a calculator! Good think you have brain power for this one!

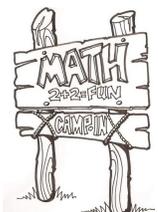
Solve the following number puzzles. The numbers in a row must equal the number to the right. The numbers in a column must equal to a number at the bottom. Be sure to look at the operation in the lantern to use for each puzzle!



4		7
5		9



	8	
20	16	
		60



# TRAIL POST 4

Be sure to show your thinking on how you got your answers!



8		24
	12	288



Create your own for another camper to solve!




# TRAIL POST 5



## GEAR UP!

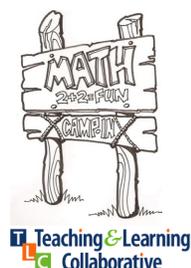
The campers are getting ready for a hike on the Math Trail! Use the graph paper and put your best foot forward as you solve this Trail Post!

It's time to gear up! Camp counselors are getting ready for some camp relay races. Choose your best hiking shoe and trace it on the grid.

What is the area of your hiking shoe?

What is the area to the nearest whole number?

Show your thinking.



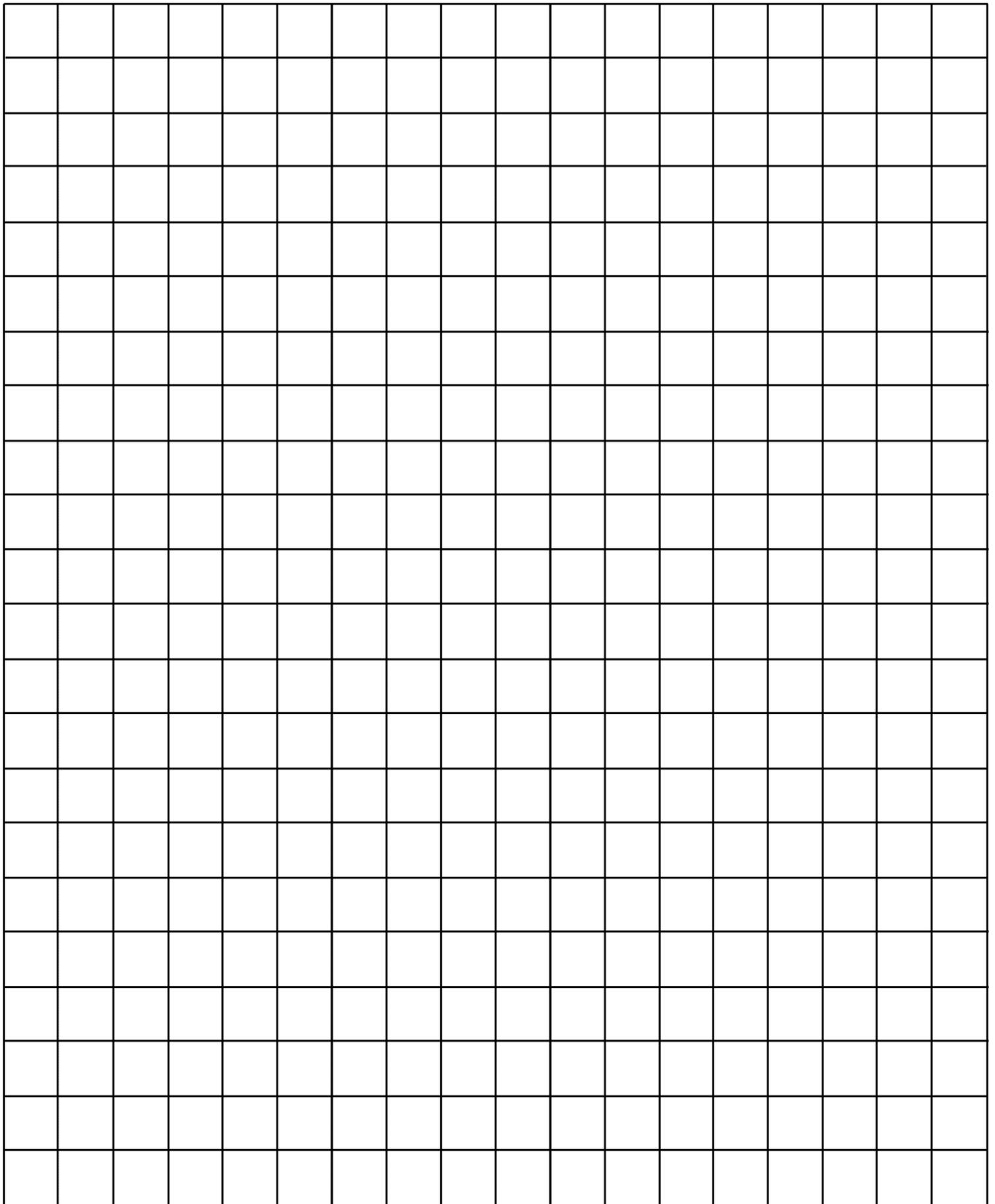
# TRAIL POST 5

## Times Trail Relay Race:

Campers are getting ready for the Math Trail Relay Race! If you left 8 of your footprints on the first quarter of the trail, how many footprints did you leave on the entire trail if you continued to leave the same amount at every quarter of the trail during the rest of the race?

Represent your thinking on a number line.

How much space did your footprint take up on the Math Trail?



# TRAIL POST 6



## MAP IT OUT!

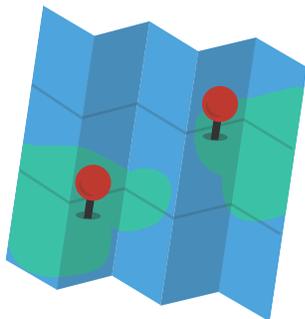
North, east, south or west...design the camp map you think is best! Have fun with this one!

Campers are designing new visitor maps. Use the information below to design a map of the camp site. Be sure to draw and label each image on the map.

**Rectangle River** has a perimeter of 56 square units. What is the area of Rectangle River? How might Rectangle River look? Be sure to label all parts of the river. Use the space below to show your thinking before adding it to the map.

**Polygon Pond** is the shape of a polygon. It has equal sides, equal lengths, straight lines and is a closed shape. What other attributes can you use to describe Polygon Pond?

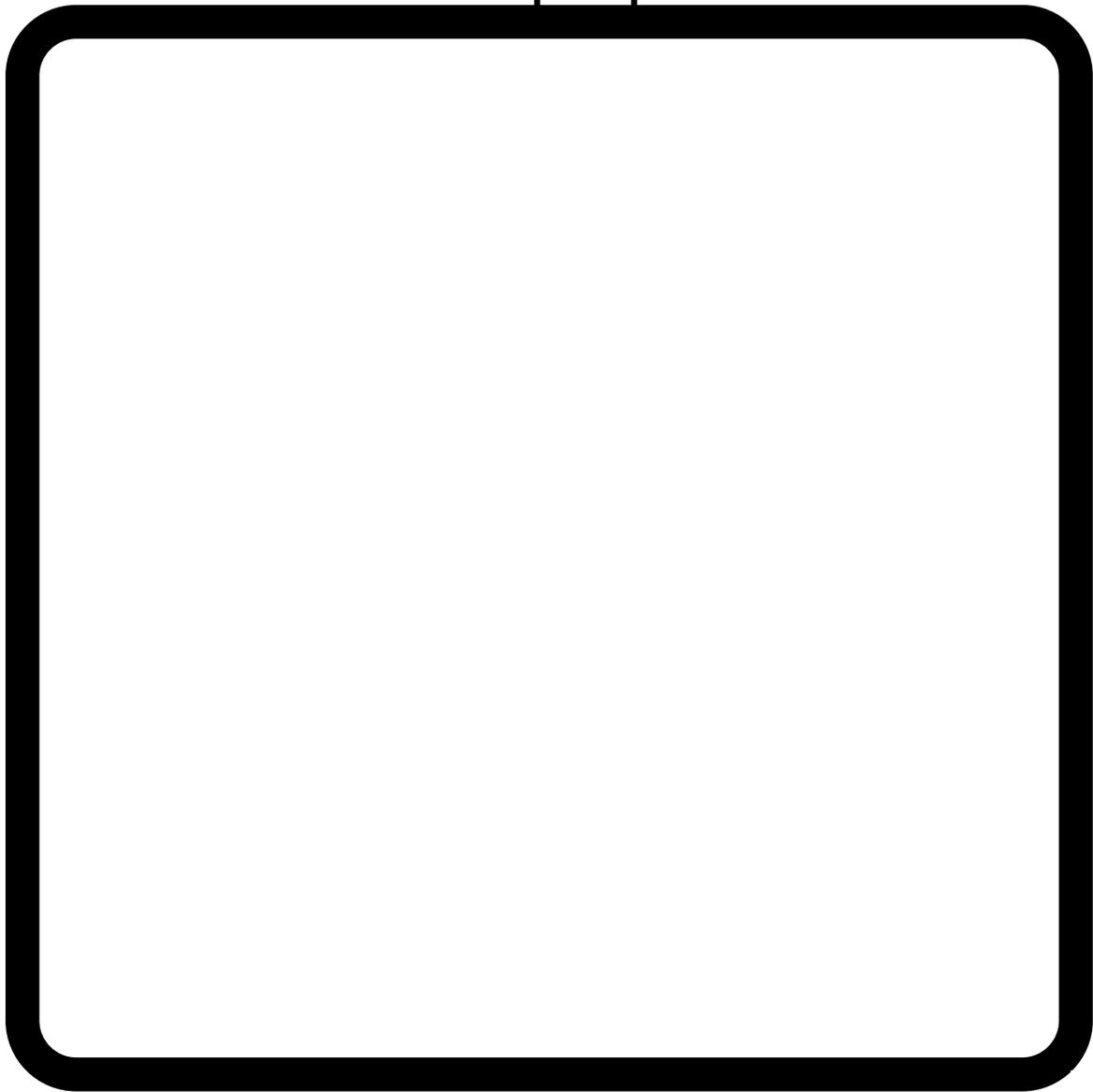
In **Fraction Forest**, one fourth of the trees are pine trees and  $\frac{3}{4}$  of the trees are maple trees. Design how the forest might look. Use numbers to show how you represented the different types of trees. How many of each type could there be? How many trees are in the forest? Show your thinking below.



# TRAIL POST 6

**Quadrilateral Quarters:** The campsite area consists of 4 different quadrilaterals that represent the campgrounds, bathrooms, parking lot, and picnic area. Determine which quadrilateral you would like to represent each of the campsite areas on the map. How might you organize the quadrilaterals on the map in at least 2 groups with similar attributes? Describe below the attributes you used to sort and organize the campsite areas on the map.

## Camp Map



# TRAIL POST 7



## Back to Base Camp!

Whew! What a hike! It's getting close to Chow Time and you and your friends need to get back to Base Camp! Help the campers cross the stream and get back to camp!

You and four of your friends decided to hike the Math Trail. You decide to head back to base camp but have to safely cross a stream. You and your friends noticed that there are five different paths that you can use to cross the river. You each decide to take a different path.

Each path has 3 stepping stones that campers can use to get to the other side. The distance between each side of the river is equal for all the paths.

As you get ready, you notice that the paint on some of the stepping stones has worn off. In order to cross the stream and get back to camp, you have to determine what the missing fractions could be on the stepping stones. Write your solutions on each of the empty stepping stones and help the campers get back to camp!

Remember to show your thinking using visuals.



# TRAIL POST 7

If you and your friends crossed the stream at the same time, each on a different path, would anyone be at the same distance crossing the river at the same time? What rocks would you be on?

Represent each stepping stone on a number lines below. Explain your thinking.

Path 1 \_\_\_\_\_

Path 2 \_\_\_\_\_

Path 3 \_\_\_\_\_

Path 4 \_\_\_\_\_

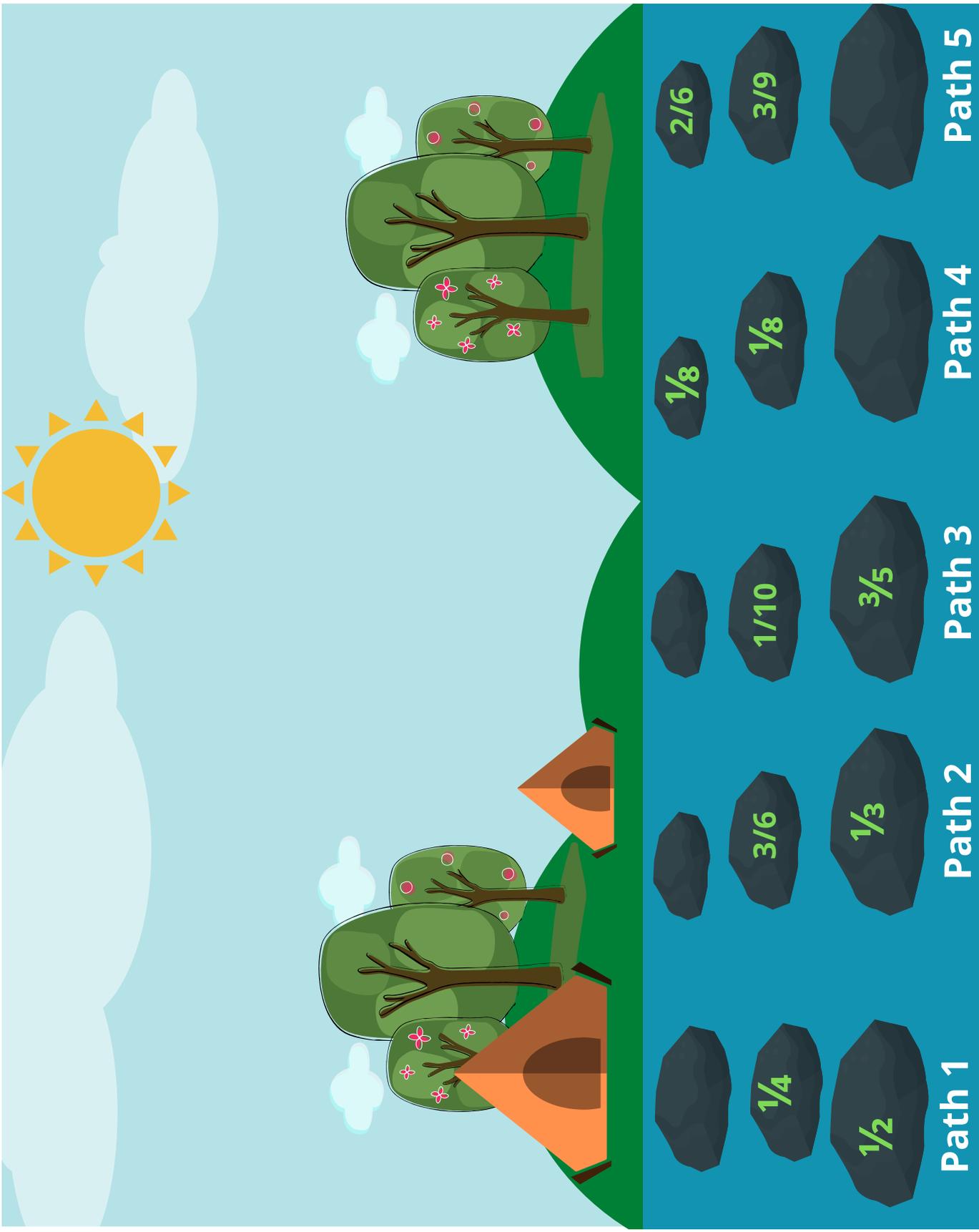
Path 5 \_\_\_\_\_

When you crossed the stream, you and your friends noticed three stepping stones with these fractions on them  $\frac{1}{4}$ ,  $\frac{1}{5}$ , and  $\frac{10}{20}$ .

Can these stones be used as a sixth path? Show your thinking with visual models and words.

Challenge: What other fractions could be used on the rocks for some of the pathways, where the distance remains the same? Explain your thinking, be sure to include the path and fractions that could be used.





Path 1

Path 2

Path 3

Path 4

Path 5

$1/2$

$1/4$

$3/6$

$1/10$

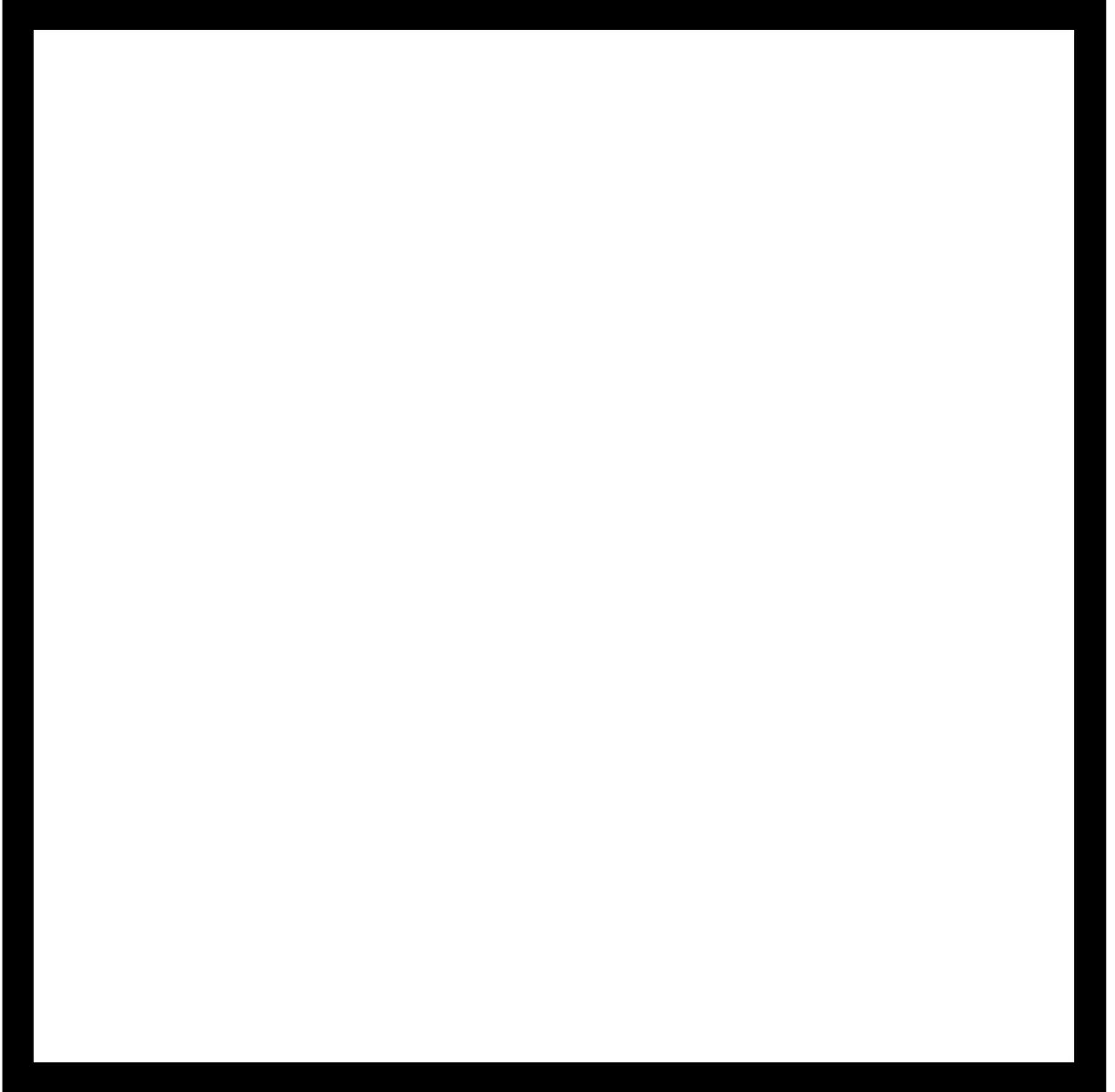
$1/8$

$3/9$

$2/6$

# CAMP BADGES

Once you have all seven badges, use each piece to fit in this box.  
Then ask your Camp Counselor for the BADGE CHALLENGE to earn your final badge!



Do you have a favorite way to display your camp badges? Arrange them here. Once you have the one you like the best, you can glue or tape it in your camp journal.



# CHALLENGE BADGE

Your Camp Counselor will give you the instructions for your Challenge Badge. Once you have earned your badge, design your own version below!

