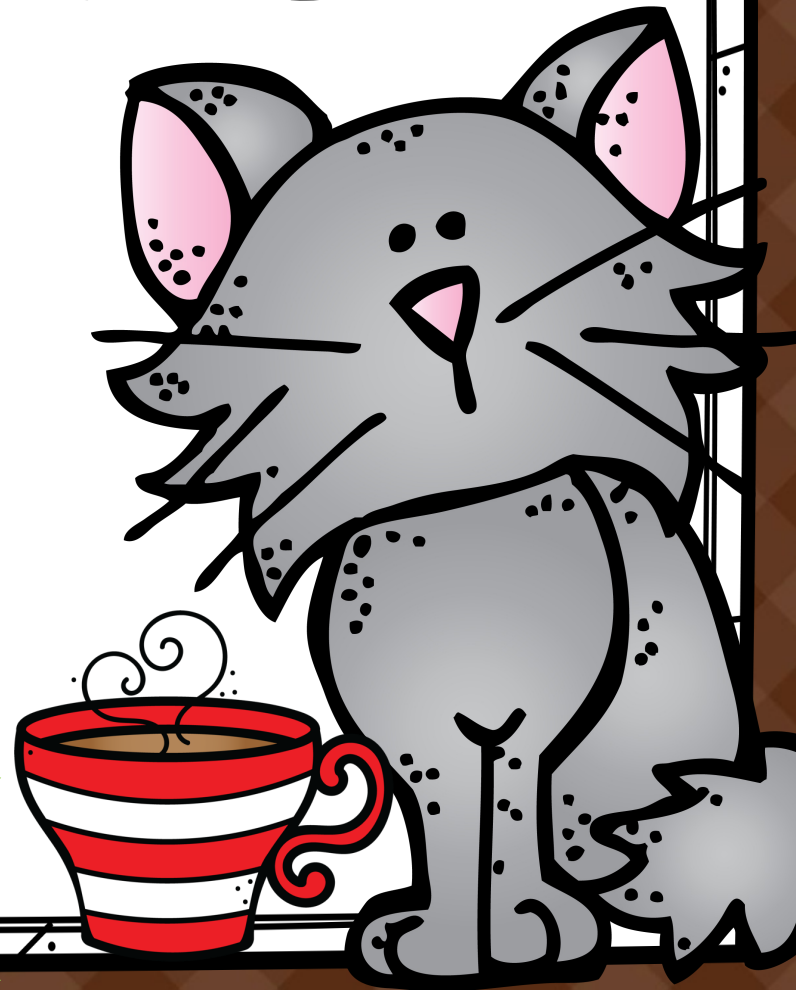


PBL ACTIVITY

PLACE VALUE

& WHOLE NUMBER OPERATIONS

A CAT-CAFÉ THEMED
PROJECT-BASED
LEARNING ACTIVITY



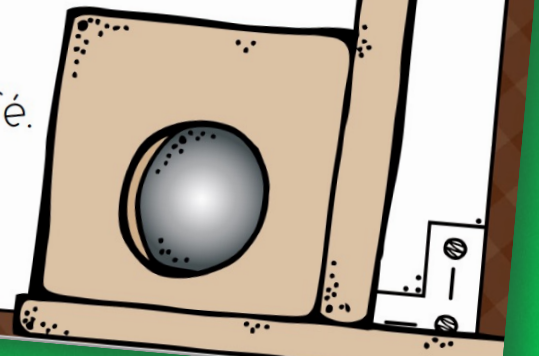
5th GRADE

CAT CAFE

You love cats... You love cafés... What better idea than to open a café where you can visit friendly cats, enjoy a beverage and a snack, and even get some work done?

You have decided to open **Paw-sitive Vibes Only Cat Café!** You need to take in and care for the cats who live at the café, but you also need to run a business! That means ordering food and supplies, taking inventory, managing daily activities, and so much more.

You can't wait to open up your new café. It's going to be A-MEOW-ZING!



Practice place value & whole number operation skills while running a cat café!

THE RESIDENTS

The Friends Fur-ever Animal Shelter was thrilled to provide enough cats to fill your new café! Use the information on the following page to determine each cat's ID number.



Name: Purrlock Holm

ID Number: _____



Name: Cleocatra

ID Number: _____



FOOD LOG

As cats come and go from the café, you must keep track of the food they eat each week. Your spreadsheet only has room for four digits. Round each food amount so that each weight only has four digits. Add decimals where needed.

WEEK 1



WEEK 3



WEEK 5

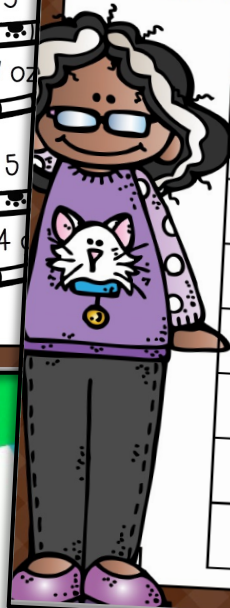


INVENTORY

You like to keep track of inventory using both exponents and standard form. Complete the weekly inventory by filling in the missing amounts on the form below.

PAW-SITIVE VIBES ONLY WEEKLY INVENTORY

ITEM	EXPONENTIAL FORM	STANDARD FORM
Salmon Treats	4×10^2	
Chicken Treats		900,000
Tuna Treats	6×10^4	
Bags of Cat Litter		80
Coffee Cups	10^3	
Napkins		2,000
Straws	5×10^1	



Have an *a-meow-zing* time with 5 different skill-based activities!

A DAY AT THE CAFE

People visit the café to work, grab a snack or drink, and of course visit with the cats! Read each scenario and draw a line to match the words with the expression.

- Aaron bought a pass that is good for 45 minutes in the café. Then, he spent 10 minutes in the café on three different days. $(45 - 3) + 10$
- There were 8 cats in the café on Monday. Four were adopted and left the café on Tuesday. Then, 2 more were adopted on Thursday. $8 - (2 \times 4)$
- Serena bought 8 mini muffins. She ate 3 muffins over 10 days in a row. $45 - (10 \times 3)$
- Liza bought 45 treats for the cats. She ate 10 treats and bought 10 more treats.

Write an expression and solve.

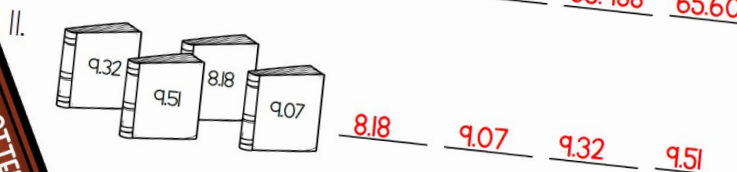
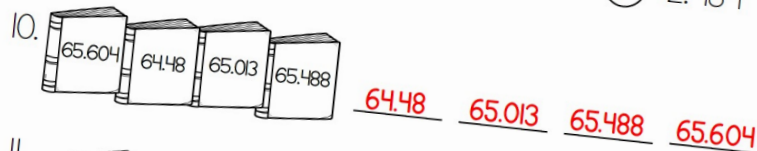
- When Gael visits, he spends 4 hours at the café each week. Write an expression that shows how much time he spends at the café in 3 weeks. $(4 \times 7) \times 3 = 84$ Gael spends 84 hours at the café in 3 weeks.

- The café started the day with 50 treats. They sold 24 treats and baked another 32 after lunch. Write an expression that shows how many treats the café has at the end of the day. $(50 - 24) + 32 = 58$

LENDING LIBRARY

You make a lending library where anyone can borrow a book to enjoy at the café. Each book is marked with a number so they can be placed in order. Compare the numbers below using the $>$, $<$, and $=$ symbols. Then, put the groups of 4 books in order from least to greatest.

- $7.442 > 7.244$
- $5.678 = 5.678$
- $1.568 < 1.865$
- $9.43 < 9.435$
- $5.245 < 6.274$
- $5.10 = 5.100$
- $4.53 > 4.058$
- $2.134 < 2.143$
- $3.987 > 2.984$



Answer keys are provided for quick & easy grading.

THE RESIDENTS

The Friends Fur-ever Animal Shelter was thrilled to provide enough cats to fill your new café! Use the information on the following page to determine each cat's ID number.



Name: Purrlock Holmes

ID Number: _____



Name: Cleocatra

ID Number: _____

THE RESIDENTS

The Friends Fur-ever Animal Shelter was thrilled to provide enough cats to fill your new café! Use the information on the following page to determine each cat's ID number.



Name: Purrlock Holmes

ID Number: _____



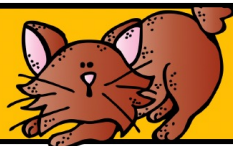
Name: Meowzar+

ID Number: _____



Name: George Pawshington

ID Number: _____



Name: Cleocatra

ID Number: _____



Name: Furcules

ID Number: _____



Name: Edgar Allan Paw

ID Number: _____

Includes a colored version as well as a black & white version.

HOW TO USE

There are a variety of ways to use this resource in the classroom:

- Use as a whole-group activity at the end of your addition, subtraction, and/or place value unit and complete the entire PBL as a review.
- Use one activity a day to begin reviewing near the end of your addition, subtraction, and/or place value unit.
- Place activities in student notebooks.
- Assign to students to complete.
- Allow students to work together.
- When using the colored paper, laminate or slide into page protectors and use a dry erase marker to complete the activity for years.
- Use during guided-math time with students.
- This resource is best used with your place value and whole number operations unit.



ABOUT THE PBL

Make teaching math the *cat's meow*. This project-based learning activity for fifth grade is *purr-fect* for reviewing math skills. Real-world-based place value and whole number operations activities engage students as they care for cats and customers at the Paw-sitive Vibes Only Cat Café.

Each of the five activities requires students to complete mathematical tasks and answer questions based on cat café-themed situations. Students will need to rely on their knowledge of place value, multiplication, division, powers of ten, comparing decimals, expressions, and more to solve math problems and interpret data. But they'll be having so much fun *kitten around*, running a successful business, and tending to their feline friends, that they won't realize they are practicing valuable math skills.

WHAT'S INSIDE:

- 5 different cat café-themed place value and whole number operations activities
- Color and black and white versions
- An answer key
- Detailed teacher directions

SKILLS COVERED:

- Multiplication and division
- Powers of tens and patterns
- Comparing decimals
- Rounding decimals
- Evaluating expressions
- Writing expressions



Includes directions for easy implementation.



THE RESIDENTS

Solve the problems to find each cat's ID number. Write the numbers on the previous page.

PURRLOCK HOLMES

$463 \times 4 =$

MEOWZART

$65 \times 72 =$

GEORGE PAWSHINGTON

$2,436 \times 12 =$

CLEOCATRA

$56 \overline{)6,832}$

A DAY AT THE CAFE

People visit the café to work, grab a snack or drink, and of course visit with the cats! Read each scenario and draw a line to match the words with the expression.

- | | |
|--|----------------------|
| 1. Aaron bought a pass that is good for 45 minutes in the café. Then, he spent 10 minutes in the café on three different days. | $(45 - 3) + 10$ |
| 2. There were 8 cats in the café on Monday. Four were adopted and left the café on Tuesday. Then, 2 more cats arrived on Thursday. | $8 - (2 \times 4)$ |
| 3. Serena bought 8 mini muffins. She ate 2 mini muffins 4 days in a row. | $45 - (10 \times 3)$ |
| 4. Liza bought 45 treats for the cats. One cat ate 3 treats. Then, Liza bought 10 more treats. | $(8 - 4) + 2$ |

Write an expression and solve the problems below.

- When Gael visits, he spends 4 hours working and one hour playing with the cats. He does this 3 days a week. Write an expression that represents the total hours he spends at the café each week.
- The café started the day with 50 freshly baked cookies! They sold 24 before lunch, then baked another 32 after lunch. Write an expression that represents the remaining cookies.



Engaging standards-based math activities that your students will love!