



Grade 3 Parent Newsletter

Theme 3 Unit 8

Dear Parents,

In this unit, your 3rd grader will deepen their understanding of number relationships by identifying and describing patterns that occur in addition, subtraction, and multiplication. They will make connections between patterns and properties of operations, especially when focusing on multiples. They will then applying this understanding of patterns and apply it to real world data situations in order to interpret graphs.

Focus multiplication facts: x8 and x9

Thank you for your continued support,

Your Child's 3rd Grade Teacher

How can you help your child be successful in mathematics?

Children learn math best when they can connect math concepts and procedures to their everyday experience.

- Be positive about math! Let your child know that everyone can learn math.
- Point out how math is used in daily activities.
- Include your child in activities that involve patterns, such as buying multiple items that all cost \$6, or seeing patterns in the world around us.
- Play math-related games with your child.
- Encourage your child to explain his/her thinking when solving problems.
- Count everything with young mathematicians.
- Make connections between real world situations involving multiplication and division.

When a math moment presents itself, make the most of it!

Vocabulary


Multiples: the result of multiplying a whole number by other whole numbers. Example: Multiples of 3 are 3,6,9,12,15,18 and so on.

Patterns: set of numbers or objects that can be described by a specific rule.

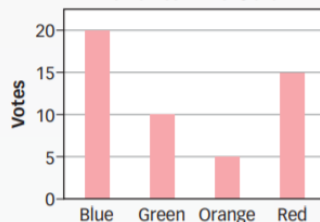
Picture graph or bar graph: use pictures, symbols or bars to show data.

Favorite Bike Color

Blue	
Green	
Orange	
Red	

 = 5 votes

Favorite Bike Color



Think about it!

Spaceship Prop

Brandi wants to make a spaceship. She will decorate it with silver stars. Brandi estimates that she will need about 180 stars.

The stars come in boxes. Here are the boxes she can choose from:

Box A: 10 stars \$2

Box B: 20 stars \$3

Box C: 25 stars \$4

Box D: 50 stars \$5

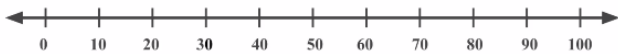


What boxes should Brandi buy?



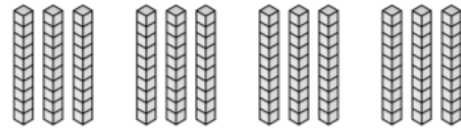
Strategies to Support Student Learning

Understand place value to multiply by multiples of 10 and discover the patterns in multiples of ten.



Use models to represent the multiplication fact.

$$4 \times 30 = 4 \times 3 \times 10 = \underline{\quad}$$



Scales other than one and relating that to patterns.



Genre	# of Books
Mystery	12
Science Fiction	
Plays	
Biography	
How-to	

= 4 books

Skip counting patterns in a hundreds chart.

Multiples of 2

Multiples of 3

Multiples of 4



Types of Patterns

- using a rule: such as: add _____, skip count by _____...
- using the words *odd* and/or *even*
- describing digits
- describe position on chart

Example

Another pattern is odd, even OR the ones digit keeps changing from 5 to 0.

x	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

5, 10, 15, 20, 25

The pattern has the rule add 5.

Finding patterns in $x9$ and $x8$

Multiplying by 9's

1 group less than products of $x10$

$$10 \times 3 = 30$$

$$30 - 3 = 27$$

Example: 9×3

Multiplying by 8's

Doubling, doubling, doubling again.

$$7+7=14$$

$$14+14=28$$

$$28+28=56$$

Example: 8×7



Activities to Support Home-to-School Connection

Taken from Ready Common Core

Exploring Patterns Activity

Materials: red crayon or marker, Hundreds Chart

Explore patterns in the Hundreds Chart with your child.

- Have your child lightly color these numbers red: 5, 10, 15, 20, and 25.

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

- Together, look for and describe patterns you see in the numbers that are colored. (For example, the numbers form vertical lines in the Hundreds Chart. Also, the colored numbers alternate odd, even.)
- Ask your child what the rule is for coloring the next number red. (Color every fifth number, or skip count by 5's, or leave 4 white and color the next.)
- Ask your child to use his or her rule to tell what the next number in the pattern will be. (30) Have your child color all the numbers in this pattern red.
- Challenge yourselves to find other ways to describe the same pattern. There are usually several different ways to describe a pattern!


Solving Problems Using a Scaled Graph Activity

Do this activity to support your child in learning to use multiplication and division facts to interpret scaled graphs.

Talk with your child about the data on this pictograph. Discuss questions such as:

- What does this graph show?
- How many teams are shown and what are their names?
- What does each soccer ball stand for?

Soccer Goals Scored This Season

Bears	
Cheetahs	
Eagles	
Falcons	
Lions	
Tigers	

Each  stands for 3 goals.

Then ask each other questions that require using an operation such as addition, subtraction, multiplication, or division to solve. For example:

- How many more goals did the Eagles score than the Lions? (One number sentence used to solve this is $15 - 9 = 6$.)
- If 6 players on the Tigers' team each scored the same number of goals, how many did each score? (One number sentence used to solve this is $24 \div 6 = 4$.)

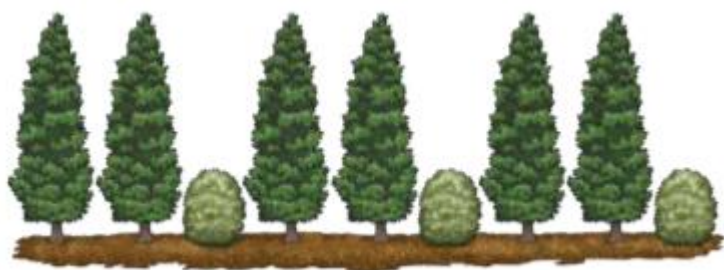
For real-world practice, keep an eye out for pictographs or bar graphs in magazines, online, or elsewhere. Utility bills can be a good source of bar graphs, for example. Share these examples with your child, and notice that they almost all use a scale of two or more to show the data.



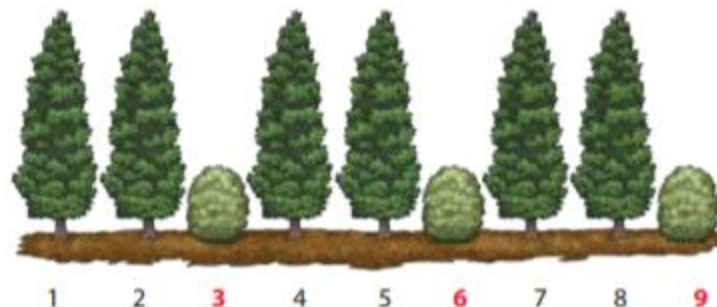
Real World Connections

Where do patterns live around us?

You can see patterns in things around you. Look at the line of trees and shrubs below.



How can you describe this pattern?



The numbers 3, 6, 9...tell where the shrubs are in line.

If there were 21 trees and shrubs in a line, how many shrubs would there be?

21 divided by 3 is 7

- ❖ Observe number patterns in the world around us. It is as simple as counting off by numbers, such as 5, 10, 15, 20, etc and as complex as finding a pattern in the world (music, visual, arts, etc) and connecting it to multiplication.
- ❖ Research animals that has a particular number of legs. Organize them accordingly and create representations to show the number of legs. For example, spiders have 8 legs. How many do 1, 2, 3, 4, 5, 6, or 7 spiders have?

