

REAL LIFE MATH FOR GRADES 3-4

RUN A BABYSITTING BUSINESS:

BASIC OPERATIONS • MONEY • TIME • GRAPHING • AND MORE

In this high-interest math project, students will work with the different aspects of running a babysitting business! A variety of skills are incorporated:

- **time**
 - **money**
 - **graphing and data interpretation**
 - **addition and subtraction**
 - **arrays**
 - **place value**
- and more!**



CREATED BY SHELLEY GRAY

ABOUT THIS RESOURCE

Are you looking for a way to reinforce essential math skills in an engaging way that helps your students make connections? "Run a Babysitting Business" is a **real-life math project** where students will complete eleven different tasks, each one focusing on math in a real-life context. This project will help your students see how these concepts are 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: YOUR FIRST JOB!

You are finally old enough to start babysitting and can't wait to start earning money. But first there are some things to think about. In this activity you'll brainstorm a list of do's and don'ts.

TASK #2: PLANNING YOUR TOOL KIT

You're going to put together a "babysitting tool kit." This will be a bag of toys and craft supplies to take along with you to babysitting jobs. Figure out some different options for what you can buy.

Skills: money, addition

TASK #1 YOUR FIRST JOB!	
You are finally old enough to start babysitting and can't wait to start earning money. But first there are some things to think about.	
The families in your area have a lot of babysitters to choose from. You want to go over and above their expectations so you stand out from all the other babysitters. You make a list of do's and don'ts.	
BABYSITTING DO'S (What should I do to make myself different from the other babysitters?)	BABYSITTING DON'TS (What should I <u>not</u> do as a babysitter?)

TASK #2 PLANNING YOUR TOOL KIT													
You're going to put together a "babysitting tool kit." This will be a bag of toys and craft supplies to take along with you to babysitting jobs.													
You will spend \$25 on toys for your tool kit. You look online for some options:													
<table border="1"><tr><td>TOY PLANO \$10.00</td><td>JUMP ROPE \$2.00</td></tr><tr><td>MODELING CLAY \$5.00</td><td>BOARD GAME \$8.00</td></tr><tr><td>HULA HOOP \$5.00</td><td>BALL \$3.75</td></tr></table>	TOY PLANO \$10.00	JUMP ROPE \$2.00	MODELING CLAY \$5.00	BOARD GAME \$8.00	HULA HOOP \$5.00	BALL \$3.75	<table border="1"><tr><td>ACTION FIGURE \$5.75</td><td>BUBBLES \$5.00</td></tr><tr><td>TRAIN SET \$7.00</td><td>SCIENCE KIT \$6.25</td></tr><tr><td>TOY TRUCK \$3.00</td><td>DOLL \$1.50</td></tr></table>	ACTION FIGURE \$5.75	BUBBLES \$5.00	TRAIN SET \$7.00	SCIENCE KIT \$6.25	TOY TRUCK \$3.00	DOLL \$1.50
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Figure out two different options for what you could buy. Keep each total under \$25.													
OPTION #1 TOTAL: _____	OPTION #2 TOTAL: _____												

Next is craft supplies. You know that kids love to make crafts, so you'll take some supplies with you in your babysitting tool kit. You have \$20 to spend on craft supplies.											
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If you buy with \$20? Let two different options.											
OPTION #1 TOTAL: _____	OPTION #2 TOTAL: _____										
Which option will you choose?											

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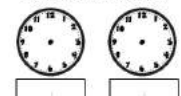
TASK #3: HIRED – THE DUNCAN FAMILY

You were just offered your first babysitting job! The Duncan family has three children and have hired you for Friday evening. In this activity you'll work with the different aspects of your job at the Duncan house.

Skills: time, elapsed time, problem-solving, time on a number line

TASK #3 HIRED – THE DUNCAN FAMILY
 You were just offered your first babysitting job! The Duncan family has three kids and have hired you for Friday evening.


Mrs. Duncan has asked you to babysit! From 5:00 pm to 8:25 pm on Friday evening.

Show the start time and end time: 

Altogether, how many hours and minutes will you spend babysitting at the Duncan's?

 + 5:00 am

The Duncan family has three children: Samuel (age 2), Nate (age 10), and Amelia (age 7). The clocks below show each child's bedtime. Write each time.



How much later is Amelia's bedtime than Samuel's?

Nate goes to bed on time, but it takes him 20 minutes to fall asleep. At what time does he fall asleep?

What is the difference in minutes between Samuel and Nate's bedtime?

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of babysitting went great! Now that the kids are in bed, you make a lot of things to long each one will take you. You want to exceed the Duncan's expectations! Before get home, you will:

- Wipe dishes (5 minutes)
- Wash the toys (10 minutes)
- Living room (5 minutes)
- Thank you note to the kids for being so well behaved (5 minutes)

When will you do these tasks? If it is 8:30 pm right now, will you have time to do before the Duncans get home? Fill in the spaces below.

TASK	START TIME	END TIME
	8:30 pm	

When will you finish all four tasks from your to-do list?

Did you think they'd be home at 8:25 pm, but they arrive home 15 minutes earlier than that time is it when they arrive home? Use the number line to help figure this out.

8:25 pm

When the Duncans arrive home, they are thrilled with how clean the house is, and say they're being very helpful! Mrs. Duncan hands you some bills and coins that equal \$10. Different combinations of bills and coins that equal \$10.

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TASK #4: MANAGING YOUR MONEY

Now that you've been babysitting for a few months, you decide to make a plan for the money that you are earning. In this activity you'll work with your saving, spending, and giving jars.

Skills: money, addition or multiplication, problem-solving

TASK #4 MANAGING YOUR MONEY
 Now that you've been babysitting for a few months, you decide to make a plan for the money that you are earning.

You know that it's important to manage your earnings in a smart way, so you set up three different jars - saving, spending, and giving. Here is what you have in each jar.

JAR	WHAT'S IN THE JAR?	HOW MANY?	TOTAL AMOUNT
SAVING	\$5 bills	4	
	\$10 bills	2	
	\$20 bills	1	
	TOTAL:		
SPENDING	\$5 bills	3	
	\$10 bills	1	
	\$20 bills	2	
	TOTAL:		
GIVING	\$5 bills	1	
	\$10 bills	1	
	\$20 bills	1	
	TOTAL:		

Order the three jars from least (smallest) amount to greatest (largest) amount.

How many 20 bills do you have in all?

What is the total amount that you have in \$5 bills? Show how you figured it out.

Suppose your goal is to save \$200. How much more do you need to save?

You would like to spend your money on a new jacket. It is on sale for \$25 off the regular price of \$75. Do you have enough in your spending jar?

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TASK #5: NUMBER OF JOBS

Since you started babysitting, you've been a lot busier than you thought you would be! Word must be getting around that you are a good babysitter! Take a look at the different jobs you've had over the past six months.

Skills: picture graph, data interpretation, tally chart, representing data, problem-solving

TASK #5 NUMBER OF JOBS
 Since you started babysitting, you've been a lot busier than you thought you would be! Word must be getting around that you are a good babysitter!

This picture graph shows the number of babysitting jobs that you've had over the past six months.

Type of Babysitting Job	Number of Jobs (over the past six months) Each symbol represents 3 jobs.
Before School	
After School	
Evening	
Weekend	

How can you figure out the number of before school jobs you've had? Show two different ways.

Transfer the data from the picture graph to this tally chart:

Type of Babysitting Job	Number of Jobs (in tallies)	Write the number
Before School		
After School		
Evening		
Weekend		

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What is the number of after school jobs you have had over the past six months?

Represent the number of weekend jobs in word form.

Compare the number of after school jobs to the number of evening jobs.

Draw a picture to represent the number of weekend jobs.

You were paid \$5 for every before school job and \$5 for every after school job. You made \$30 working job and \$35 for a weekend job. How much money have you made over the past six months?

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TASK #6: BAKING WITH KIDS

One thing is for certain – the kids that you babysit LOVE to bake! In this activity you'll work with a recipe that everyone loves – your peanut butter cookies.

Skills: simple fractions, addition or multiplication, problem-solving

TASK #6 BAKING WITH KIDS
One thing is for certain – the kids that you babysit LOVE to bake!

Your signature recipe is your peanut butter cookies. For each batch you need 1 cup of peanut butter, 1 egg and $\frac{1}{2}$ cup sugar.

The Smith kids love these cookies, so you decide to make a double batch. Write down the amount of each ingredient that you will need for a double batch.

_____ peanut butter
_____ eggs
_____ sugar























Usually you get about 2 dozen cookies with one batch. How many cookies should you expect to get with two batches?

The youngest Smith child wants to add the sugar, but she insists on using a $\frac{1}{2}$ measuring cup. You know better than to argue with a 3-year-old! How many $\frac{1}{2}$ cups of sugar will she have to put in the bowl in order to get the correct amount? Draw a picture or diagram to show your work.

She had so much fun with the sugar that now she wants to use a $\frac{1}{3}$ measuring cup to add the peanut butter! How many $\frac{1}{3}$ cups of peanut butter will she need to add to get the correct amount? Draw a picture or diagram to show your work.

Now that he has a better strategy for finding the number of dots in an array, he does the rest of his homework. Show what his answers should be:

Show two different ways that you could figure out the total number of dots in each array:



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TASK #7: HOMEWORK HELP

When you get to the Larson house on Saturday, you find the kids busy doing their homework. Your task is to help the Larson kids with their array and left-to-right addition homework.

Skills: arrays (using repeated addition or multiplication), left-to-right addition


TASK #7 HOMEWORK HELP
When you get to the Larson house on Saturday, you find the kids busy doing their homework.

Maddy is working on left-to-right addition for the question $324+155$. She is frustrated and does not understand how to do it. How will you explain it to her?

Now that she understands, she solves some more questions using left-to-right addition. Show what her answers should be:

$234+248=$ _____ $407+190=$ _____ $84+12=$ _____
 $72+48=$ _____ $56+67=$ _____ $104+51=$ _____
 $572+125=$ _____ $155+255=$ _____ $653+102=$ _____

Carlos is working on an activity with arrays. You take a look at what he has written:



"To find the number of dots in this array, I count up by 1's – 1, 2, 3, 4, 5, 6...all the way to 12!"

You say to Carlos, "That way of counting will work, but I have a better way for you!" What do you tell Carlos?

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TASK #8: MOVIE NIGHT

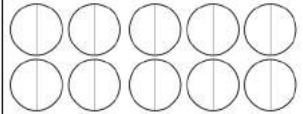
Another activity that the kids love is movie night. The Baxter kids can't wait for this and you are going to make it extra special for them!

Skills: time, problem-solving, halves, skip-counting

TASK #8 MOVIE NIGHT!
Another activity that the kids love is movie night. The Baxter kids can't wait for this and you are going to make it extra special for them!

The movie that you will watch is 85 minutes long. To get them to bed on time, you'll need to finish the movie by 7:30 pm. At what time should you begin the movie?

Movie nights with the Baxter kids are great because the family has a REAL popcorn machine! It can pop two and a half cups of popcorn every 30 seconds. If you need 10 cups of popcorn altogether, how long will it take to pop it?



The youngest Baxter kid has a lot of energy! He can only sit still for 12 minutes before he's up and running around! This makes it tricky to watch a movie. If the movie is 85 minutes long, and he's up every 12 minutes, how many times will you have to settle him back down throughout the movie?

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TASK #9: DRESS-UP

Another thing you've discovered is that almost every kid you babysit loves to dress up in costumes! In this activity you'll figure out part of the game that you're playing with the Livingston kids.

Skills: place value, addition, expanded form

TASK #9 DRESS-UP
Another thing you've discovered is that almost every kid you babysit loves to dress up in costumes!

The Livingston family has two kids that LOVE to play dress-up! Today you've brought along a couple of pirate costumes and are pretending that you are on a...

(Use the clues from the next page to complete the picture.)

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

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TASK #9 DRESS-UP

CLUES:

6+6	2 groups of 7
20+8	40+3
5 tens and 2 ones	2 tens and 3 ones
9+9	6 groups of 6
71 less than 30	20+9
20 less than 78	12+12+12
30+5	5 groups of 10 and 4 ones
3 tens and 26 ones	5+5+5
3+3+3+3	30+7
9+9+9+9	4 tens and 6 ones
5+5+5+5	30+7
53 less than 100	

RIGHT BLUE:

half of 100	997 less than 1000
88-77	5+5+5+5
3 groups of 10	6 tens and 5 ones
199 less than 200	20+20+20+10
5 tens and 9 ones	2 groups of 4
2 tens and 22 ones	33+33
8+20	4 groups of 10
2+2+2+2+2	
6 ones	

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TASK #10: MEAL IDEAS

It seems like the only meal that kids will eat is grilled cheese sandwiches! You decide to do a survey to figure out some other meal options that kids like.

Skills: bar graph, data interpretation and comparison

TASK #10 MEAL IDEAS
It seems like the only meal that kids will eat is grilled cheese sandwiches!

You survey the young kids in your school to try to get some other meal ideas.

MOST PREFERRED MEAL OF 5-7 YEAR OLDS

80	■	■	■	■	■
70	■	■	■	■	■
60	■	■	■	■	■
50	■	■	■	■	■
40	■	■	■	■	■
30	■	■	■	■	■
20	■	■	■	■	■
10	■	■	■	■	■
0	■	■	■	■	■
	Grilled Cheese Sandwiches	Macaroni and Cheese	Meatloaf	Spaghetti	Hot Dogs

Use the bar graph to answer the questions.

1. How many kids prefer spaghetti? _____

2. How about macaroni and cheese? _____

3. How many kids prefer spaghetti? _____

4. How many kids prefer spaghetti? _____

5. How many kids prefer spaghetti? _____

6. How many kids prefer spaghetti? _____

7. How many kids prefer spaghetti? _____

8. How many kids prefer spaghetti? _____

9. How many kids prefer spaghetti? _____

10. How many kids prefer spaghetti? _____

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TASK #11: PROBLEM SOLVING

When you are a babysitter you have to be ready to think of solutions to many problems!

Skills: elapsed time on a number line, money, problem-solving, addition

TASK #11 PROBLEM SOLVING
When you are a babysitter you have to be ready to think of solutions to many problems!

One day while babysitting, you take the kids for a short hike and a picnic in the park. It takes you 30 minutes to walk from the house to the park and you stay at the park for one hour. Then you walk back. The walk back is slower though - it takes 20 more minutes than the walk to the park. If you left the house at 10:10 am, at what time do you return?

10:10 am

When you babysit for the Andersons, you are paid \$20 for 4 hours. When you babysit for the Taylors, you are paid \$36 for 6 hours. Compare the money earned **per hour** for the two families.

You live so close to the Greenberg house that you can walk when you babysit for them. You can walk 600 steps in 10 minutes. It takes you 5 minutes to walk to the Greenbergs. How many steps will you take to get there?

How many steps does it take to get to the Greenbergs' house and back?

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ANSWER KEYS ARE INCLUDED.

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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