Dear Student,

Use this packet to help you practice what you learned during Grade 3.

The first 9 pages review concepts and include some questions. The Practice pages (Practice 1 - Practice 12) should be done once or twice a week. If you spread it out over the summer, you will stay sharp.

There are 3 journal pages. Spread them out over the summer! Write one in July, one in August, and one right before we return to school.

Here are some **math** things you should know when you start Grade 4.

- $\hfill\square$ How to round to the nearest ten and the nearest hundred
- □ Strategies for adding and subtracting three-digit numbers
- □ Your multiplication facts for the numbers 1-10 (even better, 1-12)
- □ Strategies for multiplying
- □ Strategies for dividing
- $\hfill\square$ How to use fractions to describe equal parts of a whole or group

Here are some writing things you should know when you start Grade 4.

- □ How to write a complete sentence with a subject and a predicate
- \Box How to indent a paragraph
- \Box How to use sequence and transition words
- □ How to use adjectives and adverbs to make your writing more interesting
- □ How to use dialogue

Here are some **life** things you should try to do this summer:

- □ Clean your room at least once without a grownup helping you or telling you to do it.
- \Box Help clean the dishes
- \Box Help with the laundry
- □ Make a meal for yourself and someone else (sandwiches count!) and then clean up
- $\hfill\square$ Get outside whenever you can
- $\hfill\square$ Write a letter to someone
- □ Plan a subway trip to someplace cool in NYC

Fun Fact: Did you know insects have six legs, and spiders have eight legs? Spiders need the extra two legs: one is for picking their nose, the other is for holding a milkshake. Who knew!

Rounding

Rounding Numbers A rounded number has about the same value as the starting number, but it is less exact.				
Find y Look 5 or greater,	Find your place Look next door 5 or greater, add one more			
Round to the nearest ten	Round to the nearest hundred			
5 <mark>4</mark> → 50	415 → 400			
55 → 60	9 <mark>5</mark> 0 → 1000			
31 3 → 310	7261 → 7300			
549 → 550	72 2 1 → 7200			
122 1 → 1220	36430 → 36400			

Round each number. The first three are examples of what you should do.

Starting Number	Rounded to nearest ten	Rounded to nearest hundred
18	20	0
247	250	200
472	470	500
452		
88		
703		
155		
936		

Fun Fact: Did you know owls can rotate their heads almost all the way around? People can't do this, but some people **can** rotate their teeth all the way around! Pretty cool!

Addition

You have learned strategies for adding three digit numbers.

For example, the **break apart method** is when you break numbers up into place value.



783

30

779

749

You also learned the **number line** strategy.

Solve these addition problems:

217 + 432 =	389 + 466 =
543 + 209 =	122 + 399 =

The **associative property** says you can add numbers in any order and get the same sum.

Is there a way to add these numbers to make the problem easier?

26 + 45 + 174 =	22 + 137 + 58 =
123 + 48 + 27 =	19 + 323 + 11 =

Fun Fact: Did you know owls can rotate their heads almost all the way around? People can't do this, but some people **can** rotate their teeth all the way around! Pretty cool!



Subtraction

The break apart strategy for subtraction can help you with problems that have **regrouping.**

In this problem you take ten from 70 and give it to the ones place.



Use a **number line** to help you jump backwards to find the difference between two numbers. In this example, you start at 585 then jump back 368 which leaves you at 217.

Solve these subtraction problems. **Remember! Sometimes stacking is not the** easiest way, especially if you have to regroup with zeros!

202 - 149 =	738 - 519 =
476 - 266 =	501 - 274 =

735 - 415 =	82 - 59 =

Multiplication

Multiplication is **repeated addition**.

So, 7×9 is the same as seven groups of nine which is the same as: 9+9+9+9+9+9+9+9 (that's the number 9 added seven times)

The **commutative property of multiplication** says that you can multiply numbers in any order and get the same **product** (the product is the answer to a multiplication problem, and the numbers you multiply are **factors**). So:

You should practice your multiplication facts

Solve these problems:

6 x 6 =	7 x 9 =	11 x 10 =	3 x 8 =
3 x 6 =	2 x 12 =	7 x 7 =	8 x 8 =
4 x 6 =	1 x 0 =	213 x 1 =	12 x 6 =
4 x 8 =	9 x 9 =	2 x 8 =	3 x 7 =

Would you rather live in a haunted house **OR** be the ghost that haunts a house?

Division

Ok, deep breath. You got this.

If multiplication is repeated addition, division is kind of like repeated subtraction.

When you multiply, you add up equal groups and get a bigger number.

In division, you have a bigger number that you are trying to break up into smaller equal groups.

For example, if I have 12 cookies that I want to pass out to three friends, I give each friend one cookie at a time until I have none left.





The circles are the friends, I've given each friend one cookie, so I have nine cookies left.

Now I have dealt out all the cookies, there are none left. 12 cookies divided among three friends means each friend gets four cookies. So:

 $12 \div 3 = 4$



Your multiplication facts!

Fun Fact: Did you know that division was invented by the same person who invented the cookie pizza? They were so talented!

Division Practice:

You have square tiles you are putting into equal groups. Use this table to show many are in each group **OR** how many groups there are, then write the division equation. The first two are examples.

Number of Tiles	Number in Each Group	How Many Groups?	Division Equation
20	5	4	20 ÷ 4 = 5
24	8	3	24 ÷ 3 = 8
18	9		
14	2		
28		4	
16		4	
32	8		

Would you rather see what our planet looks like a million years from now, or what it looked like a million years in the past? I hope the WiFi will be good in a million years, because it was pretty bad a million years ago!

Fractions



Everything you need to know about fractions is right here. Good luck!

But seriously, fractions are equal parts.



Fun Fact: Did you know that boogers are the stickiest substance on Earth? NASA uses boogers to glue the space shuttle together! That might not actually be true, but maybe it is! Who knows! Hopefully someone at NASA.

Word Problems

Word problems will haunt you for the rest of your life. No sense getting upset about it, especially when there are some strategies to help you make sense of them.

- \Box Read the problem all the way through.
- □ Read it again!
- □ Underline the important parts
- □ Ask yourself: is there more than one step to this problem?
- □ Make a model (draw a picture)

Ms. Dissal is having a party. She has invited 8 guests. Each guest must bring 5 types of dip. How many dips will her guests bring?

Ms. Dissal is riding a roller coaster. There are 8 cars, and each car has four rows. Each row has 2 seats. How many seats are on the roller coaster?

Ms. Dissal is applying to medical school. She is choosing between 2 schools. One school has 7 classes with 9 students in each class. The other school has 6 classes with 10 students in each class. Which school has more students? How many more?

What do you think the Tooth Fairy does with all those teeth? I think they turn the teeth into dentures and sell them back to people. Seems like a scam to me! What would you do with all the teeth if you were the Tooth Fairy? I'd give them away to birds, who have no teeth!

Round the distances to the nearest hundred and ten.

		Nearest Hundred	Nearest Ten
1.	628 miles	miles	miles
2.	704 miles	miles	miles
3.	58 miles	miles	miles



Practice 2:

Attendance				
Game	Adults Children			
Game 1	235	324		
Game 2	257	399		
Game 3	189	404		
Game 4	477	398		
Game 5	317	197		

- 1. Which game did the fewest people attend? _____
- 2. Which game did about 650 people attend? _____
- **3.** Which game did the most people attend? ______

Estimate. Then find the sum.



Fun Fact: Orange juice does not come from oranges, it actually comes from orange cows! Which means it is not dairy-free. Sad trombone!

Practice 3:

9. 3	10. 6	11. 7	12. 1
× 9	<u>× 4</u>	<u>× 3</u>	<u>× 6</u>
13. 10	14. 3	15. 6	16. 4
<u>× 6</u>	<u>× 6</u>	<u>× 7</u>	<u>× 3</u>



1. 4 sisters share 3 pies equally. **2.** 6 friends share 3 fruit bars equally.



Find the unknown factor:



UnfunFact: Some people get really upset when you tell them a fun fact. That's ok, though, what is fun for some might not be fun for all!

Practice 4:

Estimate. Then find the difference.

1. Estimate:	_ 2. Estimate:	3. Est	timate: •	4. Estimate:
537	268	3	426	785
<u>- 123</u>	<u>- 157</u>	7 <u> </u>	218	- 549
9. 10	10. 7	11. 7	12. 7	13. 9
<u>× 7</u>	<u>× 8</u>	<u>× 0</u>	<u>× 3</u>	<u>× 7</u>
14. 6	15. 7	16. 1	17. 7	18. 4
<u>× 7</u>	_× 5	<u>× 7</u>	<u>× 7</u>	<u>× 7</u>

Circle groups of 3 to find the quotient.



Practice 5:

Use the Favorite Ice Pop Flavor picture graph for 1–4.



Word Problem:

Stewart collected 842 used tires to recycle. Angel collected 529 used tires. How many fewer tires did Angel collect than Stewart?

Practice 6:

Picture-Perfect Pizza

Harrison surveyed 26 students about their favorite pizza topping. Complete the table at the right.

Key:	

Favorite Pizza Topping				
Pizza Topping	Number of Students			
Pepperoni				
Sausage	5			
Mushrooms	6			
Olives	7			

Find the unknown factor and quotient.



Word Problem:

Tim and Alex collected aluminum cans for recycling. Tim collected a total of 942 cans. Alex collected 327 cans. How many fewer cans did Alex collect than Tim?

Practice 8:



Find the perimeter of the figure. Each unit is 1 centimeter.

Joke: What did the baby say to the other baby? Answer: We're babies. Practice 9:

Fraction Frenzy

Use the model to help you compare the fractions. Write < or >.



Find the sum:

242 + 563 =	385 + 519 =	527 + 266 =

Fun Fact: The only reason schools teach word problems is because children love them so much. Teachers tried to get rid of them, but the students got really upset!

Use multiplication to find the area of the figure. Each unit square is 1 square meter.



Write the fraction that describes the shaded part:



Practice 11:

Use the corner of a sheet of paper to tell whether the angle is a *right angle, less than a right angle, or greater than a right angle.*



Word Problems (they might have more than one step!)

Ms. Dissal goes to the movies and gets popcorn. At the end of the movie, there are 134 pieces of popcorn left. If she ate 497 pieces of popcorn, how many pieces of popcorn were there when she bought the popcorn?

Ms. Dissal realizes she does not like popcorn. The next time she goes to the movies she gets 5 packs of cookies. Each pack has 8 cookies. If she eats 9 cookies, how many cookies are left?

Fun fact: Avocados are a type of fruit, not a type of airplane, which is what most people think! Can you imagine making guacamole out of airplanes? Yuck!

Practice 12:



Write the fractions in order from least to greatest.

Estimate. Then find the difference.

1.	Estimate:	2. Estimate:		3. Estima	ate:	4. Estimate:	
	485 <u>-376</u>	657 <u>-424</u>		3 <u>-1</u>	47 <u>98</u>	623 <u>-397</u>	
	10 <u>x 7</u>	4 <u>x 7</u>	<u>x</u> 7	7	2 x 7	9 x 6	
	11 <u>x 6</u>	9 x 7	x 7	ļ 7	3 x 6	12 <u>x 6</u>	

Multiplication Songs



40, 44. Life is but a dream. 3

6 TIMES TABLES

To the tune of deck the halls



7 TIMES TABLES

To the tune of happy birthday







9 TIMES TABLES

To the tune of Addams Family

I know my 9's **snap snap** I know my 9's **snap snap** I know my 9's, I know my 9's, I know my 9's, *snap snap*

9, 18, 27 36, 45, 54 63, 72, 81 90, 99

AND 108 *snap snap*

I know my 9's *snap snap*

I know mý 9's, I know my 9's, I know my 9's, *snap snap*



Journal 1: Write one page about something that happened to you this week. Use **sequence/transition words** (*first, next, additionally, finally, in conclusion, as you can see,* and many others!). Write at least 6 sentences.





Journal 2: Write one page about something that happened to you this week. Use **sequence/transition words** (*first, next, additionally, finally, in conclusion, as you can see,* and many others!).



Journal 3: Write one page about something that happened to you this week. Use **sequence/transition words** (*first, next, additionally, finally, in conclusion, as you can see,* and many others!).

