

THE CAMPING PROJECT: REAL LIFE MATH PROJECT

Incorporate practical, real-life application of math concepts as your students embark on a hike and camping trip!

This project will reinforce:

- multi-step word problems
- symmetry
- fractions and decimals
- money
- basic operations
- graphing and data interpretation
- measurement

and more!

CREATED BY SHELLEY GRAY

ABOUT THIS RESOURCE

Are you looking for a way to reinforce essential math concepts in an engaging way that helps your students make connections? “The Camping Project” is a **real-life math project** where students will complete thirteen different tasks, each one focusing on a variety of math skills. This project will help your students see how math is used in real life.

You might choose to print specific tasks to use during Math centers, or you might make a booklet out of all of the tasks and let your students choose which one to do when. The choice is yours.

Take a look at what you'll find inside this math project:

TASK #1: CAMPING SUPPLIES

You are going on a camping trip! But first you'll need to buy some supplies. You have \$225 to spend. Decide what you will purchase.

Math Skills: addition, money

TASK #2: CAMPSITE PLANNING

Altogether there are four families coming on your camping trip! Let's figure out the best campsite for everyone.

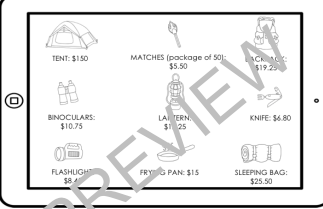
Skills: using criteria to eliminate options

TASK
#1

CAMPING SUPPLIES

You are going on a camping trip! But first you'll need to buy some supplies!

You have \$225 to spend on supplies. Decide which ones you will purchase. One of the supplies must be a tent!



Fill out the order form:

ITEM NAME	COST

TOTAL COST

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TASK
#2

CAMPSITE PLANNING

Altogether there are four families coming on your camping trip! Let's figure out the best campsite for everyone.

THE CAMPSITES

SITE #1	SITE #2	SITE #3	SITE #4
<ul style="list-style-type: none"> • 20 meters long • no fire pit • all grass site • no pits allowed • no electrical services 	<ul style="list-style-type: none"> • 10 meters long • large fire pit • part gravel and part grass site • no pits allowed • electrical service included 	<ul style="list-style-type: none"> • 20 meters long • large fire pit • part gravel and part grass site • pit-friendly • electrical service included 	<ul style="list-style-type: none"> • 25 meters long • small fire pit • all grass site • no pits allowed • electrical service included

THE CLUES

- The Smiths will be camping in a camper that is about 15 meters long.
- The Andersons will be bringing their pit chihuahua with them.
- The Watsons need to have electrical service to run their heater at night (Mr. Watson gets cold @ night!)
- The Smiths have a generator, so they'd prefer a campsite with no electrical service.
- The Taylors want some gravel in their site to set up their dining tent.

Which site should each family use?

	Site #1	Site #2	Site #3	Site #4
The Smiths				
The Taylors				
The Andersons				
The Watsons				

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TASK #7: TIME TO BBQ!

What better way to end a full day at the beach than with a BBQ!

Solve each problem and show your thinking.

Math Skills: multiplication, division, addition, subtraction, elapsed time multi-step word problems

TASK #7 TIME TO BBQ!
What better way to end a full day at the beach than with a BBQ? Solve each problem and show your thinking.

The box of hamburgers weighs 3 kilograms. If each hamburger patty weighs 100 grams, how many patties are in the box? (Remember: there are 1000 grams in 1 kilogram.)
Show your thinking

You're in charge of making the lemonade. One pitcher holds 1.5 quarts. How many cups will it fill up?
Show your thinking

Fresh watermelon is for dessert! One whole watermelon can be cut into 12 slices. There are 8 people at the picnic, and you need enough for everyone to have 2 slices each. How many watermelons do you need?
Show your thinking

How long will it take to cook 20 cobs of corn if it takes 10 minutes to cook each one and 5 minutes to pre-heat the grill?
Show your thinking

A cooler full of ice keeps all of the drinks cold. 1 bag of ice lasts for 4 hours. If you want to keep drinks cold for 24 hours, how many bags of ice will you need in all?
Show your thinking

Uncle Larry started his barbecue at 4:45 pm and finished at 5:57 pm. For how long did he barbecue in all?
Show your thinking

Uncle Larry says that his specialty BBQ sauce is SO good that he buys it by the case. There are 600 milliliters in one bottle, and there are 8 bottles in a case. How many milliliters of BBQ sauce does he get in one case?
Show your thinking

TASK #8: TIME FOR GAMES

There are lots of outdoor games to play while you are camping. You and a few of the others set up two different games to play.

Math Skills: graphing and data interpretation, addition, subtraction

TASK #8 TIME FOR GAMES
There are lots of outdoor games to play while you are camping. You and a few of the others set up two different games to play.

First up – the bean bag toss! In this game, there are three different ways to get points:

- Bean bag goes in the hole: **10 points**
- Bean bag lands on the platform, but doesn't go in the hole: **5 points**
- Bean bag touches the platform but lands on the ground: **2 points**

The four teams play an intense round! Here are the results:

TEAM NAME	2 point shots	5 point shots	10 point shots
Team A			
Team B			
Team C			
Team D			

Use the table chart to answer the questions:

1. Which team won the bean bag toss?
2. How many more points did the 2nd place team get than the 4th place team?
3. What are two different ways that a team could get 100 points?

The second game that you set up is the ring toss. For every ring that lands on a bottle, the team gets 8 points.

This picture graph shows the results from the ring toss game:

TEAM NAME	Number of Rings on Bottles
Team A	○○○○○○○○
Team B	○○○○○○
Team C	○○○○○○○○○○○○○○
Team D	○○○○○○○○○○○○○○○○○○○○

Use the chart to answer the questions:

1. How many points did each team get?
Team A: _____
Team B: _____
Team C: _____
Team D: _____
2. How many points did Team A and Team C get in all?
3. How many more points did Team D get than Team A? How did you figure this out?

TASK #9: CANOE AND PADDLEBOAT RENTALS

It's a beautiful day so you decide to go to the canoe and paddleboat shop to see what's available! Let's find the total cost for each family.

Math Skills: money, multiplication, addition, comparing

TASK #9 CANOE AND PADDLEBOAT RENTALS
It's a beautiful day so you decide to go to the canoe and paddleboat shop to see what's available! Let's find the total cost for each family.

Carl's Canoe and Paddleboat Shop: Price List

Small canoe rental - \$5 for 30 minutes	Small paddleboat rental (1-2 people) - \$3 for 30 minutes
Large canoe rental - \$8 for 30 minutes	Large paddleboat rental (3-4 people) - \$5 for 30 minutes
Lifepacket rental - \$3	Guided paddleboat tour (1 hour) - \$10

All four families have decided to explore the water today. Find each family's total cost.

Family	Items	Total Cost
Smith	Guided paddleboat tour for 4 people \$10 4 lifepackets \$12	\$22
Taylor	Small canoe rental for 1 hour \$15 Large paddleboat rental for 30 minutes \$5 4 lifepackets \$12	\$32
Anderson	Large canoe rental for 30 minutes \$8 5 lifepackets \$15	\$23
Watts	Guided paddleboat tour for 1 hour \$10 5 lifepackets \$15	\$25

Carl needs to start advertising to bring more business to his canoe and paddleboat shop. Can you help him design a poster?

TASK #10: GOING FOR ICE CREAM

After the hike you're starving! Let's go to the campground ice cream shop! First we'll take a look at a few customer orders, then we'll figure out the total for our extra-large order!

Math Skills: money, addition, subtraction

TASK #10 GOING FOR ICE CREAM
After the hike you're starving! Let's go to the campground ice cream shop!

When your group arrives at the ice cream shop, your Uncle Doug says buying the ice cream for EVERYONE! How generous! First you take a look at the menu.

Campground Ice Cream Shop <i>The best ice cream around on your money!</i>		Flavor
Single Scoop (regular cone)	\$2.25	Vanilla Chocolate Rocky Road Cookie Dough
Double Scoop (regular cone)	\$3.50	
Triple Scoop (regular cone)	\$4.75	
Waffle Cone	add an extra \$1 to the price	

While you decide what you want, the employees at the ice cream shop are quick and get all 18 of your ice cream cones done right away! Now it's time to figure out the total amount for all of it! The server fills out this order form:

ORDER FORM			
Quantity	Type of Cone	Cost per Cone	Total Cost
3	single scoop chocolate (regular cone)		
2	single scoop chocolate (waffle cone)		
1	triple scoop cookie dough (waffle cone)		
4	double scoop chocolate (waffle cone)		
5	single scoop vanilla (regular cone)		
1	triple scoop vanilla (regular cone)		
2	double scoop rocky road (waffle cone)		
TOTAL COST OF ALL CONES			

Uncle Doug pays with a \$100 bill. How much change will he get back?

TASK #11: GOING FOR A HIKE

The campground has a popular hiking trail. Everyone decides to go on a group hike. Use the map to answer the questions.

Math Skills: measurement, addition, subtraction, elapsed time

TASK #11 GOING FOR A HIKE
The campground has a popular hiking trail. Everyone decides to go on a group hike.

First of all, you'll need a map.

CARL'S CAMPGROUND HIKING MAP
We hope you're enjoying your stay at Carl's Campground! Our hiking trail is one of the most trails around! Here is a handy dandy map with distances included. Enjoy your hike!

Use the map to answer the questions:

- The group starts at Point A. If they take Goldfinch Trail all the way around and back to Point A, how many meters will they have walked?
- If it takes 11 minutes to walk 800 meters, how long will it take them to trail?
- One of the girls hurt her leg and it is takes TWICE the amount of time to walk the trail. How long will it take her to walk around the entire trail?
If she begins walking at 1:10 pm, at what time will she finish walking the trail?
- A couple of the group members decide to take the Bluebird Trail shortcut. How many meters is it from Point A to B, to E, and then back to A?

THINK FAST!
A runner can travel the trail at a pace of 300 meters/minute. How long will it take for someone to run all the way around Goldfinch Trail?

TASK #12: NATURE WALK

As you walk through the trails, you notice that so many things in nature are symmetrical. Circle the items that are symmetrical and draw the line of symmetry for each. Then interpret the leaf collection data.

Math Skills: symmetry, multiplication, addition, subtraction, graphing and data interpretation

TASK #12 NATURE WALK
As you walk through the trails, you notice that so many things in nature are symmetrical. Circle the items that are symmetrical and draw the line of symmetry for each.

Can you think of three other things that are symmetrical? Draw them!

While you're walking, you and a couple of the others collect some leaves. Back at the campsite, you sort the leaves and figure out how many you collected. The picture graph below shows how many leaves you collected.

TYPE OF LEAF	HOW MANY? (EACH PICTURE REPRESENTS 6 LEAVES)

Use the picture graph to answer the questions.

How many of each?

How many more than were collected? _____

Altogether, how many and were collected? _____

Altogether, how many and were collected? _____

Altogether, how many and were collected? _____

How many leaves were collected in all? Show two different ways that you could figure this out.

TASK #13: TIME TO PACK UP

It's been an amazing camping trip, but now it's time to pack up and go home. Let's figure out how long it will take to pack up and get home.

Math Skills: addition, elapsed time, problem-solving

TASK #13		TIME TO PACK UP!
It's been an amazing camping trip, but now it's time to pack up and go home.		
Here is a list of what you need to do to pack up:		
Task	How long will it take?	In all, how many minutes will it take to pack up?
Take everything out of the tent	25 minutes	
Take down the tent	5 minutes	
Pack up food	8 minutes	
Load the vehicle	28 minutes	
If you need to be out of the campsite by 2:00 p.m., at what time should you start packing up?		
The drive home takes 120 minutes. Your car is travelling 100 kilometers per hour. About how many kilometers did you drive to get home?		
This weekend was so much fun and you can't wait until the next camping trip! Your dad tells you that in exactly 4 weeks you'll be going camping again! How many days will you have to wait?		
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ANSWER KEYS ARE PROVIDED TO MAKE SELF-CHECKING EASY!

WAYS TO USE MATH PROJECTS IN YOUR CLASSROOM:

Math projects are an ideal way to consolidate learning. I recommend using them as an engaging activity AFTER skills have been learned rather than during learning. You will likely find that engagement is very high and that your students ask to do more of these!

There are many ways to use math projects in your classroom. Some of the most popular are:

- a small-group or pairs activity
- a guided math activity to allow you to see where your students are struggling
- a fun, rewarding way to engage your early finishers
- a low-prep, easy-to-implement activity for a substitute teacher

Enjoy!

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