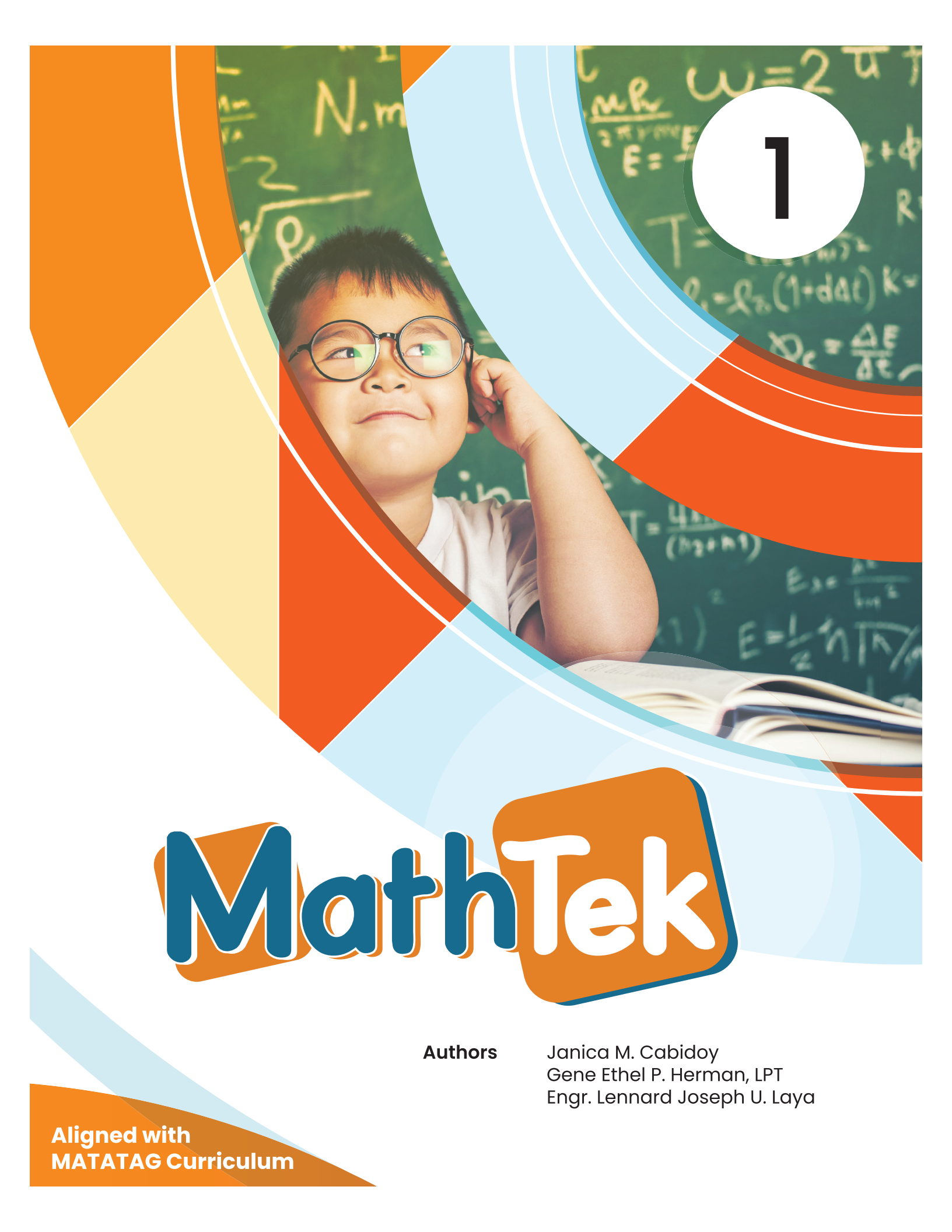


The cover features a young boy with glasses, resting his chin on his hand and looking thoughtfully upwards. He is positioned in front of a chalkboard filled with various mathematical formulas. The entire scene is framed by large, overlapping, curved shapes in shades of orange, yellow, and light blue. In the top right corner, a white circle contains the number '1'. The title 'MathTek' is prominently displayed in the lower half, with 'Math' in blue and 'Tek' in white on an orange background. Below the title, the authors' names are listed. In the bottom left corner, a text box states that the book is aligned with the MATATAG Curriculum.

1

MathTek

Authors

Janica M. Cabidoy
Gene Ethel P. Herman, LPT
Engr. Lennard Joseph U. Laya

**Aligned with
MATATAG Curriculum**



Fourth Edition

Janica M. Cabidoy

Gene Ethel P. Herman, LPT

Engr. Lennard Joseph U. Laya



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FOREWORD

In today's world, learning Math is ever critical. A certain level of mathematical understanding is necessary not only in specialized fields but also in everyday activities. Math helps us analyze information critically, make well-founded judgments, and create beneficial solutions.

However, learning Math can have its challenges. Filipino students have developed a general negative attitude towards Math, making it a very unpopular subject with a reputation of being tedious and difficult. Because of these, TechFactors created the MathTek K-12 series based on the Department of Education MATATAG Curriculum.

As TechFactors' contribution to the learning of Mathematics, MathTek identifies and addresses the causes of this problem. Through the thoughtful implementation of the CPA strategy, MathTek makes learning math concepts easy so that students will not be overwhelmed or intimidated by highly abstract concepts. Learning Math is also made relevant through situating lessons in familiar and localized settings with characters whom students can relate to.

TechFactors believes that students should learn Math in an engaging and accessible way. In line with this, MathTek provides standardized and authentic assessment activities that not only reinforce learning but also encourage students to exercise their creativity.

With MathTek, we hope for students to develop solid foundations of math skills, enabling them to become critical thinkers and problem-solvers ready to face the challenges of our ever-changing world.

TechFactors Inc.

How to Use This Book

The sections in the series and their brief descriptions are as follows:



Objectives

states the target learning goals of the students.



Vocabulary Bank

unlocks difficult words found in the lesson.



Math Tale

presents a relevant story and a mathematical problem involving the concept(s) tackled in the lesson.



Let's Explore

discusses mathematical concepts through an example. It focuses on solving the problem presented in Math Tale. It includes a step-by-step procedure on how the problem can be solved.



Keep in Mind

emphasizes important reminders such as formulas, techniques and procedures.



Do It Yourself

shows a step-by-step guide in creating physical manipulatives to be used in each lesson.



Put to Practice

includes two tasks that shall be performed by the student independently.



Skills Builder

offers a variety of exercises that evaluate the skills learned by the students.



Challenge Yourself

provides a non-routine problem or a puzzle that will act as reinforcement of the problem-solving strategy discussed at the beginning of the chapter or unit.



Portfolio Prompts

offers activities such as research and creative projects wherein students can reflect on their learning.



Fun Facts

offers students interesting trivia related to the topic of mathematics in general.



Interactives

shares the link where students can access alternative learning through virtual games.

What's New?

As we dedicate ourselves to improve the program, we have included the following changes.

INSTRUCTIONAL DESIGN

1. Aligned to the new **MATATAG curriculum** from the Department of Education
2. Concise lessons for clearer instruction
3. More and updated real-life situations on the practical applications of the topics
4. Additional and improved guided questions to solve problems
5. More and revised individual, pair, and group activities
6. Added interesting and relatable trivia
7. Integrated performance tasks with other subjects
8. New and improved interactives

LOOK AND FEEL

1. New layout and design
2. New vibrant illustrations

Embark on a dynamic educational journey with MathTek's latest offerings, where learning is made a great experience!

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Janica M. Cabidoy

Janica graduated from the Pamantasan ng Lungsod ng Pasig with a Bachelor in Secondary Education, Major in Mathematics. She is a Content Developer at TechFactors Inc.

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Lennard graduated from the University of the Philippines Diliman with a Bachelor of Science in Industrial Engineering. He taught math and science as part of the Jesuit Volunteers Philippines (JVP) at the Maryknoll Academy of Cateel. He was a technical assistant at the Office of the Secretary, Department of Education. He also taught math, science, and Christian Life Education at the Ateneo de Iloilo. He is currently working as a Content Developer at TechFactors Inc.

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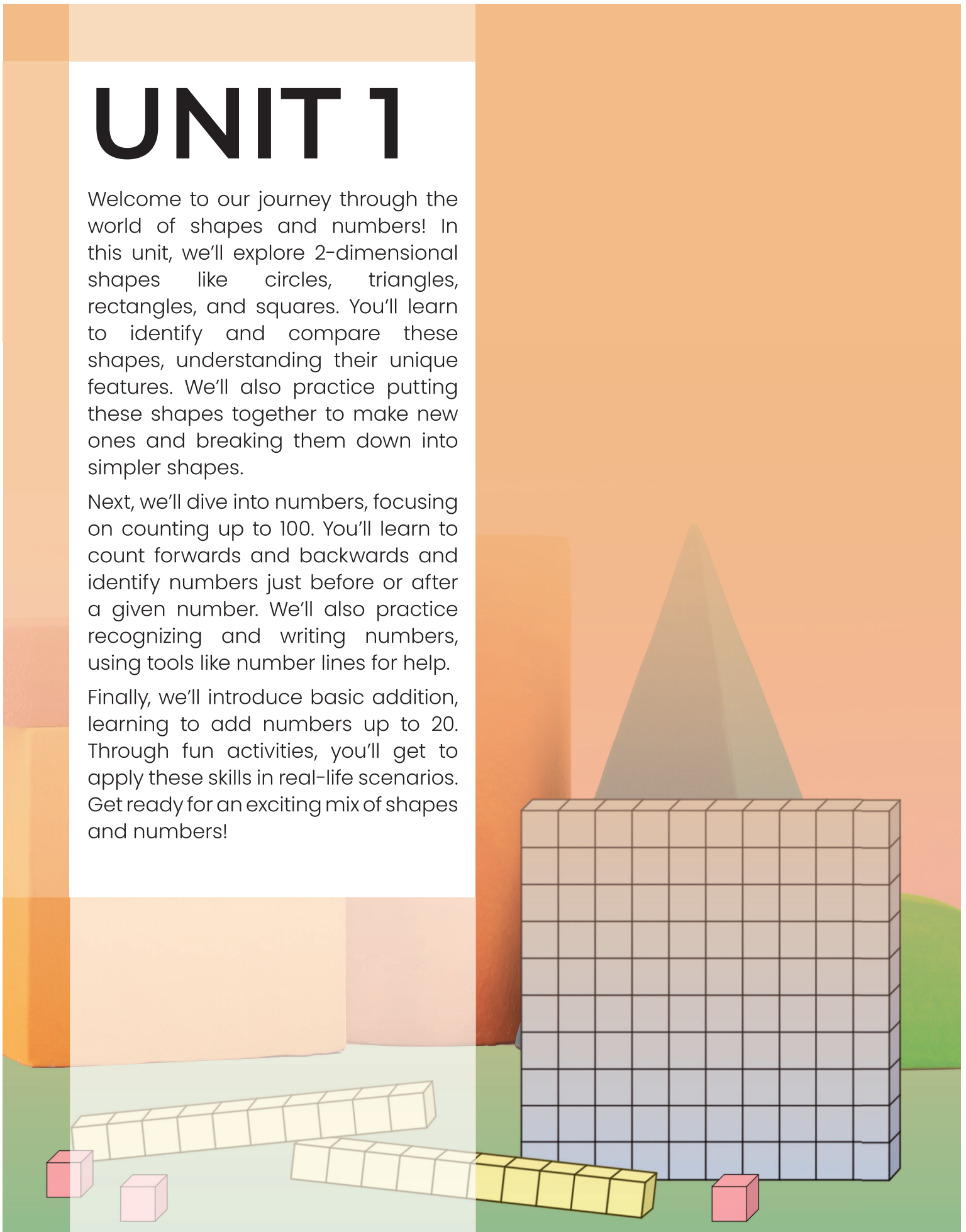
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UNIT 1

Welcome to our journey through the world of shapes and numbers! In this unit, we'll explore 2-dimensional shapes like circles, triangles, rectangles, and squares. You'll learn to identify and compare these shapes, understanding their unique features. We'll also practice putting these shapes together to make new ones and breaking them down into simpler shapes.

Next, we'll dive into numbers, focusing on counting up to 100. You'll learn to count forwards and backwards and identify numbers just before or after a given number. We'll also practice recognizing and writing numbers, using tools like number lines for help.

Finally, we'll introduce basic addition, learning to add numbers up to 20. Through fun activities, you'll get to apply these skills in real-life scenarios. Get ready for an exciting mix of shapes and numbers!



LESSON 1

Shapes



Objectives

- ◇ Name and draw different shapes.



Vocabulary Bank

- **corner** – the point where two sides meet
- **spy** – to look or search
- **yield** – give way



Math Tale

Saturday Drive

It's a Saturday afternoon. Mom and dad are taking the twins to their grandmother's house. While traveling, they played the game I Spy. Dad told Tina and Tristan



to look around for objects with different shapes. What kinds of shapes did they see?

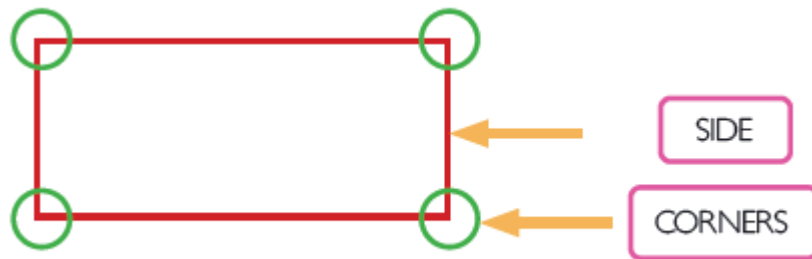


Let's Explore

Help the twins find the shape of the objects they saw. Trace each shape with your finger.

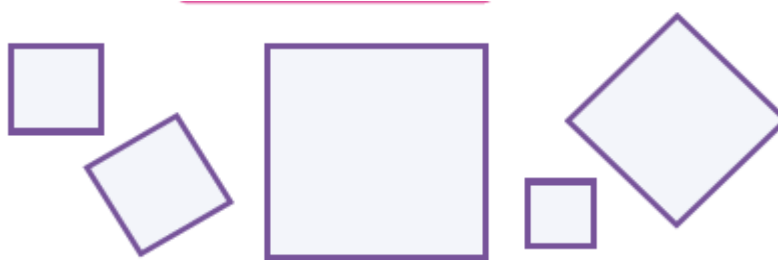


These are **rectangles**.



A rectangle has **4 corners** and **4 sides**.

These are **squares**.



A square has **4 corners** and **4 sides**.

How does a rectangle differ from a square?

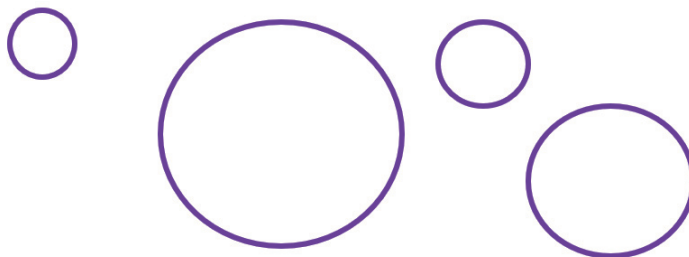
Rectangle	Square
	
A rectangle has 2 pairs of equal sides.	A square is a special rectangle with 4 equal sides.

These are **triangles**.



A triangle has **3 corners** and **3 sides**.

These are **circles**.



A circle has **no sides** and **no corners**.



Keep in Mind

To know the kinds of shapes, look at the number of sides and corners.

Drawing basic shapes

Square

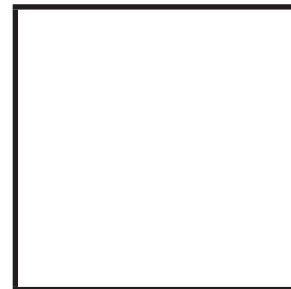
"Think of a square like a box. Start with a straight line on top."



"Draw another line just like the first one below it. That's the bottom of our box."



"Now, let's close our box. Draw two straight lines on the sides. They're the same size as the top and bottom."

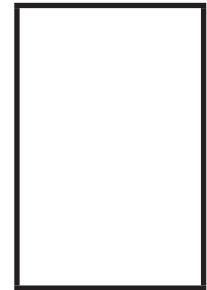


Rectangle

"Let's draw a long straight line, like the top of a door."

"Now, draw another line just like the first one below it. This is the bottom of the door."

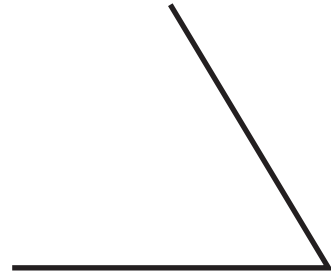
"Now, we need to close our door on the sides. Draw two straight lines going down, one on the left and one on the right."



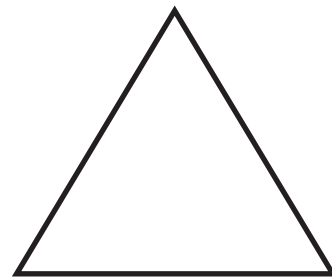
Triangle

Let's start with a straight line at the bottom like the ground. That's the bottom of our triangle."

"Now, from one end of our line, let's draw a line going up and to the middle, like half of a roof."

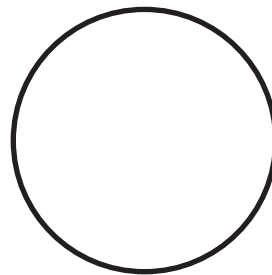


"Do the same thing from the other end, and our roof is complete! That's our triangle."



Circle

"Imagine drawing a round cookie or the sun. Start at the top and draw a curve around, like you're drawing a big frown, then a big smile underneath until they meet. And there's our circle."



Put to Practice



Task 1

Trace shapes shown by the different shapes on traffic signs.

Task 2

Encircle the signs with the same shape.



Do It Yourself

Shape Templates

These templates will help you name and draw different shapes.

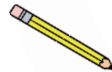
You will need:



- thick cardboards



- a pair of scissors



- pencil



- ruler

1. Trace or draw different shapes on the cardboard.
Make 2 circles, 4 squares, 2 rectangles, and 6 triangles.
2. Cut the shapes with the help of an adult.



Interactives

To learn more about this lesson, you may visit TekTeach (Learning Management System).



Skills Builder

I. Answer the riddles below. Write the name of the shape on the blank. Draw the shape inside the box.

I have no sides.
I have no corners.
What am I?
I am a _____

A large, empty rounded rectangle box for drawing the shape.

I have 3 sides.
I have 3 corners.
What am I?
I am a _____

A large, empty rounded rectangle box for drawing the shape.

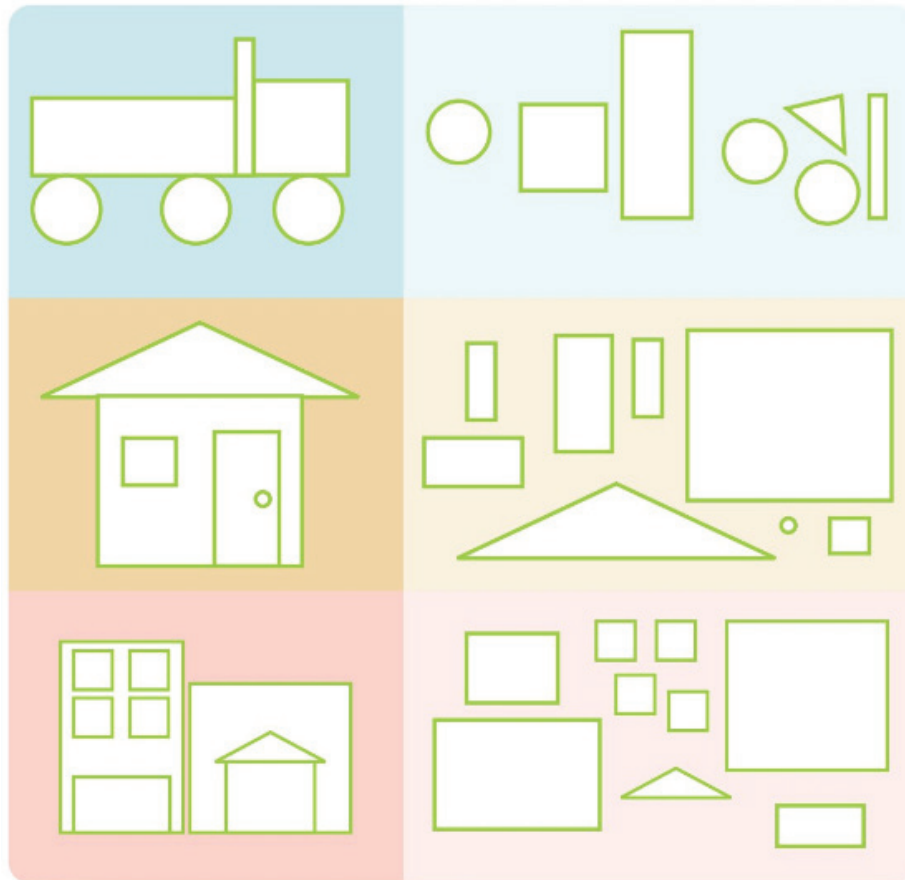
I have 4 sides.
My sides are of equal length.
I have 4 corners.
What am I?
I am a _____

A large, empty rounded rectangle box for drawing the shape.

I have 2 pairs of equal sides.
I have 4 sides in all.
I have 4 corners.
What am I?
I am a _____

A large, empty rounded rectangle box for drawing the shape.

II. The shapes on the right can be used to form the figures on the left. Put a check on the shapes (found on the right side) that are needed to form the figures on the left.



Fun Facts

The triangle is used as the symbol for the play button of many of our gadgets.



LESSON 2

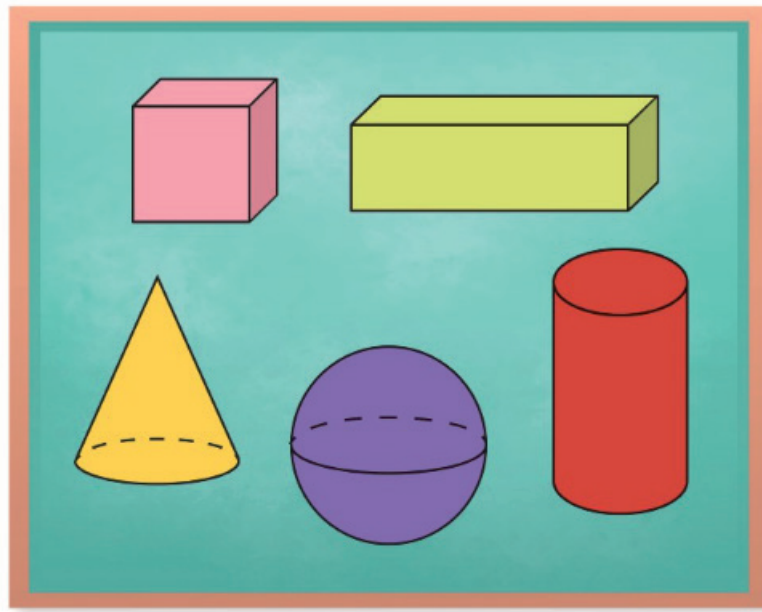
Solid Shapes



Objectives

- ◇ Understand the differences between 2D and 3D shapes.
- ◇ Compose and decompose 3D shapes.

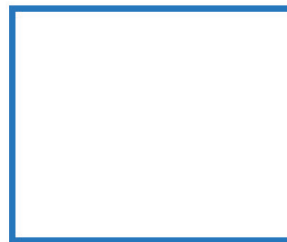
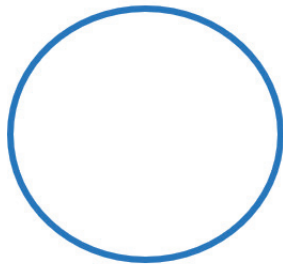
Some shapes around us are not flat. These are called **solid shapes**.



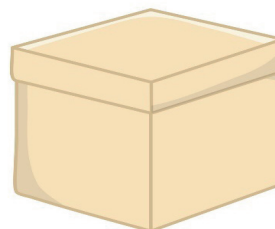


Let's Explore

2D shapes are flat, like drawings on paper. They have only height and width. Examples include **circle** and **square**.



3D shapes are like objects you can pick up and hold. They have height, width, and depth. Examples include ball and box.



The ball isn't flat; you can roll it! The box isn't flat; you can put things inside it! These are called 3D shapes because they're not just flat pictures; they're shapes you can touch all over.

Can you name these solid shapes?

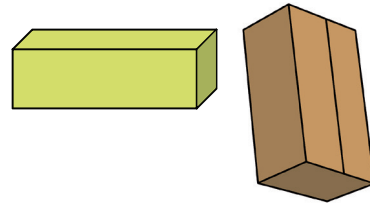
Solid shapes are not flat. They are three-dimensional shapes because they have length, width, and thickness.

Solid Shapes

This is a **prism**.

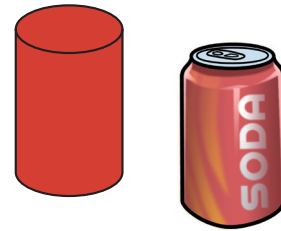
It is shaped like a shoe box.

Do you see rectangles on a prism?



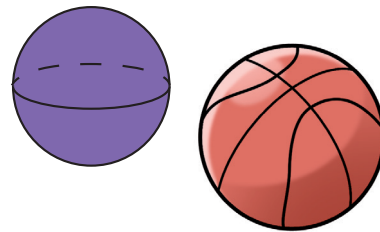
This is a **cylinder**.

It is shaped like a can.



This is a **sphere**.

It is shaped like a ball.

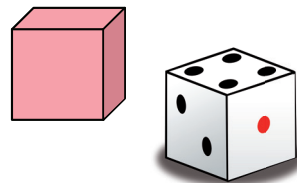


This is a **cube**.

It is shaped like a die.

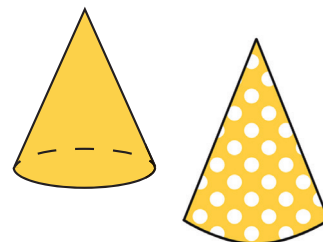
Do you see squares on a cube?

If a square is a special rectangle, then a cube is a special prism.

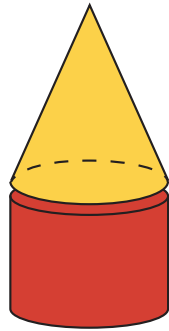


This is a **cone**.

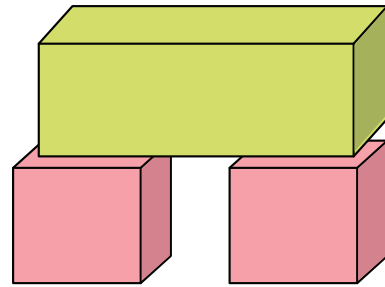
It is shaped like a party hat.



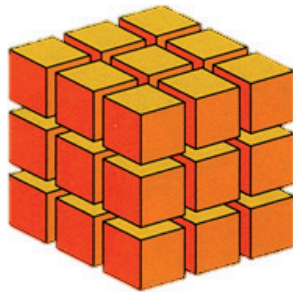
We can make different figures using solid shapes.



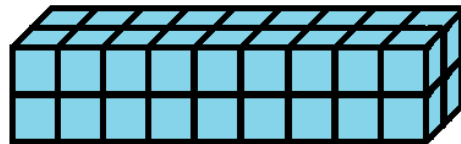
This figure is made up of a cone and a cylinder.



This figure is made up of 2 cubes and a prism.



a cube made up of unit cubes

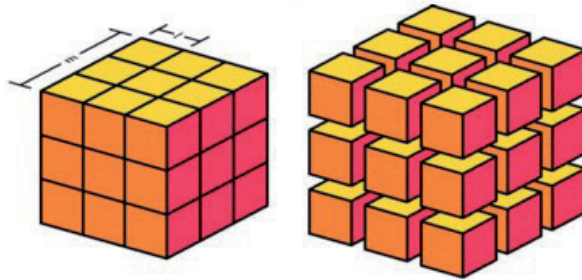


rectangular prism made up of unit cubes

When we **compose a 3D shape** using smaller shapes, it's like building with toy blocks. Imagine stacking a pointy hat (a cone) on top of a can (a cylinder). Together, they look like an ice cream cone!

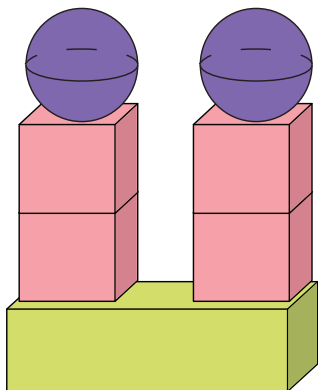
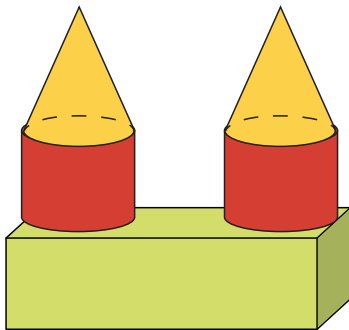


Decomposing 3D shapes means breaking down a three-dimensional shape into simpler parts or shapes. For example, a cube can be decomposed into smaller unit cubes.



Put to Practice

List the different solid shapes that make up the following figures.





Portfolio Prompts

In this lesson, we learned about the different solid shapes. We also learned how these solid shapes can be put together by stacking, sliding, or rolling. Knowing these things can help us keep our things in order. Look in your refrigerator. Find ways of arranging the food containers in order to save some space. Make a snapshot of what you did and share it with the class.



Keep in Mind

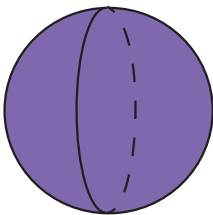
We can use different solid shapes to form figures.



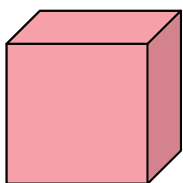
Skills Builders

1. Circle the everyday objects that have the same shape as the given solid shape.

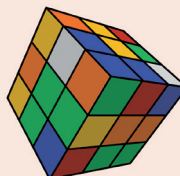
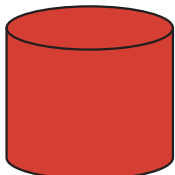
1.



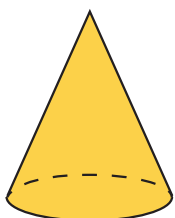
2.



3.



4.

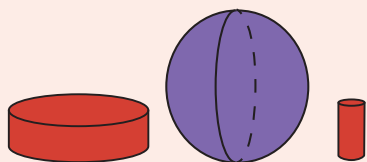


II. Match the solid shapes on the left to the figure that they can form on the right.

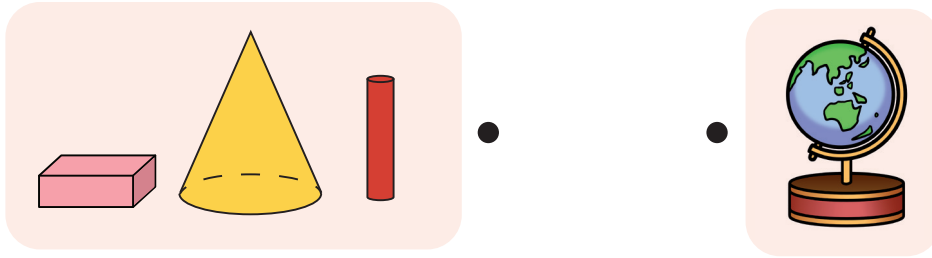
1.



2.



3.

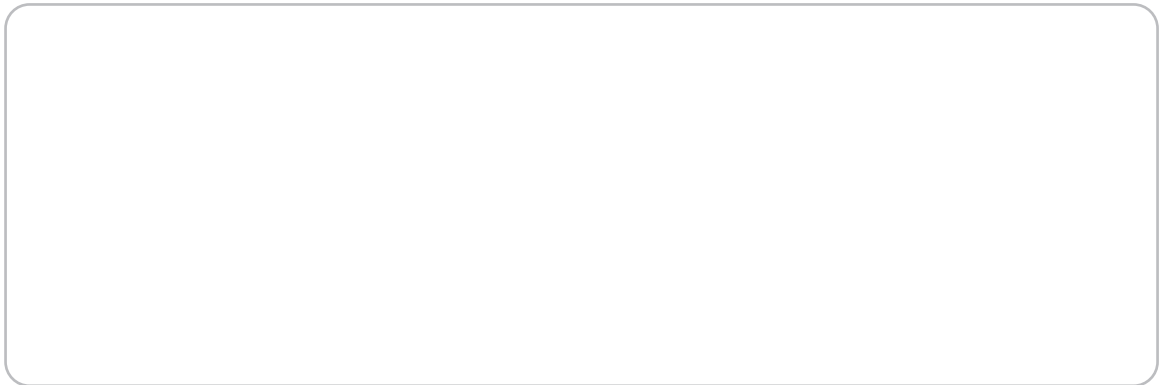


Interactives

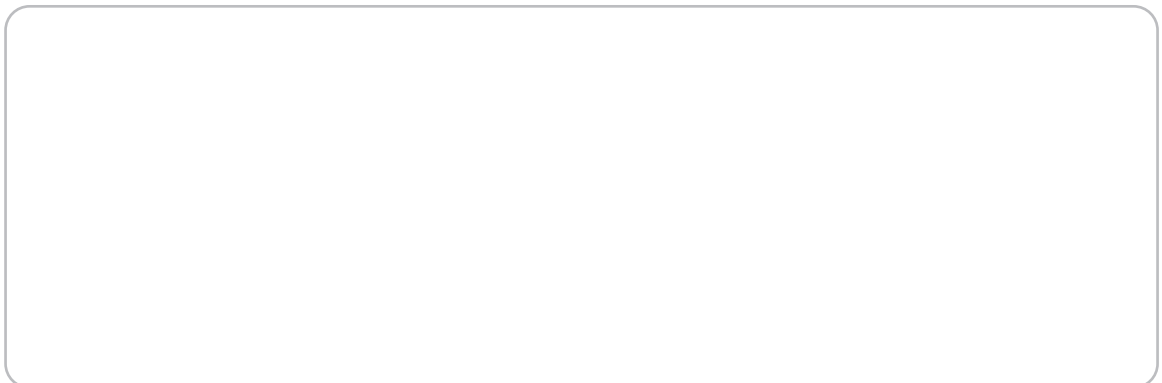
To learn more about this lesson, you may visit TekTeach (Learning Management System).

III. Make a figure based on the given solid objects.

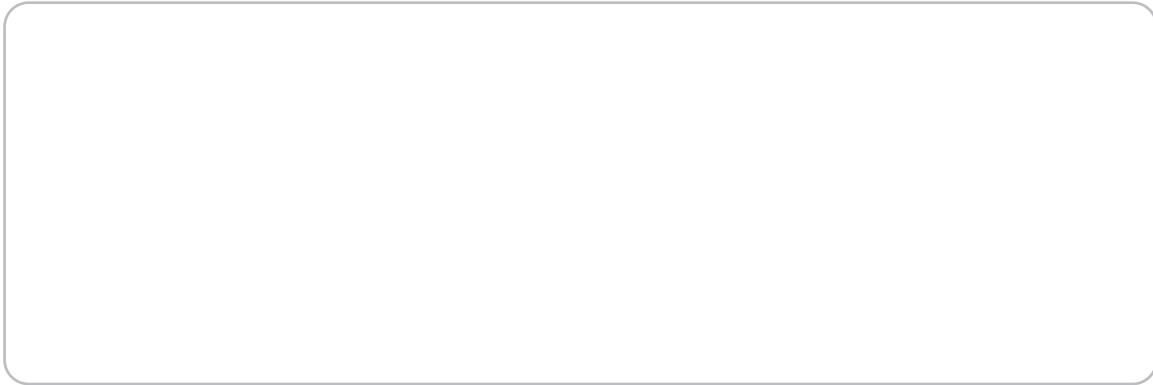
1. A figure with 3 cubes and 2 spheres



2. A figure with 2 prisms and 2 cylinders



3. A figure with 1 prism, 3 cylinders, and 3 cones



Challenge Yourself

Problem Solving Strategy: Finding Patterns

Mr. Robles, the supermarket bagger, is putting all the grocery items in the cart. How can he sort these objects properly?



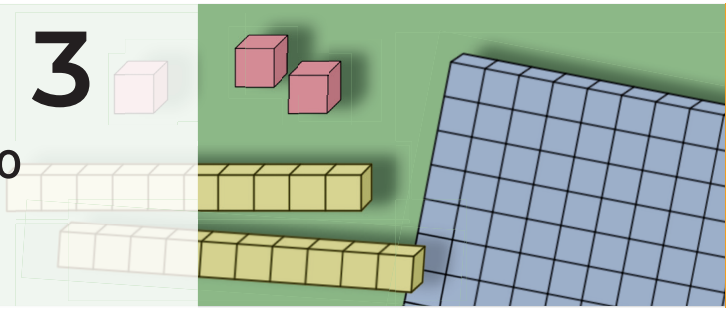
Fun Facts

In 1974, Erno Rubik invented the Magic Cube. It is now known today as the Rubik's Cube.



LESSON 3

Counting from 1 to 100



Objectives

- ◇ Count fluently from a given number to 100.
- ◇ Identify and correctly state the number that is 1 more or less than a given number in a series of random numbers ranging from 1 to 100.



Vocabulary Bank

- **unit** – another name for one



Math Tale

In Full Bloom

Tina and Tristan are in In Full Bloom Flower Shop. They are looking at the flowers of different colors.

How many flowers do Tina and Tristan see?



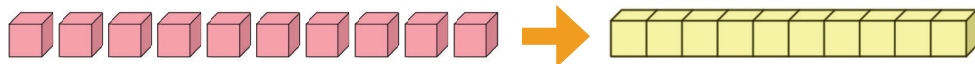


Let's Explore

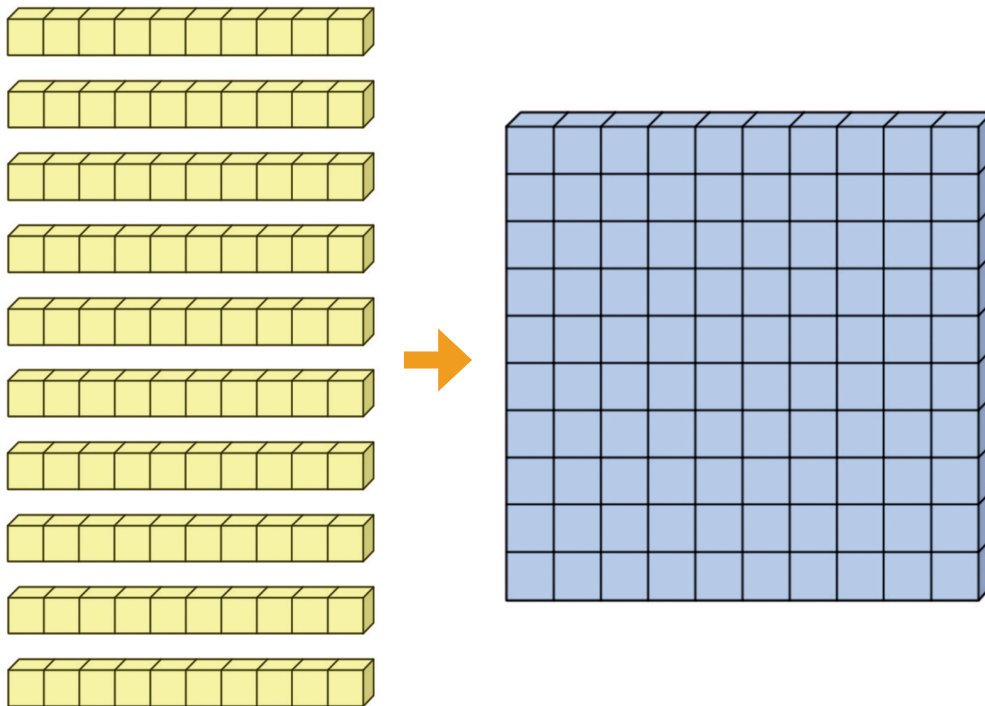
Base-Ten Blocks make it easier for us to count.

This is a **UNIT**. It represents one. 

10 UNITS make 1 TEN. We also call this a **LONG**.

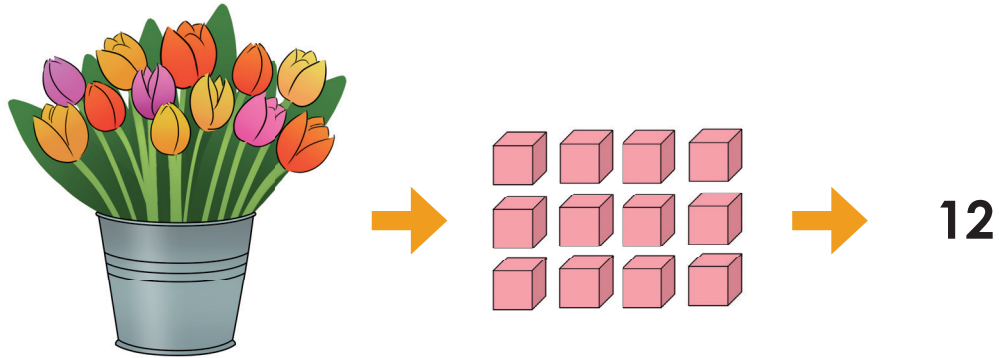


10 TENS or LONGS make one HUNDRED. We also call this a **FLAT**.



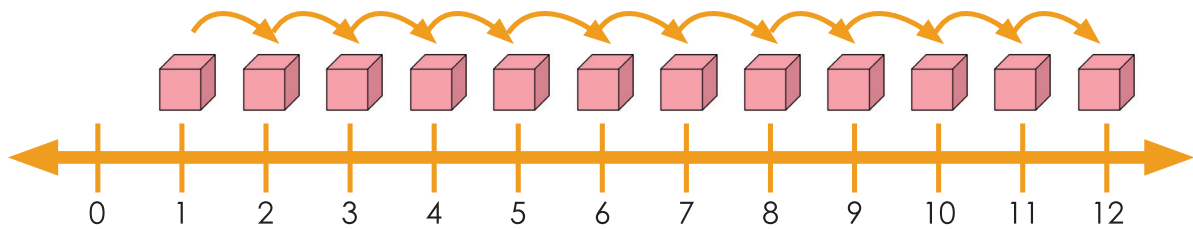
Now, let's learn to count using the Base-Ten Blocks.

Tina saw a bucket of flowers. Help her count the total number of flowers in the bucket.



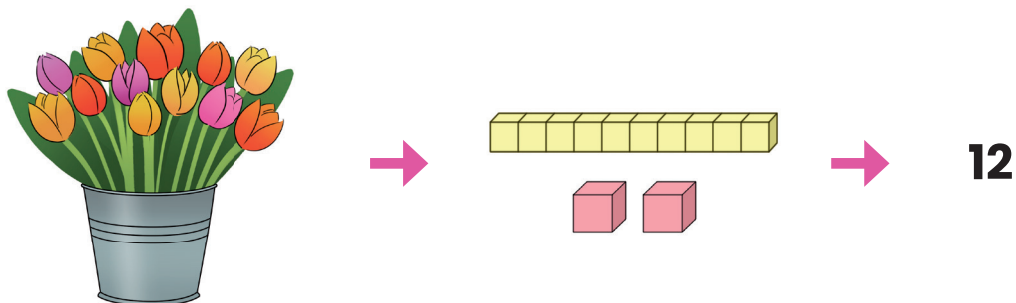
There are 12 flowers in the bucket.

Using a NUMBER LINE also helps us to count.

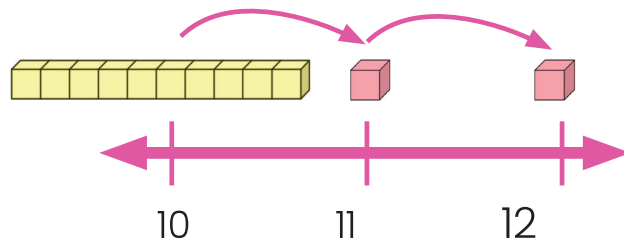


In this number line, we can see that 11 is 1 unit to the right of 10. It means that 11 is one more than 10. Also, we can see that 11 is 1 unit to the left of 12. It means that 11 is one less than 12.

We can also use longs and units to show 12.



We can use either Base-Ten Blocks or a Number Line to show numbers. They help make counting easier.



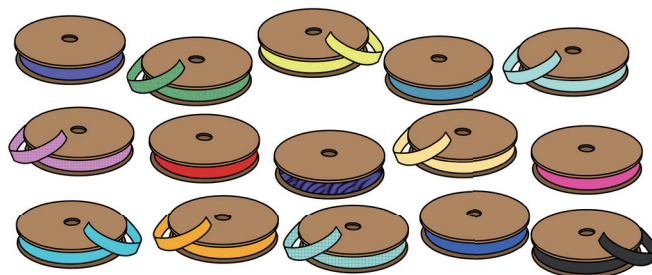
One long and two units make 12.



Keep in Mind

We can use Base-Ten Blocks to show numbers. They help make counting easier.

The flower shop uses ribbons to tie its flowers together. Tina saw rolls of ribbon on the table. Use your Base-Ten Blocks to count.



How many longs or tens are there?

How many units or ones are there?

How many rolls of ribbon were there?



Put to Practice

Let's count up from 10 using Base-Ten Blocks.



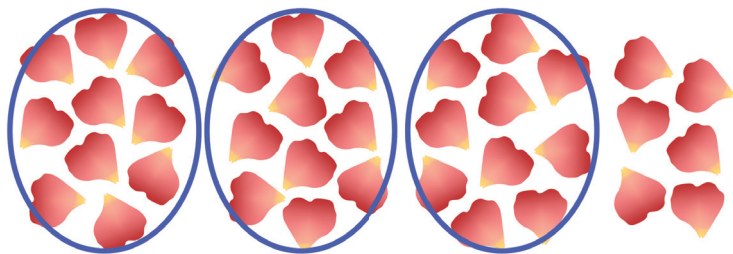
Task 1

Tina needs 16 roses. She already has 10 roses in a big vase. Pick the smaller vase with the number of roses that will add up to 16.

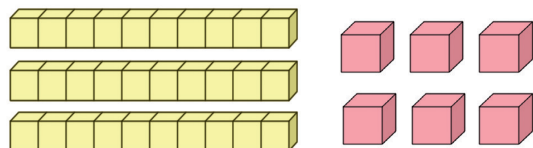
Task 2

Use your Base-Ten Blocks to represent the number 16.

Tina saw a lot of flower petals scattered on the floor. How many petals are there in all? Group the petals into tens. There are 3 sets of 10. Three tens make 30.



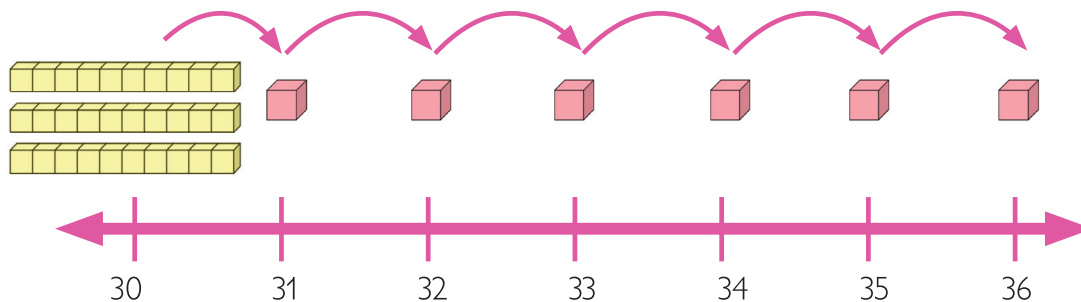
There are 6 loose petals. Counting from 30, we have 31, 32, 33, 34, 35, and 36.



Using the Base-Ten Blocks, 36 means 3 longs and 6 units. 30 and 6 make 36 petals.

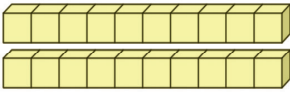
There are 36 petals in all.

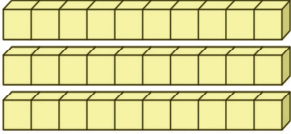
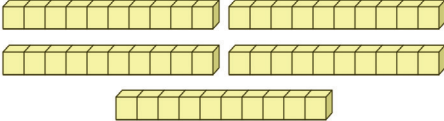
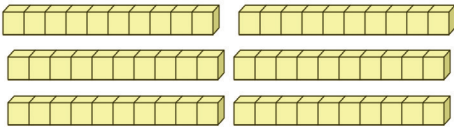
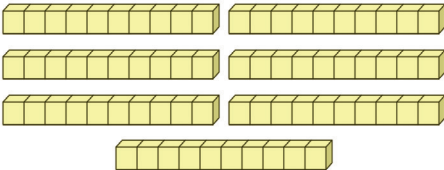
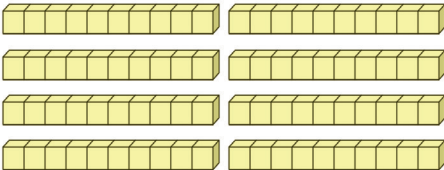
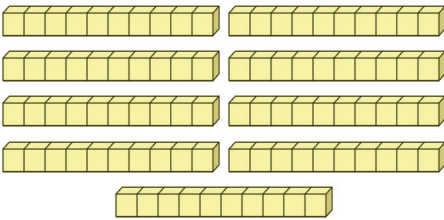
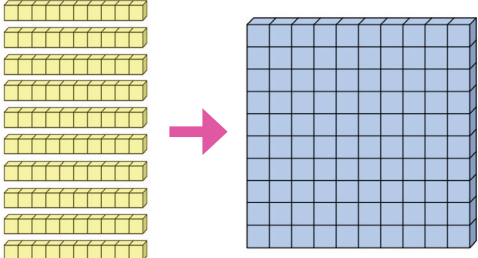
Using the Number Line, 35 is one less than 36.



36 is one more than 35.

Tristan saw bouquets of sunflowers. Use your Base-Ten Blocks to help him count.

		10
		20

		30
		40
		50
		60
		70
		80
		90
		100



Keep in Mind

When counting large numbers, it is easier to count by tens and ones.



Skills Builder

1. Box the group of objects into tens and complete the sentences.

1.



groups of 10 and ones make .

2.



groups of 10 and ones make .

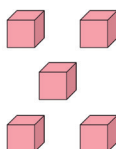
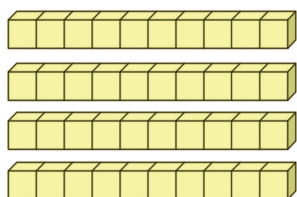
3.



groups of 10 and ones make .

II. Color the number that the blocks represent.

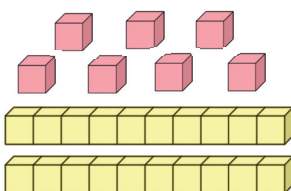
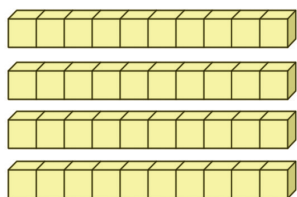
1.



45

54

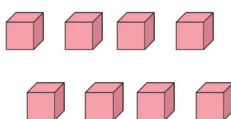
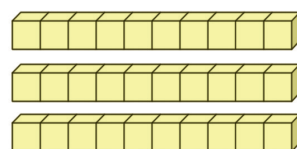
2.



76

67

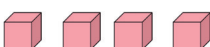
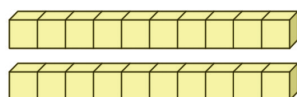
3.



38

48

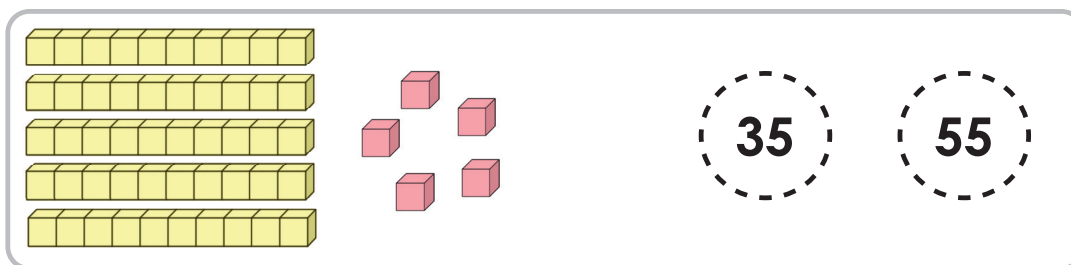
4.



24

29

5.



Portfolio Prompts

Prepare your Base-Ten Blocks and find a partner. Your partner will say a number from 0 to 100 and you need to show the number using your Base-Ten Blocks. After 5 turns, switch roles.



Fun Facts

The largest flower in the world is the Titan Arum, which can grow up to 10 feet high and 3 feet wide. The flower smells of decomposing flesh.

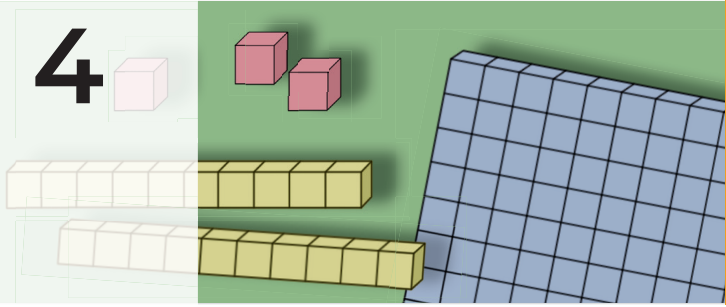


Interactives

To learn more about this lesson, you may visit TekTeach (Learning Management System).

LESSON 4

Illustrating Numbers



Objectives

- ◇ Read and write numbers up to 100.
- ◇ Show numbers up to 100 with tools like number lines, blocks, and pictures.



Math Tale

Tristan and Tina are helping at their Grandpa's farm. Their Grandpa needs help with counting the corncobs and tomatoes ready for picking. Can you help Tristan and Tina count?





Let's Explore

Numbers can be shown in different ways.

There are many ways to show a number.

1. Counters
2. Numeral
3. Number Word



Base-ten blocks

1

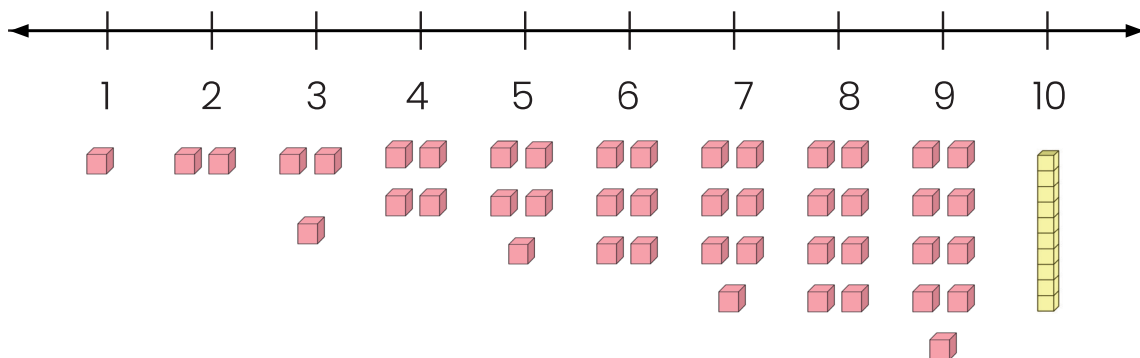
numeral

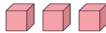
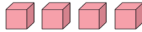
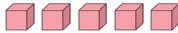
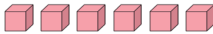
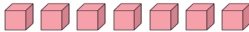
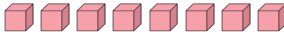
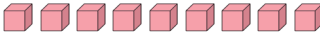
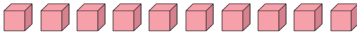
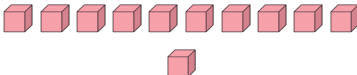
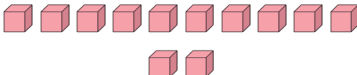
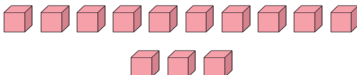
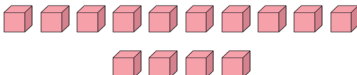
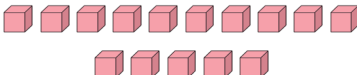
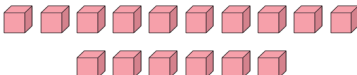
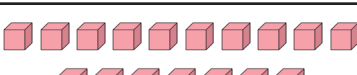
one

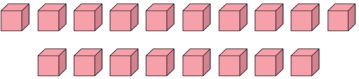
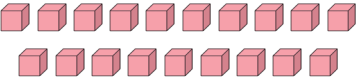
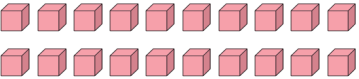
number word

Counters may be units, cubes, or pictures. A group of objects can show a number. We can write a number as a word or a numeral.

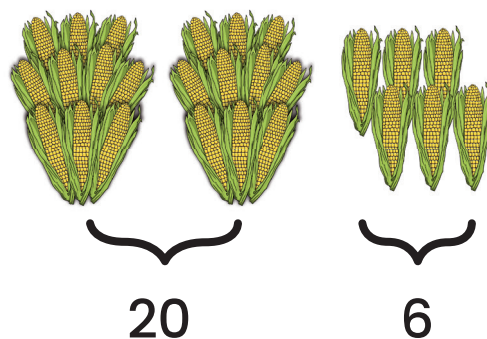
Let us look at the number line and the blocks representing it.



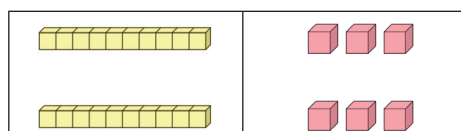
Base-ten blocks	Numeral	Number Word
	0	zero
	1	one
	2	two
	3	three
	4	four
	5	five
	6	six
	7	seven
	8	eight
	9	nine
	10	ten
	11	eleven
	12	twelve
	13	thirteen
	14	fourteen
	15	fifteen
	16	sixteen
	17	seventeen

	18	eighteen
	19	nineteen
	20	twenty

Let's practice reading and writing larger numbers. Help the twins count the corncobs. Let's use our Base-Ten Blocks to count.

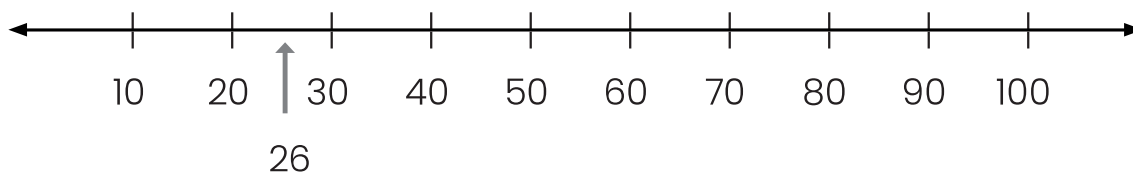


We use symbols, which we call 'numerals', to show these numbers. Just like how the symbol '26' stands for twenty-six corncobs.



Using the base-ten blocks to represent the corncobs, we have:

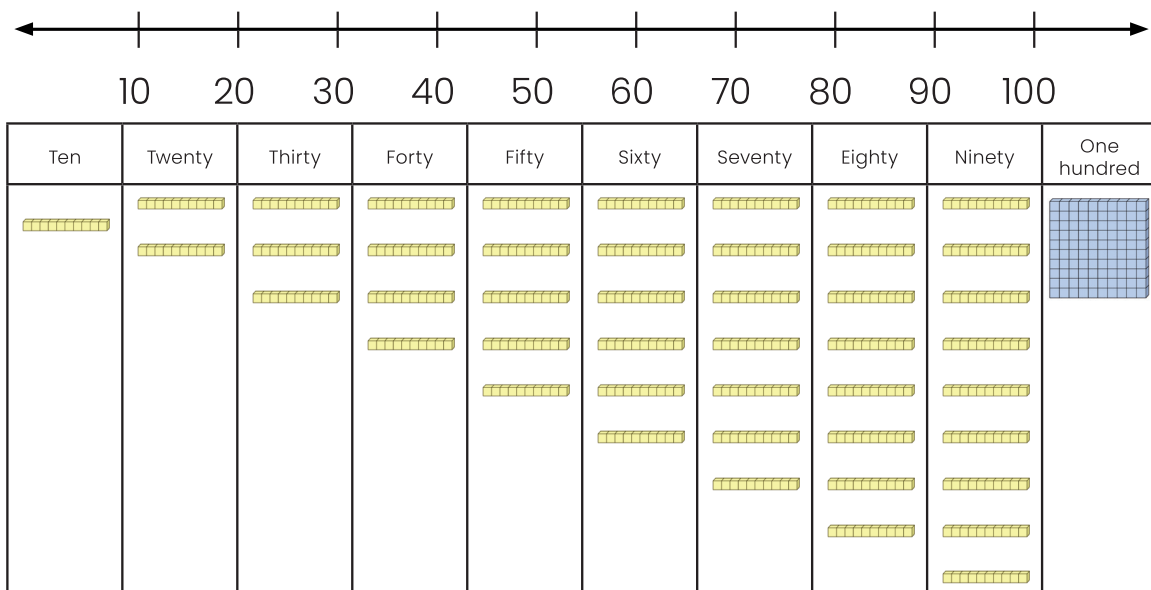
Locating 26 on the number line:



Below is the number chart from 1 to 100.

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

Let us look at the number line representing the numbers up to 100, the blocks representing it, and the their number words.



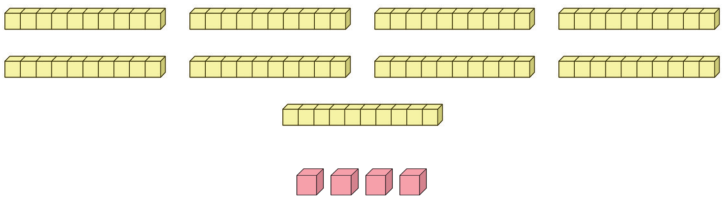
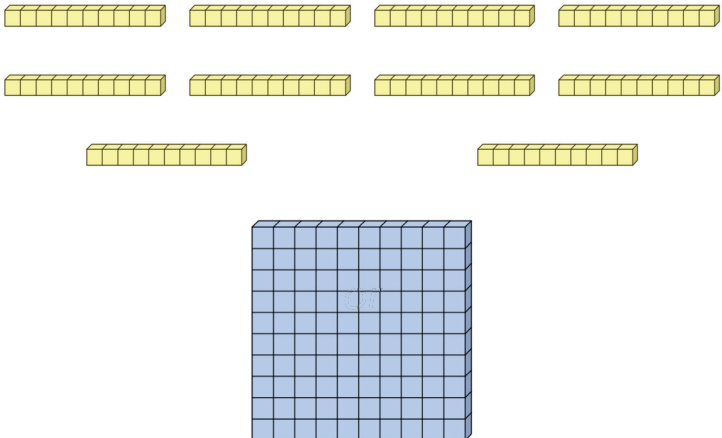


Keep in Mind

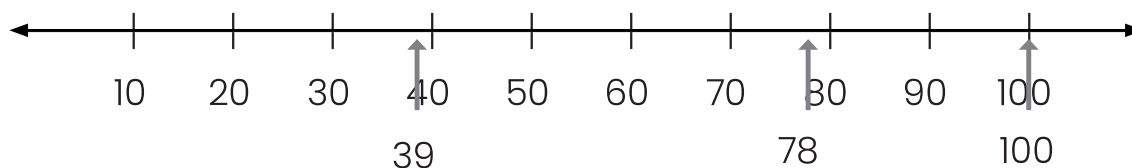
It is easier to count in tens and ones. Counting in tens and ones also helps us in reading and writing numbers.

We can show numbers in different ways. Here are some examples.

Numeral	Number Word	Base-ten Blocks
39	thirty-nine	
45	forty-five	
52	fifty-two	
63	sixty-three	
78	seventy-eight	
81	eighty-one	

94	ninety-four	
100	one hundred	

Let us locate 39, 78 and 100 on the number line:



Practice writing these numerals in words.

Numeral	Number Word
31	
48	
52	

67	
73	
86	
99	
100	



Skills Builder

I. Color the numbers in the chart. Use the same color as the letters of the number words in the box on the right.

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

Find the following numbers.

twenty

fifty-five

forty

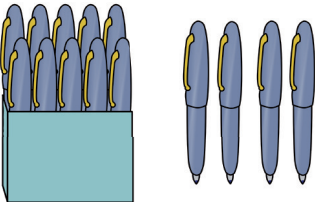
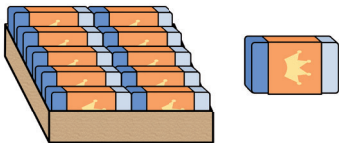
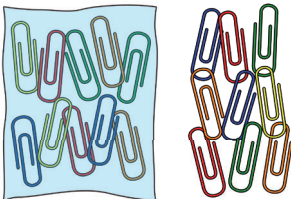
eighty-three

one hundred

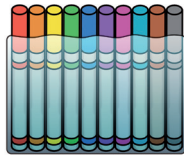
II. Match the numeral on the left to its number word on the right.

- | | | | |
|-------|---|---|-------------|
| 1. 30 | ● | ● | forty-eight |
| 2. 48 | ● | ● | eighty-nine |
| 3. 58 | ● | ● | ninety-four |
| 4. 89 | ● | ● | thirty |
| 5. 94 | ● | ● | fifty-six |

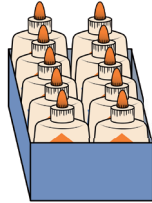
III. Look at the sets of things on the left. Write the numeral and number word for each set

- | | | | |
|----|---|----------------------|----------------------|
| 1. |  | <input type="text"/> | <input type="text"/> |
| 2. |  | <input type="text"/> | <input type="text"/> |
| 3. |  | <input type="text"/> | <input type="text"/> |

4.



5.





Portfolio Prompts

Practice counting and writing numbers. Look around for other things you can count. Fill in the chart.

Things I count	Numeral	Number word
Birthdays		
Blue shirts		
Pages of favorite book		



Fun Facts

The first written numbers were found in a place called Summer (Iraq today), which was the first great city to be discovered.

LESSON 5

Comparing and Ordering Numbers



Objectives

- ◇ Compare two numbers up to 20.



Math Tale



Counting at the Park

Tristan and Tina are twins. They are playing in the park. Tristan and Tina caught some insects.

Tristan and Tina want to know how many insects they have collected. Can you help them count and compare?



Let's Explore

These are the insects that Tristan and Tina caught. Let's help them count and compare insects.



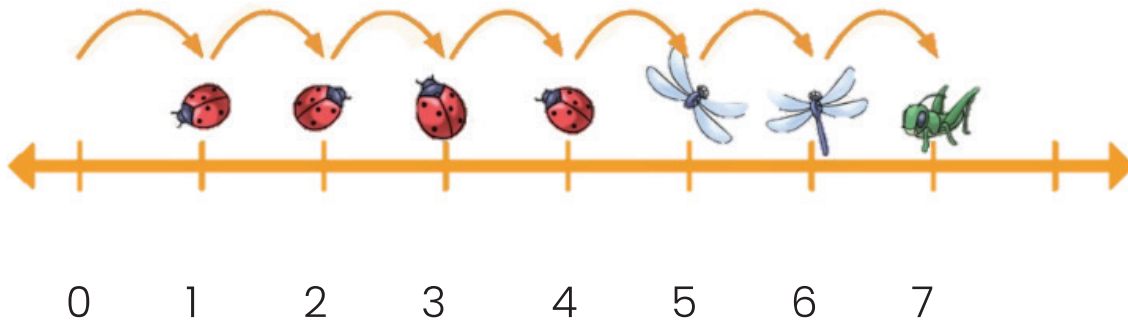
Tristan



Tina

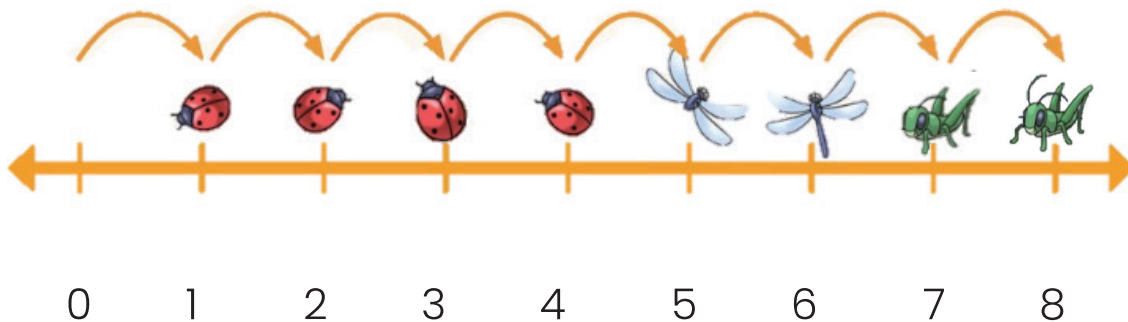
Arrange the insects in a row.

Tristan



Tristan caught 7 insects.

Tina



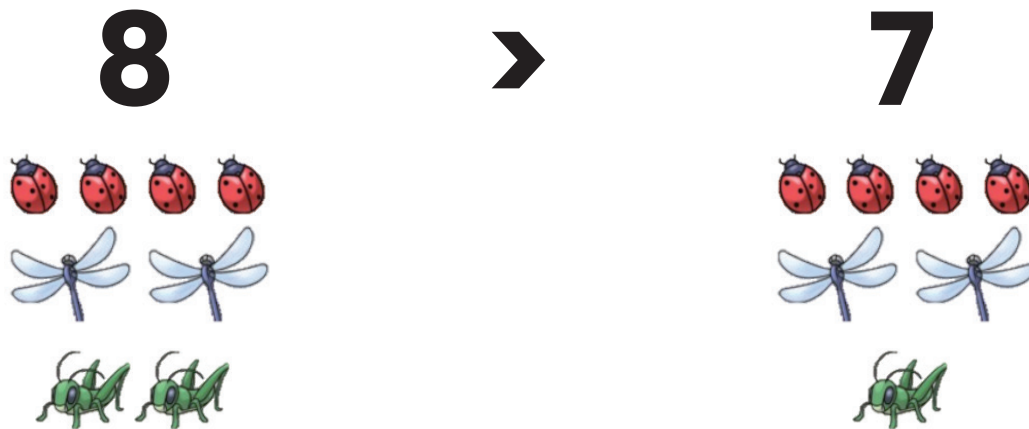
Tina caught 8 insects.

Let's find out who caught the most insects by comparing the numbers 7 and 8. Observing the number line representing Tristan's and Tina's caught, it's evident that Tina caught more insects than Tristan.

In comparing numbers, the following symbols are used:

> greater than < less than = equal to

Let's us use symbols to represent who caught more insects.



Examples:

$4 < 7$ because 4 is **less than** 7.

$10 > 6$ because 10 is **greater than** 6.

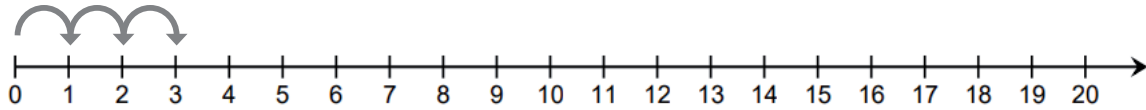
$8 = 8$ because they are the **same number**.

$12 > 10$ because 12 is **greater than** 10.

$15 < 19$ because 15 is **less than** 19.

A **Number Line** is a tool that helps us see the order of numbers clearly.

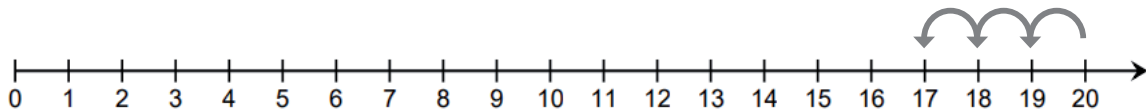
To count up, you move to the **right**.



The number that is 1 more
is the number **AFTER**.

When you count up, the
numbers become bigger.

Let's try counting backwards.

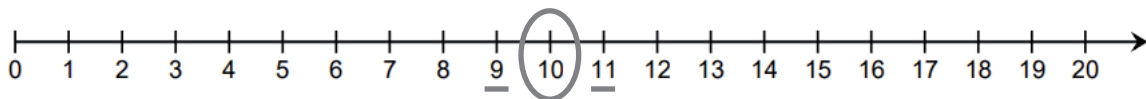


The number that is 1 less
the number **BEFORE**.

When you count down, the
numbers become smaller.

One post is covered by a board. The number is between 9 and 11. What number comes BETWEEN 9 and 11?

The numbers 5 and 7 on the number line are
underlined.



The number between 9 and 11 is encircled.

10 is between 9 and 11.

Now, arrange 19, 13, and 14 in ascending order by referencing their positions on the number line. The numbers 19, 13, and 14 in ascending order are: 13, 14, 19.

Examples:

Arrange 5, 2, and 6 from **least to greatest**.

➤ 2, 5, 6

Arrange 8, 6, and 3 from **least to greatest**.

➤ 3, 6, 8

Arrange 19, 7, and 12 from **greatest to least**.

➤ 19, 12, 7

Arrange 6, 20, and 16 from **greatest to least**.

➤ 20, 16, 6

In the parking lot, Tina saw numbers on every parking space. On their way to the mall, she counted the numbers forward. On their way home, she counted them backwards. Can you name the numbers that she saw in order?

Write the number that comes **after**.

25

27

29

Write the number that comes **before**.

25

27

29

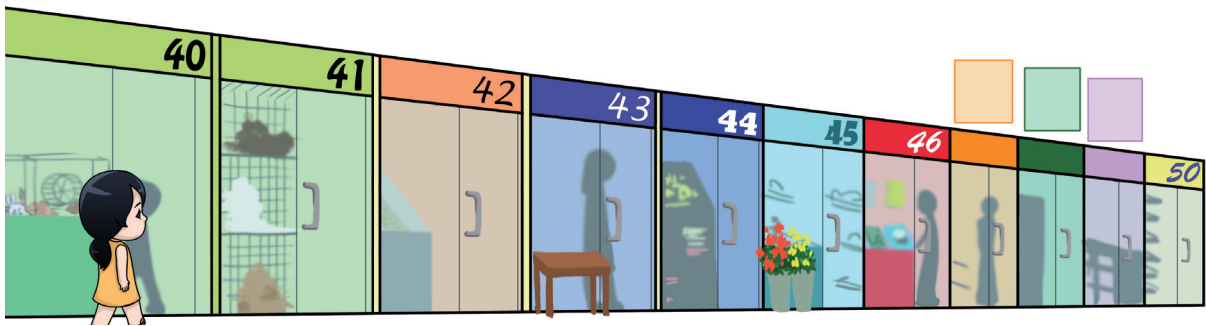
Write the number that comes **between** the two numbers.

20 22 23 25 26 28



Put to Practice

Tina left her bag in the bookshop. She needs to go back and get it. Tina remembered that she left her bag in shop number 46.



Task 1

Count the number of shops Tina would pass before she reached the bookshop.

Task 2

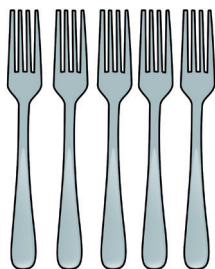
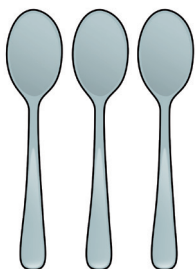
Write the number of the next three shops after the bookshop.



Skills Builder

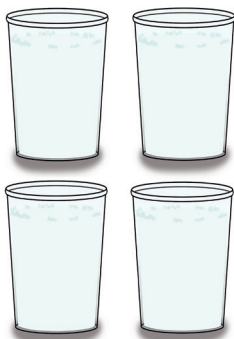
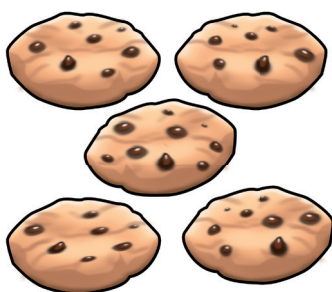
1. Compare the two sets. Write **more**, **fewer**, or **as many** in the box.

1.



There are spoons than forks.

2.



There are cookies than glasses of milk.

3.

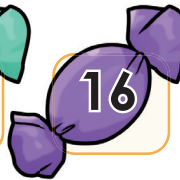


There are cups as saucers.

II. Compare the two numbers. Write the $>$, $<$, or $=$ in the .

1.    2.   
3.   

III. Write the missing numbers in the boxes provided.

1.      
2.      
3.      

IV. Arrange the numbers.

1.



Least to greatest:

 , ,

Greatest to least:

 , ,

2.



Least to greatest:

 , ,

Greatest to least:

 , ,

3.



Least to greatest:

 , , ,

Greatest to least:

 , , ,

V. Answer the following.

1. What is 1 more than 99?

2. What is 1 less than 80?



Challenge Yourself

Problem Solving Strategy: Counting Backward and Forward

The twins' pet cat, Fermat is playing with the other kittens.

1. Snowy has 1 ball of yarn more than 20.
2. Fermat has 2 balls of yarn more than Snowy.
3. Softie has 2 less balls of yarn than 35.
4. Furry has 5 less balls of yarn than Snowy.
5. Scratchy has 10 more balls of yarn than Furry.

Arrange the names of the cats based on the number of yarns they have.

Least to greatest: , , , ,

Greatest to least: , , , ,



Portfolio Prompts

Arrange the ages of the members of your family from greatest to least and least to greatest.



Fun Facts

People had a rough idea of “how many” before they invented numbers. They could tell that there were “more” sheep in one herd and “fewer” in another. But they could not count how many more sheep one herd had over the other herd.

LESSON 6

Ordinal Numbers



Objectives

- ◇ Name the position of the people or objects using ordinal numbers.
- ◇ Use the words: before, between, and after.



Vocabulary Bank

- **position** – where an object or person is in a line
- **ordinal number** – a number that shows the position in a line



Math Tale

Playtime at the Park

It's playtime at the park! Tina and Tristan are lining up for a game. What are the positions of Tina and Tristan?





Let's Explore

Ordinal numbers are used to tell the order or position of something. We write each position word in this way.



Keep in Mind

A position can be written in 2 ways: as an ordinal number or as a position word.

Ordinal Number	Position Word
1st	First
2nd	Second
3rd	Third
4th	Fourth
5th	Fifth
6th	Sixth
7th	Seventh
8th	Eighth
9th	Ninth
10th	Tenth

To find Tina's and Tristan's positions in the line, count from front to back. There are ten children in line.

Name the positions from left to right.

Usually, we name positions from left to right.



Julie	Tina	Alwyn	Anjela	Jake	Sam	Tristan	David	Carlos	Heidi
1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th

I am 2nd in line while Tristan is 7th.



Tristan's cars are lined up on the floor. His favorite car is the green one. What is its position in the line?



Let's start **from the left**. Say: 1st, 2nd, 3rd, 4th.

Tristan's favorite car is **4th from the left**.

Let's start **from the right**. Say:
1st, 2nd, 3rd, 4th, 5th, 6th, 7th.

Tristan's favorite car is **7th from the right**.

We may also show a position from left or right, from top to or bottom.

Tina bought an ice cream cone with 5 scoops of ice cream. Her favorite flavor is strawberry.

From the top, strawberry is the 4th scoop.

From the bottom, strawberry is the 2nd scoop.

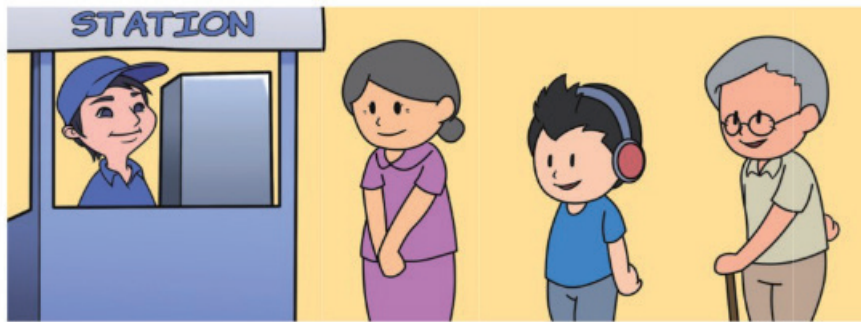




Keep in Mind

Ordinal numbers tell the order or position of people or objects in a line.

It is a hot day. Tristan falls in line at a booth to buy a drink. Where is Tristan standing in the line?



The old lady is standing before Tristan.

The old man is standing after Tristan.

Tristan is between the old lady and the old man.

Tristan is second in line.



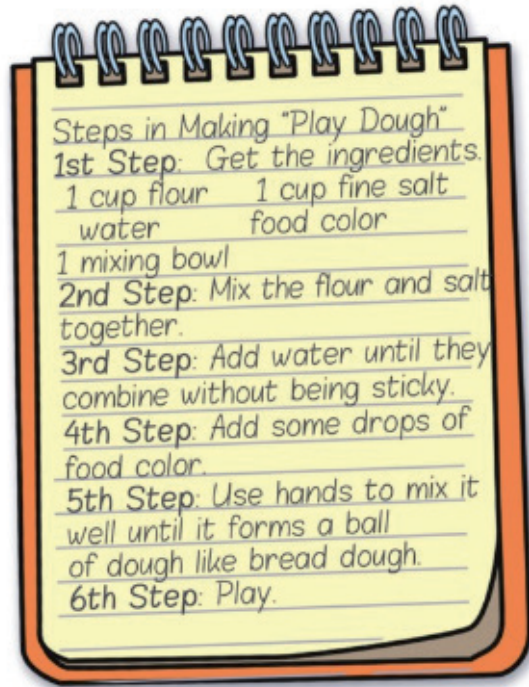
Keep in Mind

Another way to name a position is to say if it's **before**, **after**, or **between**.



Portfolio Prompts

Position words can also show a sequence of steps. The illustration shows a recipe for making Play Dough. Look for other examples that show steps in doing an activity or a recipe. Share it with your classmates.



Put to Practice

NAME: _____	001451	Php 10.00	001451
ADDRESS: _____		Bright Minds Academy	
CONTACT NO.: _____		Annual Raffle	
E-MAIL: _____		Grand Prize: 36" Smart TV,	
SOLD BY: _____		2nd Prize: Auto Washing Machine	
		3rd Prize: 7.4 cubic Refrigerator,	
		4th Prize: Microwave Oven	
		draw date: 6th July 2022	Bright Minds Academy Auditorium

Task 1

Identify all the ordinal numbers found in the ticket.

Task 2

Write the ordinal numbers in words.



Do It Yourself

Position Words Flash Cards

Know the position words from 1st to 10th with the help of these flashcards.

You will need:



cardboard or
construction paper



a pair of scissors

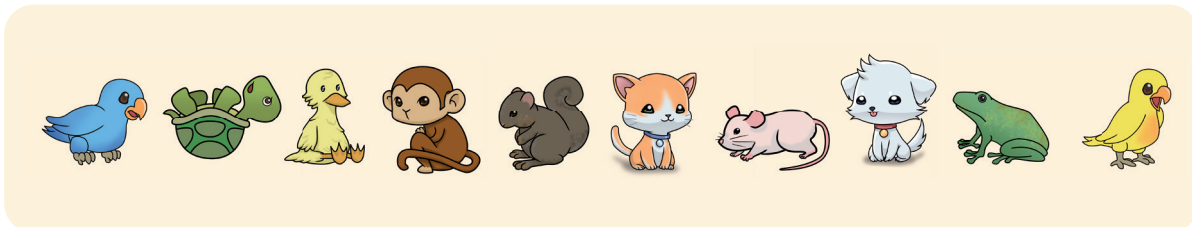
Steps:

1. Write the ordinal numbers and ordinal words on a cardboard or construction paper.
2. Cut the ordinal numbers and words using scissors.
3. Use the flash cards to identify the position of something in a line.



Skills Builder

1. Color the box with the ordinal position of each animal. Start from the left.



1. Dog	1st first	8th eighth	7th seventh
2. Cat	6th sixth	2nd second	4th fourth
3. Blue Bird	10th tenth	1st first	3rd third
4. Turtle	3rd third	6th sixth	2nd second
5. Frog	9th ninth	5th fifth	2nd second

II. Determine the position of the toys. Start from the left.



Ordinal number Position Word

Example: The  is 8th eighth

1. The  is _____ or _____ from the left.

2. The  is _____ or _____ from the left.

3. The  is _____ or _____ from the left.

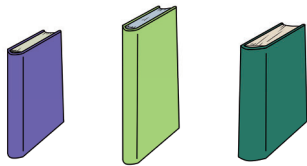
4. The  is _____ or _____ from the left.

5. The  is _____ or _____ from the left.

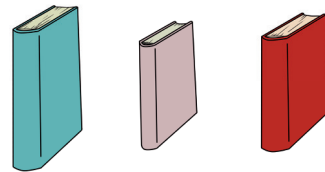
III. Which one is it? Encircle the book in the given position.



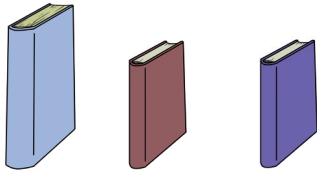
1. 2nd from the left



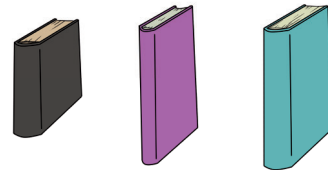
3. 3rd from the top



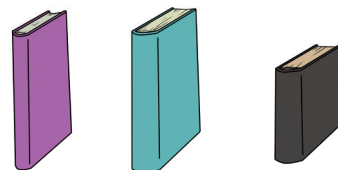
2. 1st from the right



4. first from the bottom



5. 4th from the top





Challenge Yourself

Problem Solving Strategy: Draw/Make a Model

Draw a triangle or a square in the correct ordinal position from the left.

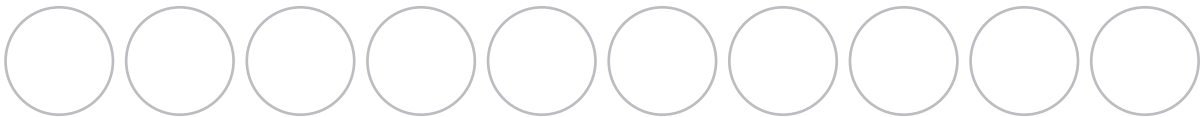
Triangle in the 3rd circle, square in the 5th circle

Triangle between the 1st and the 3rd circles

Square after the 6th and 8th circles

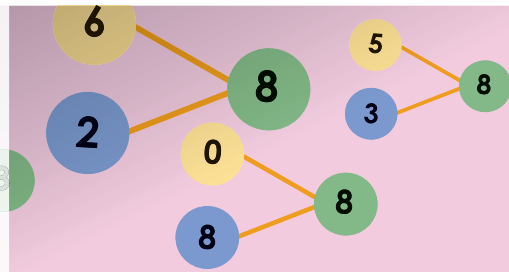
Triangle before the 7th circle

Triangle in the 4th and 8th circles; square in the 1st and 10th circles



LESSON 7

Composing and Decomposing Numbers



Objectives

- ◇ Build and break apart numbers up to 20.
- ◇ Show and explain adding numbers up to 20 using pictures and models.



Vocabulary Bank

- **whole** - complete
- **part** - one of the pieces that make the whole



Math Tale



A Day at the Market

Tina bought 8 oranges in market. She wants to share them with Tristan. In how many ways could Tina share oranges?

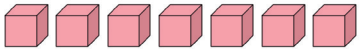
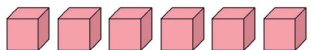
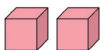
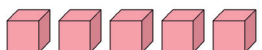
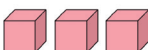
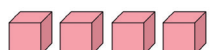
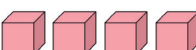


Let's Explore

Prepare your base-ten blocks for this activity. Get 1 unit for each orange. Split 8 units into 2 groups. Put some in one bin and the rest in the other bin. Try this in different ways.

Let's draw 2 parts that make up 8 on the chart.

In how many ways can we do it?

Whole 8	
Part	Part
	
	
	
	

We can also say it in different ways:

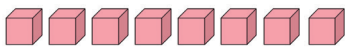
7 and 1 make 8

6 and 2 make 8

5 and 3 make 8

4 and 4 make 8

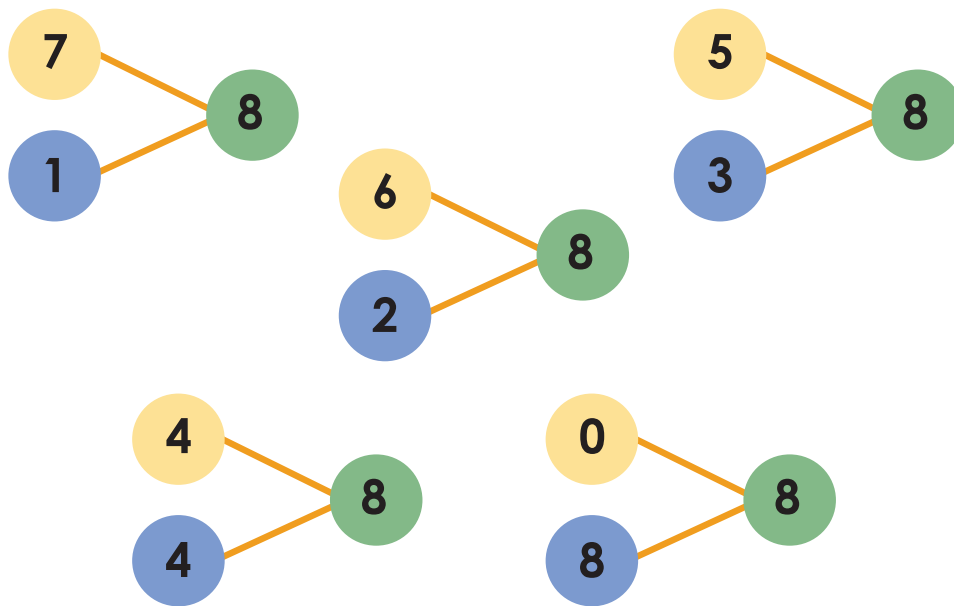
There is one more way:

Whole 8	
Part	Part
	

8 and 0 make 8

Remember, zero (0) is also a number. It means "nothing."

We can also show this using number bonds.



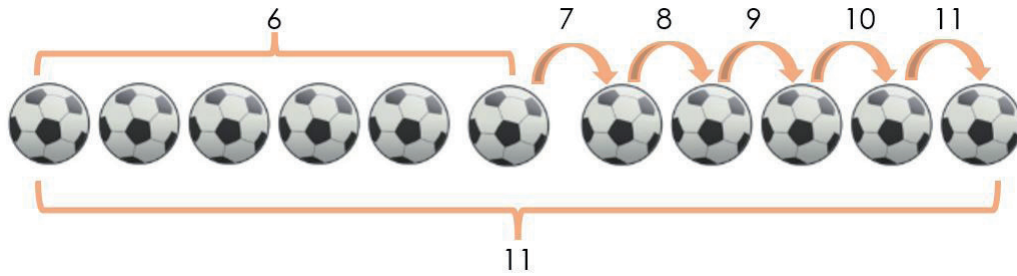
We made 8 in five ways.

Number bonds help us find numbers that add up to another number. There are different pairs of number that make up the same number.

Now, let's try again to complete the number bonds.



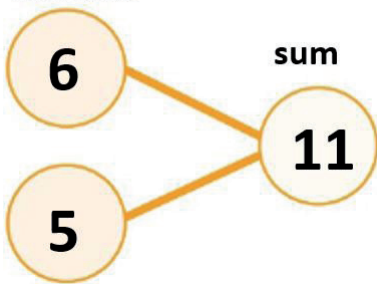
Let us count.



Counting from 6, we get 7, 8, 9, 10, 11.

6 plus 5 is equal to 11.

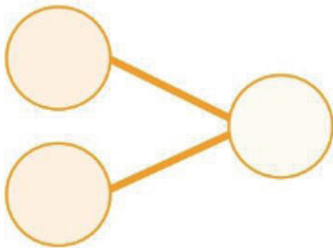
addends



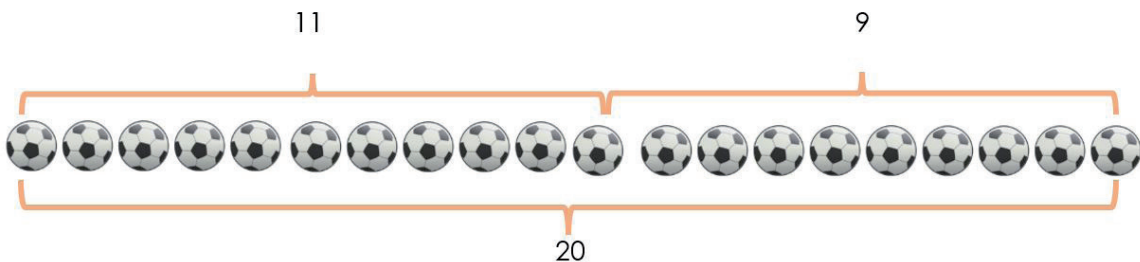
The **sum** is written inside the circle with more than one leg or connectors.

The **addends** are written in the circle with only one leg or connector.

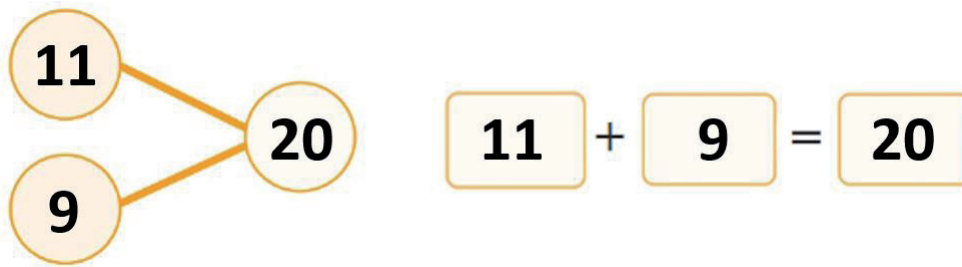
Let's try another one.



$$11 + \square = \square$$



Adding 11 and 9 will result to 20.



Mom bought 9 mangoes in the market. She asked Tina and Tristan to group the mangoes. Help Tina and Tristan group the mangoes into 2.

Draw the parts that make up 9 on the chart.

In how many ways can you do it?

Whole 9	
Part	Part

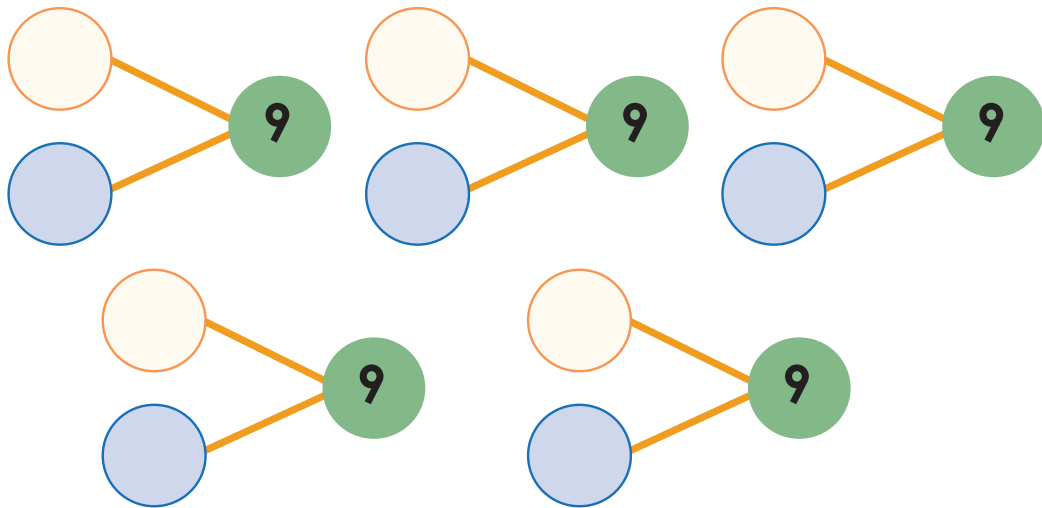
and make 9.

and make 9.

and make 9.

and make 9.

and make 9.



Put to Practice

Mom bought 10 eggs at the market. She then asked Tina to group them into 2 small baskets. Tina tried different ways of putting the eggs in each of the 2 small baskets.



Task 1

List all the combinations that Tina could do to make 10.

Task 2

Write the parts in the chart.

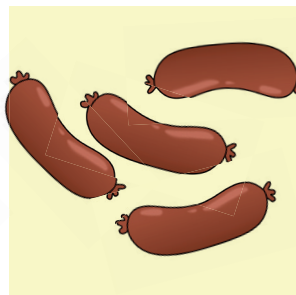
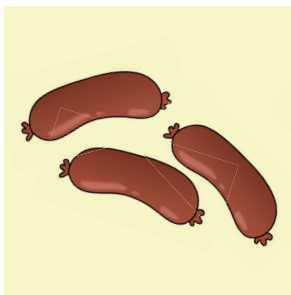
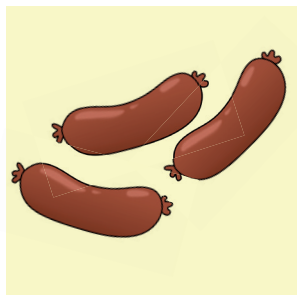
Whole 10	
Part	Part



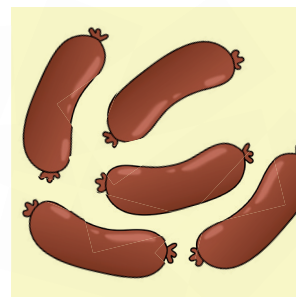
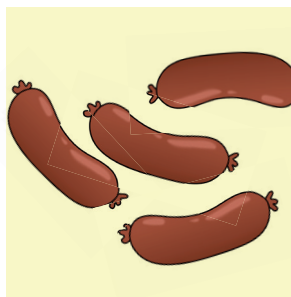
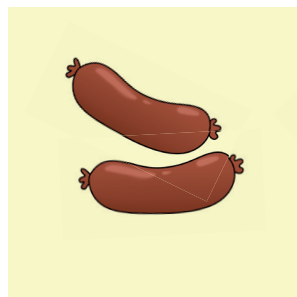
Skills Builder

1. Combine the two sets of longganisa that will “make” or show the given number.

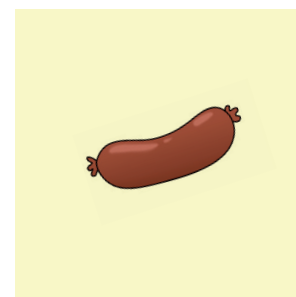
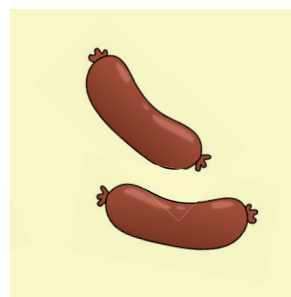
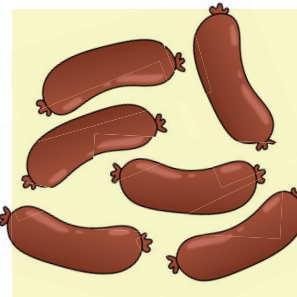
1. **7**



2. **6**



3. **8**

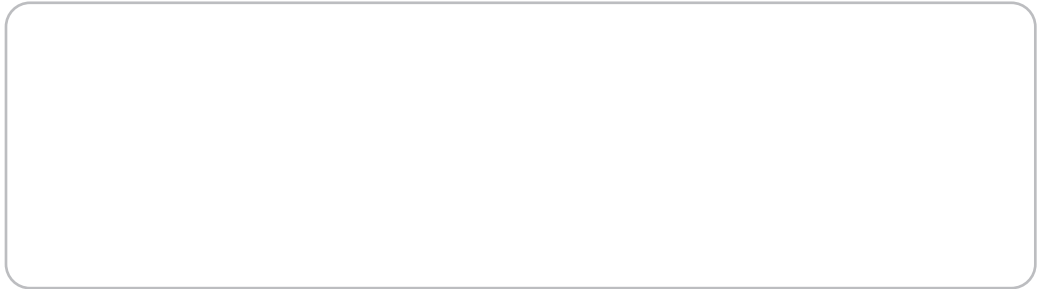


II. Draw two sets of apples to show the given number.

1. **4**



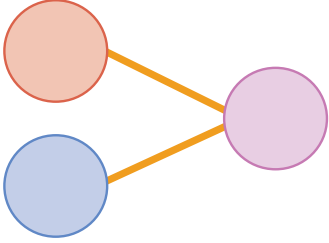
2. **10**



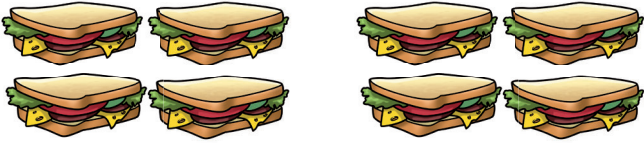
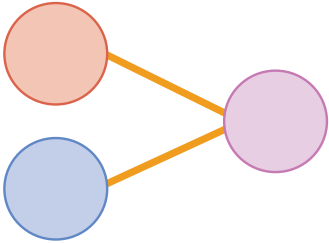
III. Match the cup and saucer that add up to 8.



IV. Complete the number bonds and the number sentences.

1.  

and make .

2.  

and make .

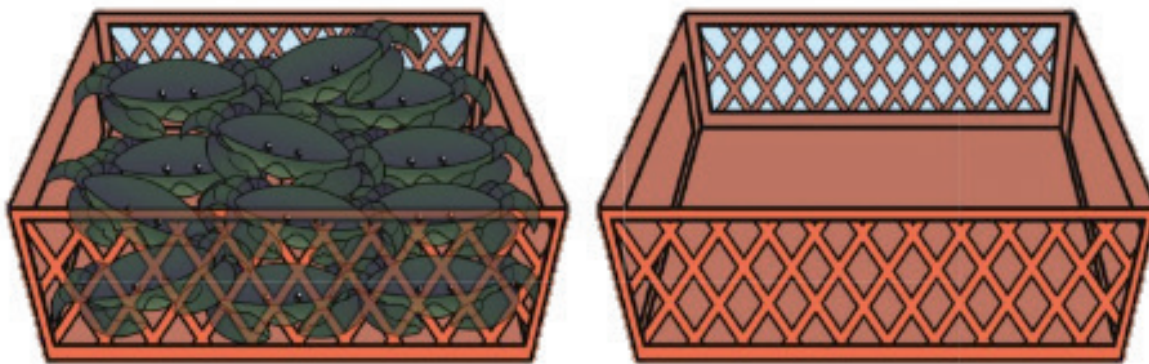


Challenge Yourself

Problem Solving Strategy: Draw a Picture

Mang Juan had 2 crates and put 12 crabs in one crate. If Mang Juan had 20 crabs, how many more crabs would he be able to put in the other crate?

Draw the crabs that Mang Juan would be able to put in the empty crate.



Portfolio Prompts

Show two different number bonds that make:

1. **5**

2. **1**

Use linking cubes or pictures.



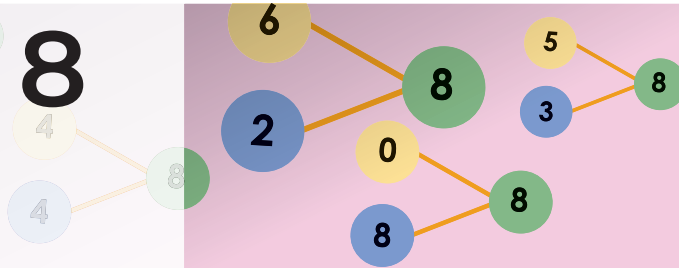
Fun Facts

More than three hundred years ago, Isaac Newton discovered that there are 7 colors in white light. The colors are red, orange, yellow, green, blue, indigo, and violet, which we all see in a rainbow.



LESSON 8

Properties of Addition

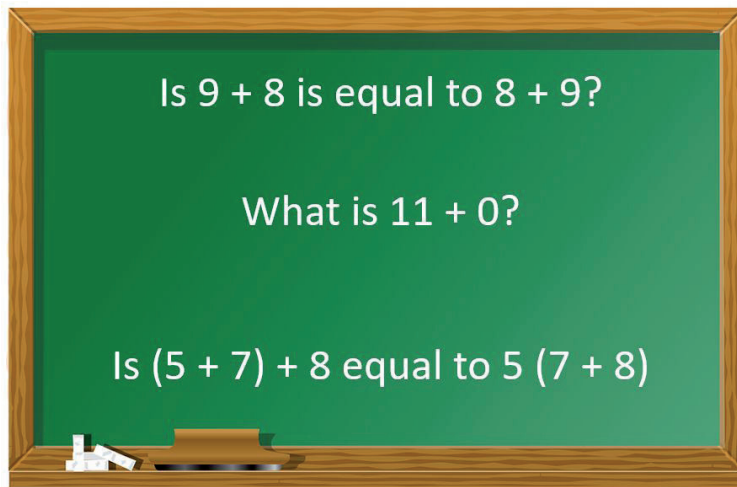


Objectives

- ◇ Understand and show basic addition rules using numbers up to 20.
- ◇ Solve simple addition problems up to 20, based on stories or pictures.



Let's Explore



Can you answer these questions?

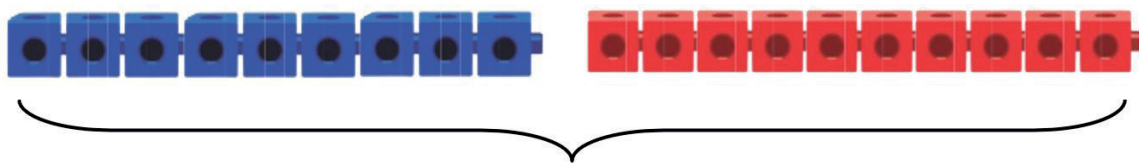
We can use the Properties of Addition to answer these problems.

Let's learn the properties of addition.

1. **Order property** - changing the order of addends does not change the sum.
2. **Zero property** - when zero is added to a number, the result is the number itself.
3. **Grouping property** - changing the grouping of addends does not change the sum.

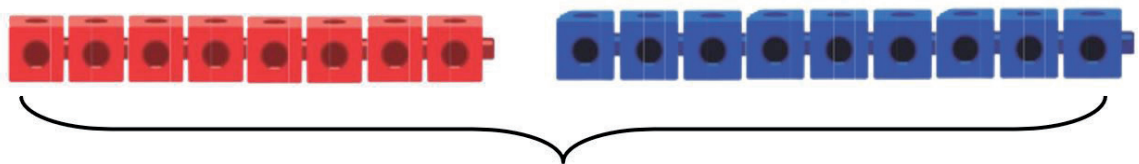
Order Property of Addition

Is $9 + 8$ is equal to $8 + 9$? Let's use our linking cubes to add



$$9 + 8 = 17$$

Let's see if $8 + 9$ is also equal to 17



$$8 + 9 = 17$$

The sum of both number sentences is 17. The order of the addends does not change the sum. This is called the **Order Property of Addition**.

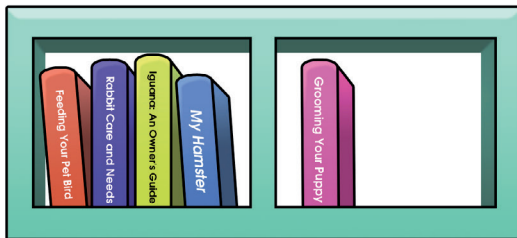
$$9 + 8 \text{ is equal to } 8 + 9.$$



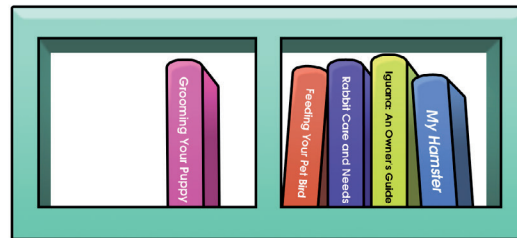
Keep in Mind

The Order Property of Addition states that changing the order or position of addends does not change the sum.

Let us find the number of books on the shelves.



$$4 + 1 = \boxed{}$$



$$1 + 4 = \boxed{}$$

How many books are there on the shelves?

Will the total number of books change if we change the order?

Zero Property of Addition

What is $11 + 0$?



$$11 + 0 = 11$$

Adding 0 to 11
give us 11.

The sum of 5 and 0 is 5. The number 0 does not change the sum. This is called the **Zero Property of Addition**.



Keep in Mind

The Zero Property of Addition states that when zero is added to a number, the result is the number itself.

Tina saw three boxes.



How many books are in the first two boxes?
Add the number of books in the third box.
What did you get?

Add the number of books in the second and third boxes. Then, add the number of books in the first box. Did the number of books change?

Grouping Property of Addition

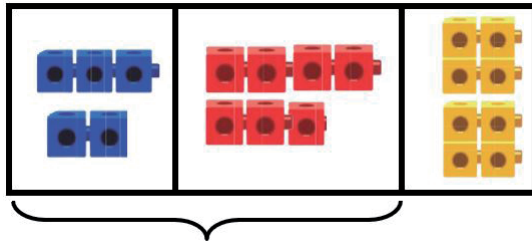
Let us see if $(5 + 7) + 8$ is equal to $5 + (7 + 8)$.

There are three numbers to add. We add two numbers first.

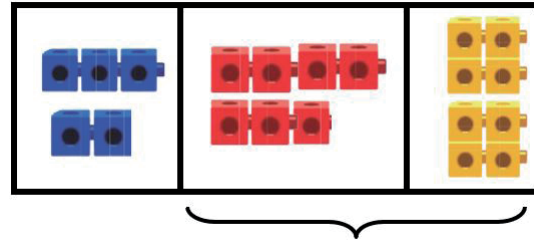
Grouping symbols like **Parenthesis** () show which numbers should be added first.

Let's check if the two number sentences are equal.

Add the two numbers inside the ().

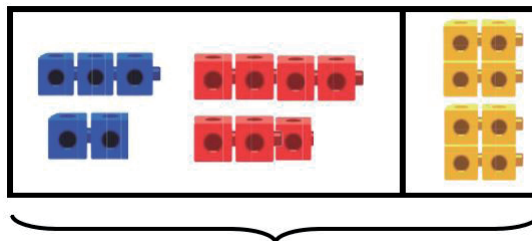


$$(5 + 7) + 8$$

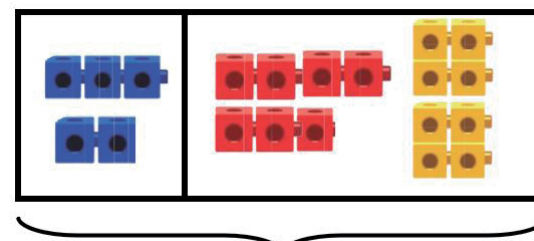


$$5 + (7 + 8)$$

Add the remaining numbers.



$$(12) + 8 = 20$$



$$5 + (15) = 20$$

$(5 + 7) + 8$ is equal to 20.

$5 + (7 + 8)$ is also equal to 20.

The Grouping Property of Addition states that changing the grouping of the addends does not change the sum.

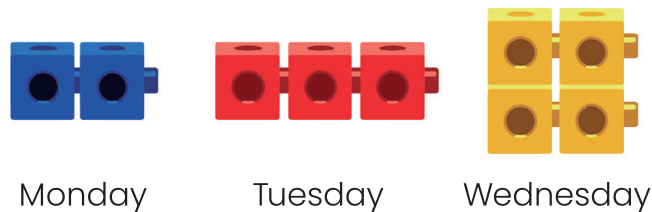
The sum does not change when we group the addends differently. This is called the **Grouping Property of Addition**.



Keep in Mind

The Grouping Property of Addition states that changing the grouping of the addends does not change the sum.

Last week, Tina read books from the library. On Monday, she read 2 books. On Tuesday, she read 3 books. On Wednesday, she read 4 books. How many books did Tina read from Monday to Wednesday?



How many books did Tina read from Monday to Tuesday?

How many books did she read on Wednesday?

How many books did she read from Monday to Wednesday?

If you add the number of books Tina read on Tuesday and Wednesday first before adding the number of books she read on Monday, will you get the same answer?



Portfolio Prompts

In this lesson, we learned the different properties of addition. Using color tiles, practice the properties with your classmates.



Skills Builder

I. What property is used? Draw the shape that represents the property shown.

_____ 1. $4 + 5 = 5 + 4$

_____ 2. $0 + 8 = 8$

_____ 3. $(2 + 6) + 1 = 2 + (6 + 1)$



Order Property



Grouping Property



Zero Property

II. Write the missing numbers.

1. $6 + \boxed{} = 6$

2. $(\boxed{} + 4) + 3 = 2 + (4 + 3)$

3. $9 + \boxed{} = 1 + 9$

4. $10 + 0 = \boxed{}$

5. $(2 + 7) + \boxed{} = 1 + (\boxed{} + 7)$

III. Do the following tasks.

Bright Minds Academy Library
Borrower's Card

Name: Tina Gonzales

Grade Level & Section: 1-Honesty



Title	Date Borrowed	Date Returned
The Cat in the Hat	JUNE 10	JUNE 11
The tale of Peter Rabbit	JUNE 10	JUNE 11
The Little House	JUNE 10	JUNE 11
Basil of Baker Street	JUNE 10	JUNE 11
Are you My Mother?	JUNE 11	
Amelia Bedelia	JUNE 11	
Caps for Sale	JUNE 11	

Tasks:

Look at the library card on the left.

Find the number of books Tina borrowed on June 10.

Find the number of books Tina borrowed on June 11.

Find the total number of books Tina borrowed from June 10 to June 11.

Tasks:

Look at the page of the logbook on the right.

Count the number of visitors from 1:00 pm to 3:00 pm.

Count the number of visitors from 2:00 pm to 4:00 pm.

Bright Minds Academy Library

Date: June 11 2021

() Morning (✓) Afternoon

Librarian: Mrs. Castro

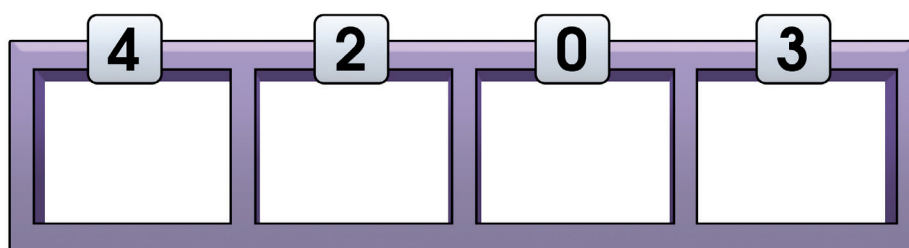
Time	Number of Visitors
12:00 PM - 1:00 PM	III - III
1:00 PM - 2:00 PM	III - II
2:00 PM - 3:00 PM	
3:00 PM - 4:00 PM	III - III
4:00 PM - 5:00 PM	III - IIII



Challenge Yourself

Problem Solving Strategy: Draw a Picture

Tina is putting books on the shelves. Tina asked Ate Tess, the librarian, for help. The correct number of books to be placed on each shelf is shown by the number on top of it. Help Tina and Ate Tess place the correct number of books in each shelf. How many books are there in all?



Tasks:

Look at the borrower's cards.

ED-56933	
Bright Minds Academy Library	
CB392	Sendak, Maurice Where the Wild Things Are
Borrower's Name	Date Due
Tina Gonzales	JUNE 8
Troy Torres	JUNE 10
Lauren Legarda	JUNE 12

ED-59435	
Bright Minds Academy Library	
CB337	Bemelmans, Ludwig Madeline
Borrower's Name	Date Due
Kim Chua	JUNE 8
Sarah Germano	JUNE 10
Jenny Lopez	JUNE 11
Chloe Cabrera	JUNE 14

ED-51202	
Bright Minds Academy Library	
CB576	Rey, Margaret Curious George
Borrower's Name	Date Due
Chloe Cabrera	JUNE 8
Ken Lee	JUNE 10
Robie Padilla	JUNE 13

Add the number of students who borrowed the books *Where the Wild Things Are* and *Madeline*. Add the sum to the number of students who borrowed *Curious George*.

Add the number of students who borrowed the books *Madeline* and *Curious George*.
Add the sum to the number of students who borrowed *Where the Wild Things Are*.

Are the two answers the same?

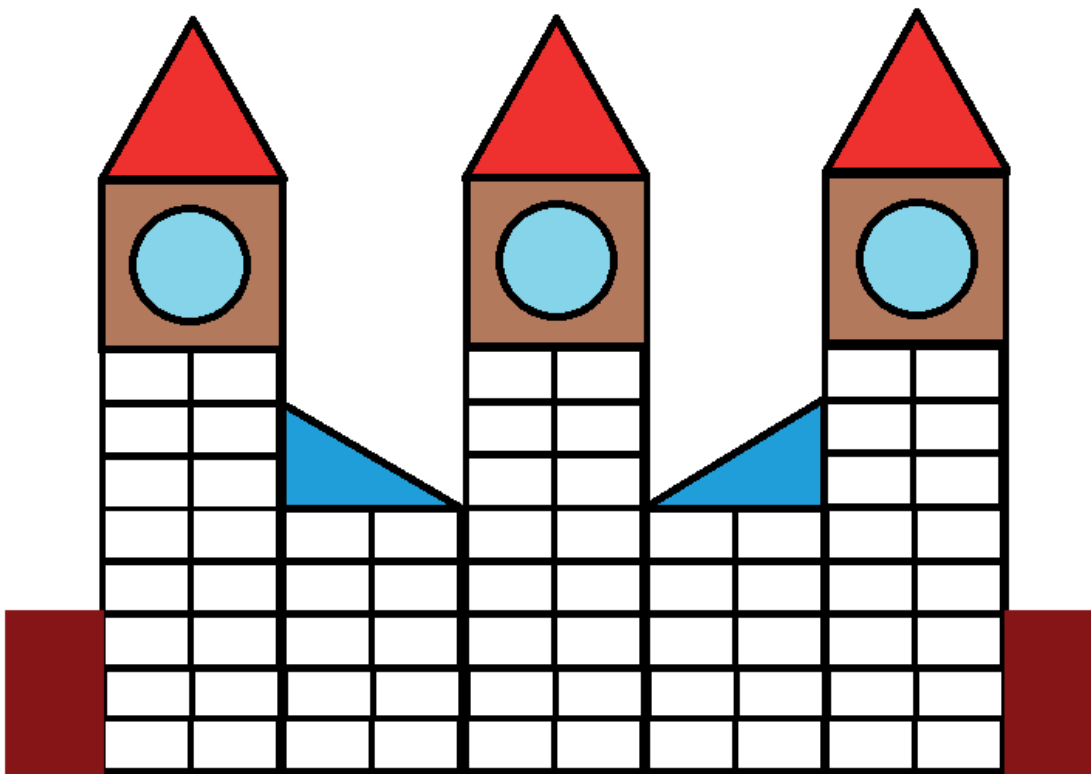


Fun Facts

In ancient times, people did not know how to represent the number zero. They left an empty space between numbers instead. Among all the numbers, zero was the last to be invented.

Unit Performance Task

In this performance task, you can distinguish simple 2-dimensional shapes, count each shape correctly and use ordinal numbers.



You are builder or engineer, and you need to determine the number of materials/shapes based on the drawing of the building. You are to show the list of materials with corresponding quantities to the owner of the building that is soon to rise. You are assessed by the following criteria.

Rubric

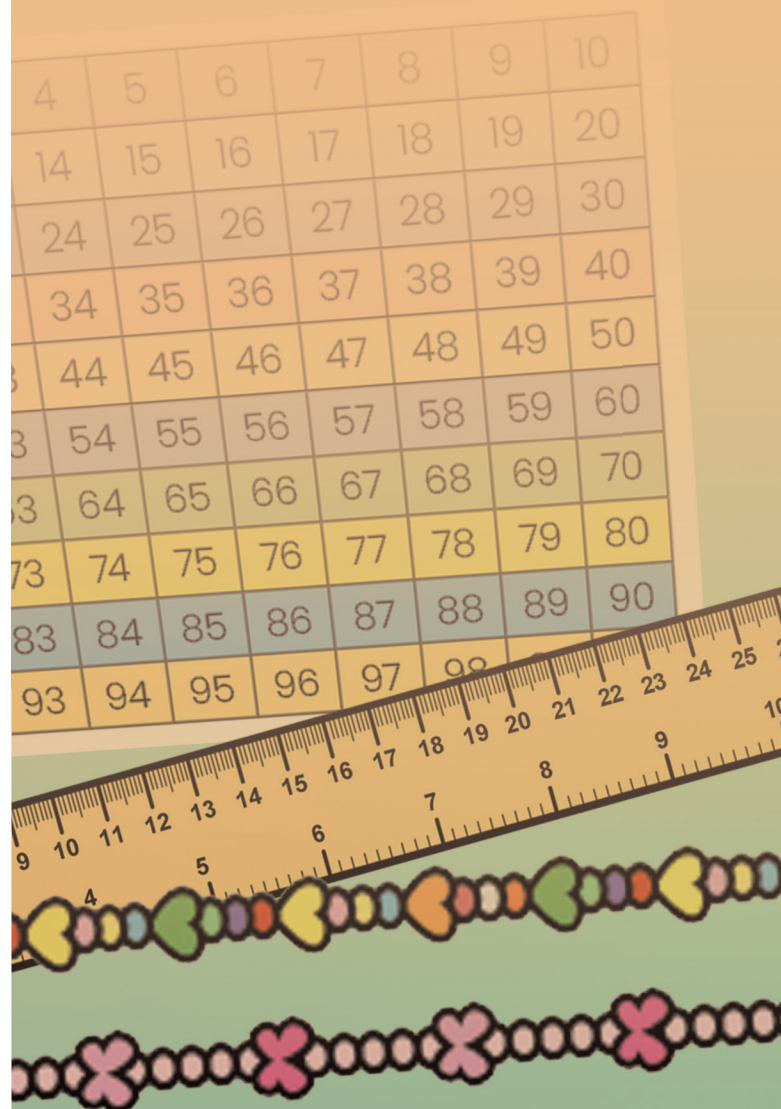
Criteria	4	3	2	1
Shape Determination	The shapes are enumerated correctly with distinction.	The shapes are enumerated correctly.	The shapes are enumerated with one error.	The shapes are enumerated with two or more errors.
Correct number of Materials	The materials are counted correctly where numbers are also written in words.	The materials are counted correctly.	The materials are counted but there is one incorrect count.	The materials are counted incorrectly.
Ordinal Numbers	There are ordinal numbers present with words.	There are ordinal numbers present.	There are ordinal numbers present but with one error.	There are two or more errors in ordinal numbers.

UNIT 2

In this unit, we'll first dive into the world of non-standard measurement. Forget about traditional rulers; here, we'll use everyday items like paper clips and even our footsteps to measure. You'll learn how to gauge the length of various objects and the distance between points with these unique units. We'll compare lengths and distances, discovering which items are longer or shorter. You'll also apply these skills to solve real-world problems, seeing how measurement is a part of our daily lives.

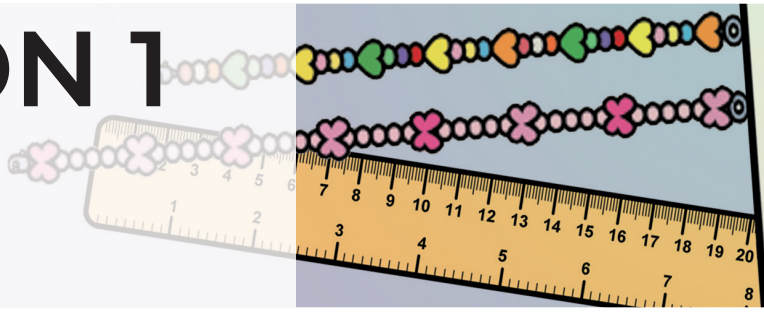
Next, we'll shift our focus to the world of numbers. You'll have fun putting numbers in order from smallest to largest and counting by 2s, 5s, and 10s up to 100. We'll explore place values in 2-digit numbers, breaking them down into tens and ones, and adding them together using a method called expanded form. You'll also practice adding numbers up to 100 without regrouping, using visual aids like objects and pictures for better understanding.

By the end of this unit, you'll have a solid foundation in both measuring with non-standard units and basic number concepts. Get ready for a hands-on experience that makes learning about measurement and numbers both engaging and enjoyable!



LESSON 1

Length



Objectives

- ◇ Compare objects using comparative words.
- ◇ Find the distance between two separate objects using the same non-standard units.



Vocabulary Bank

- **length** – how long something is
- **estimate** – to give a good guess



Math Tale

Tina and Tammy made two **long** bead necklaces. They are planning to give the **longer** one to Miss Gabriel for her birthday. Which necklace will they give to Miss Gabriel?



How would they know which one is the longer necklace?



Let's Explore

One way is to *compare*.

The necklace are both **long**.

They do not have the same length.

To compare, put the 2 necklaces side by side. Put one end together.

Are the lengths the same? Are the lengths different?



long



longer

The **butterfly necklace** is longer than the heart necklace.

The length tells you how long something is.

Another way is to use a tool.

We can use a tool to measure and compare.

We will use popsicle sticks.

How many popsicle sticks long are the necklaces?



The heart necklace is 4 popsicle sticks long.



The butterfly necklace is 5 popsicle sticks long.

5 popsicle sticks is more than 4 popsicle sticks. This means that the butterfly necklace is longer than the heart necklace.

We will give Miss Gabriel the butterfly necklace.

Comparing Three Things

Sophia made her own flower necklace. The girls are comparing the 3 necklaces they made.

To **compare**, put the 3 necklaces side by side. Put one end together.



Long

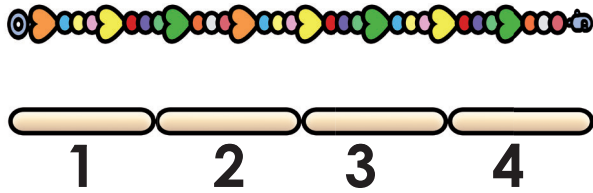


Longer

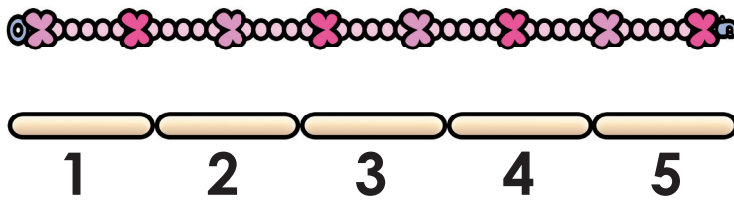


Longest

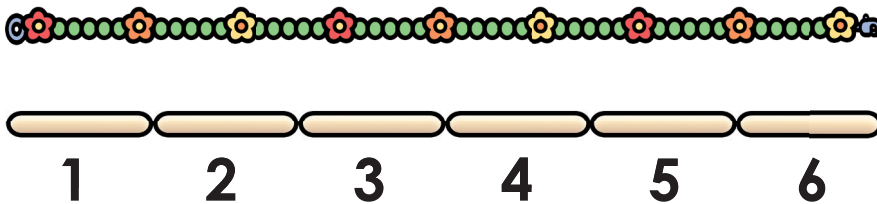
Let's use popsicle sticks to measure and compare length.
How many popsicle sticks long are the necklaces?



The heart necklace is
4 popsicle sticks long.



The butterfly
necklace is 5
popsicle sticks
long.



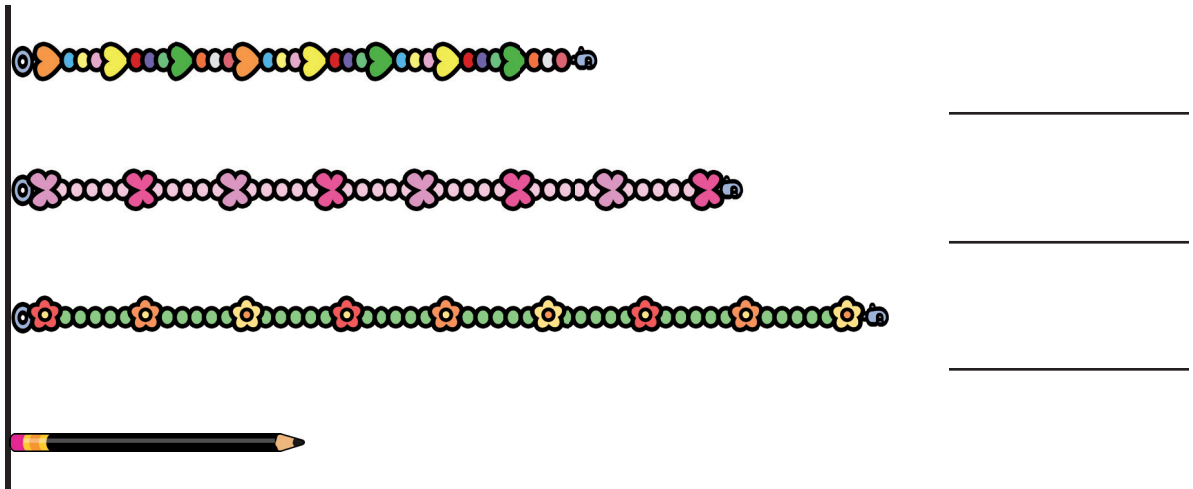
The flower necklace is 6 popsicle sticks long.

The heart necklace is **long**.

The butterfly necklace is **longer** than the heart necklace.

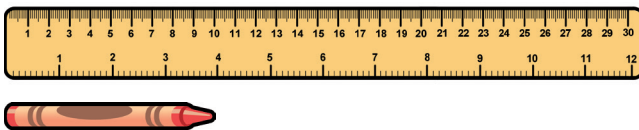
The flower necklace is the **longest** among the 3 necklaces.

We can use other objects to get the length of the necklaces.
Let's try pencils. Guess how many pencils long are the necklaces.



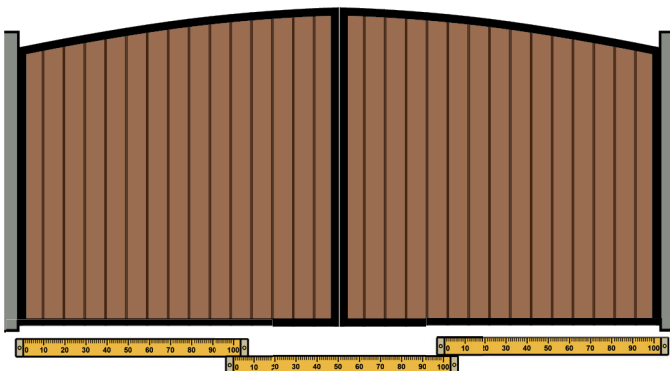
Since popsicle sticks and pencils have different lengths, it will be easier for us to use rulers.

Study how to measure the length of an object using a ruler.



A foot rule tells the length of objects in inches or centimeters.

The crayon is 4 inches long.



A meter stick tells the length in meters, m, and centimeters, cm.

The gate is 3 m long.



Keep in Mind

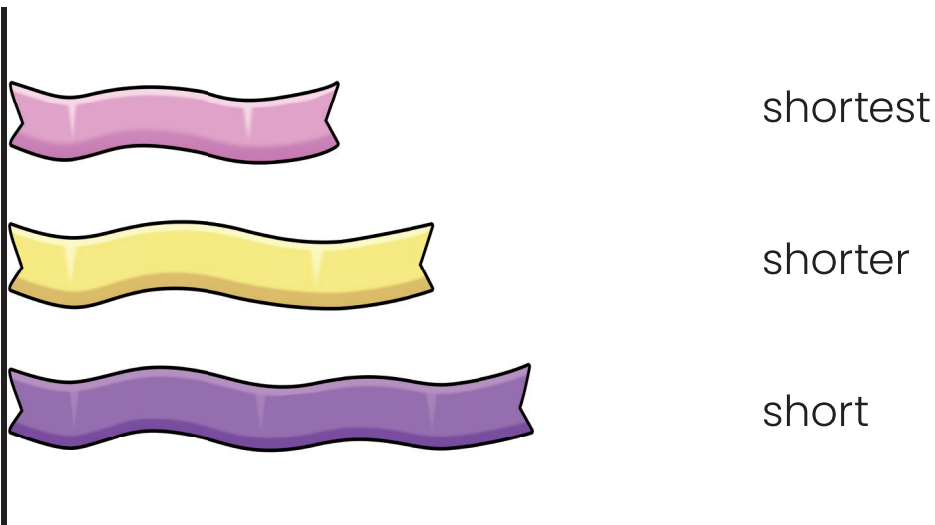
When measuring with rulers, make sure you start at zero.

Tina is in a ribbon shop. She needs a short ribbon for hanging a frame. Tina picked 3 short ribbons from the box the lady showed her. Which is the shortest among the 3 ribbons?

I need the shortest ribbon.

We can compare the 3 ribbons by placing them side by side.

I can now pick the shortest ribbon.



Check the answer by measuring each ribbon using a ruler.

The pink ribbon is the shortest. I now have a ribbon to hang my frame.



Keep in Mind

We can use different objects to measure length. The most standard way is to use a foot rule or a meter stick.



Keep in Mind

Words used for comparing

Compare 2 Things:

Short

Long

Shorter

Longer

Compare 3 Things:

Short

Long

Shorter

Longer

Shortest

Longest

Use a paper clip to measure the length of the ribbons. Estimate first before getting the actual measurements. Then use a ruler.



short



shorter



shortest

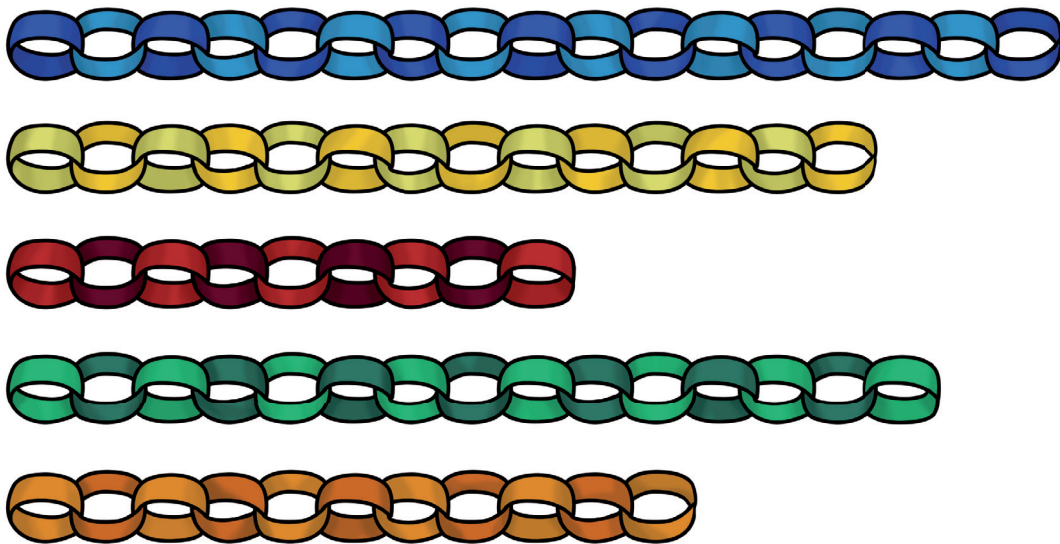
Guess/ Estimate	Actual Measurement (paperclip)	Actual Measurement (ruler)



Put to Practice

Tristan and his friends are helping Miss Alba make paper chains for the room. Miss Alba is planning to use the paper chains as decorations. She asked the boys to arrange the paper chains from shortest to longest.

Use paper clips to help Tristan and his friends to measure and arrange the paper chains. Then measure the length of the chain using a foot rule.



Task 2

Identify the color of the longest paper chain. _____

Identify the color of the shortest paper chain. _____

Identify the color of the paper chain that is longer than the yellow chain but shorter than the blue chain.



Challenge Yourself

Form a group with two of your classmates. Find each other's height using popsicle sticks, your handspan, and a ruler. Complete the table below.

Tool	Student A	Student B	Student C
popsicle sticks			
handspan			
ruler			

Did you get the same measure for each student?



Do It Yourself

Measuring Tools

We can use small objects to measure the length of a bigger object. You can make your own paper clip ruler.

You will need:

- 10 paper clips
- long strip of cardboard
- glue

Steps:

1. Line the paper clips along one side of the cardboard. write the numbers 1 to 10 above the point where two paper clips touch.
2. You now have your own paper clip unit ruler.

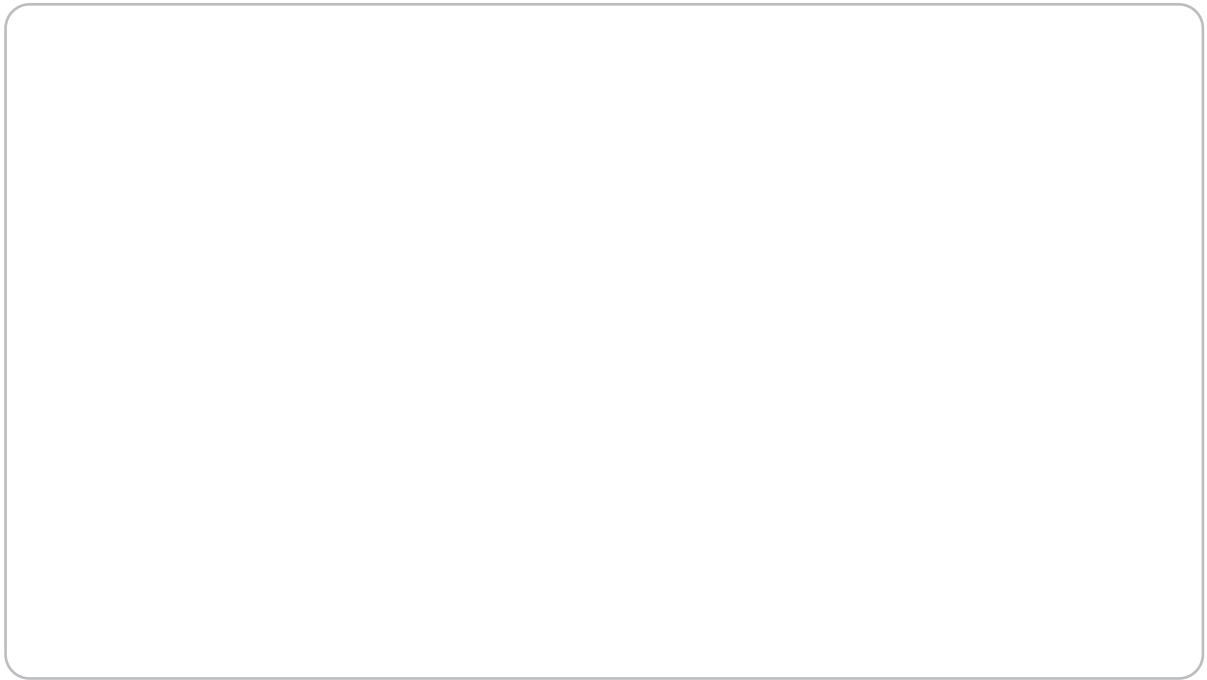


Skills Builder

I. Draw 3 lines with different lengths.

Use an orange crayon to draw the shortest line.

Use a blue crayon to draw the longest line..



II. Use a paper clip to measure.

How many paper clips long is the long side of this book?

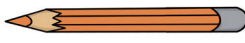
How many paper clips long is the short side of this book?

How many paper clips tall is this box?



III. Compare the two items. Encircle the correct word to complete the sentence.

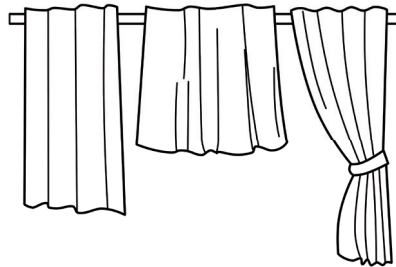
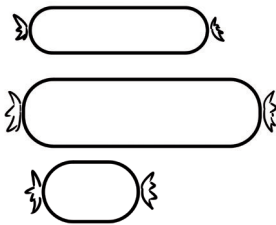
The  is (shorter, longer) than the .

The  is (shorter, longer) than the .

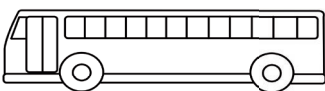
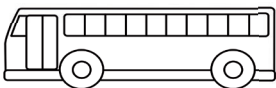
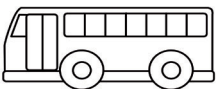
The  is (shorter, longer) than the .

IV. Color the shortest and longest things in the following sets.

Shortest



Longest

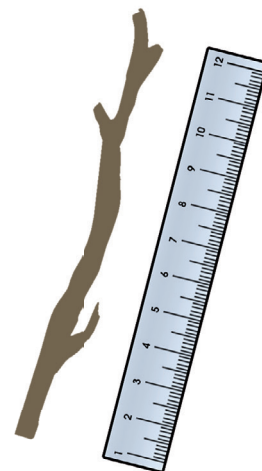
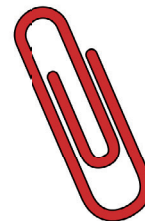
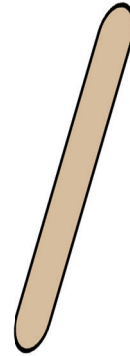


V. Match the objects that can be used to measure the things in Column A.

Column A



Column B





Challenge Yourself

Problem Solving Strategy: Logical Reasoning

Tristan was asked to measure the length of the teacher's table. He could use paper clips or popsicle sticks to measure. Which do you think would be easier to use, paper clips, or popsicle sticks?

My Own Foot Ruler

Many years ago, people used their feet to measure things.

Cut a Manila paper into a long strip. Lay it on the floor. Walk on the paper strip and trace your footsteps. Make sure that the traces touch and make a line. When your own foot ruler is done, you may use it to measure big objects around your home.



Fun Facts

The Philippine Tarsier is considered one of the smallest known nocturnal primates. It can be found in the islands of Samar, Leyte, Bohol, and Mindanao.



LESSON 2

Problem Solving Length



Objectives

- ◇ Compare lengths and distances using non-standard units.
- ◇ Solve problems involving lengths and distances using non-standard units.



Math Tale

Luis wants to find the distance of the two trees from his house, but he doesn't have any measuring tool. What Luis should do to measure its distance?

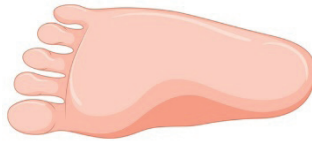
What everyday objects around him could Luis use to estimate the distance of two trees?





Let's Explore

Luis can use his foot as the tool to determine the distances of two trees from his house.

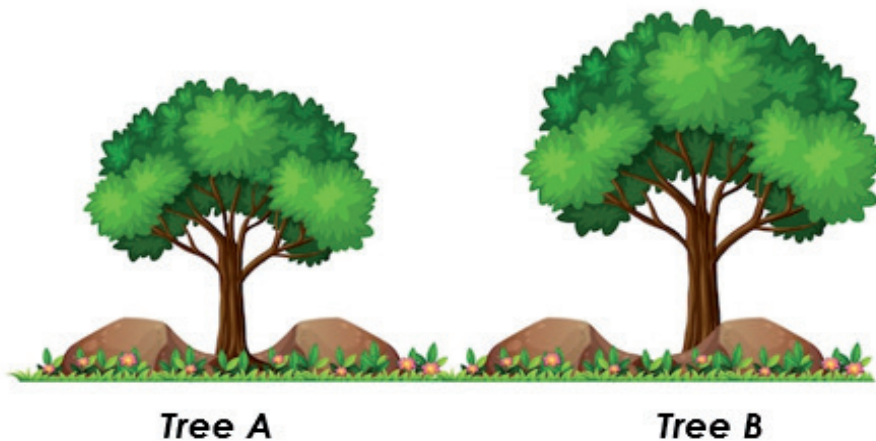


He walks from his house to Tree A. It measures **15 feet**.

He goes back to his house and walk again until he reaches the Tree B. It measures **24 feet**.

Which one is closer to his house? Tree A or Tree B?

Tree A measures 15 feet while Tree B measures 24 feet. Thus, Tree A is closer to Luis' house.



Based on the picture, which tree is taller?

Tree B is taller than Tree A.



Keep in Mind

Length is how long something is, like the length of a string from end to end. We measure length to know the size of things.

Distance is how apart two things are, like the space between your home and school or a park and a friend's house.

In short, length is about how long things are and distance is about how far apart they are.

Measuring Pencil Length

- I. Use paper clips to measure the length of your pencil. Write down how many paper clips long it is.

- II. Use pencils to measure the length of your desk. Write down how many pencils long it is.

- III. Compare: Which is longer, your pencil or your desk? How many paper clips/pencils longer?

Distance Between Objects

- Use your feet to measure the distance from your desk to the classroom door. Count and write down the number of steps.

- Use the same method to measure the distance from your desk to the nearest window.

- Compare: Which is farther from your desk, the door or the window? How many steps farther?



Put to Practice

Sofia and her classmates are creating a miniature garden for their school project. They have decided to make small fences around the plants using sticks they collected from the park. Sofia needs to make sure each fence is appropriate for the size of the plant it will surround. She has decided to use the length of a pencil as her non-standard unit of measurement.

The class has four types of plants that vary in size, and Sofia has laid out the sticks next to each plant. Here's what she has:

A sunflower plant surrounded by 8 pencil lengths of sticks.

A tomato plant surrounded by 6 pencil lengths of sticks.

A basil plant surrounded by 5 pencil lengths of sticks.

A strawberry plant surrounded by 7 pencil lengths of sticks

Task 1

Help Sofia arrange the stick fences from shortest to longest based on the pencil lengths. Write the type of plant on the blanks provided.

Shortest Fence: _____ plant.

_____ plant.

_____ plant.

Longest Fence: _____ plant.

Task 2

Identify the type of plant with the longest stick fence.

Identify the type of plant with the shortest stick fence.

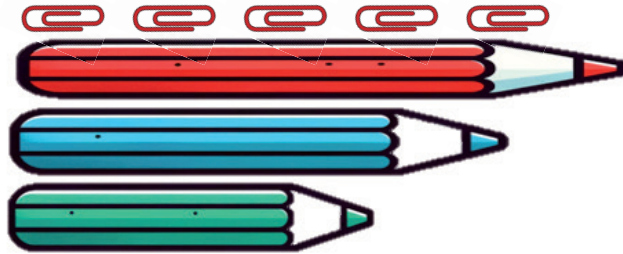
Identify the type of plant whose stick fence is longer than the basil plant's but shorter than the sunflower plant's.



Skills Builder

I. Miss Lee has three pencils. She wants to know which pencil is the longest and which one is the shortest.

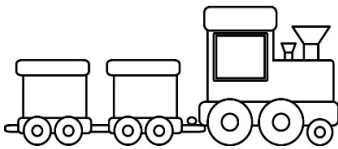
Write down how many paper clips long each pencil is.



1. Red pencil: _____ paper clips
2. Blue pencil: _____ paper clips
3. Green pencil: _____ paper clips

II. Count how many units long the object.

1. How many units long is the toy train? _____



2. How many units long is the pencil? _____

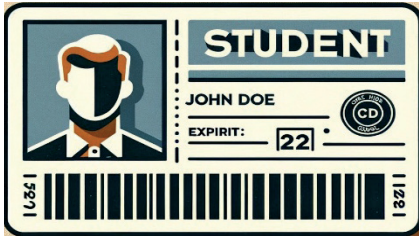


3. How many units long is the eraser? _____



--	--	--	--	--	--	--	--	--	--

4. How many units long is the ID? _____



--	--	--	--	--	--	--	--	--	--

5. How many units long is the bracelet? _____



--	--	--	--	--	--	--	--	--	--



Challenge Yourself

Distances in the Classroom

Use your footsteps to measure the distance from your desk to the classroom door. Use your footsteps to measure the distance from the classroom door to the nearest window.

Question: Which distance is greater? By how many footsteps?

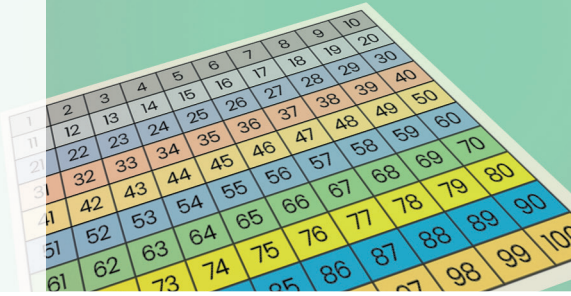


Keep in Mind

Before standard units like meters and feet, people used body parts for measuring. The length of a “*foot*” was actually based on the human foot, and the “*inch*” was derived from the width of a thumb!

LESSON 3

Ordering Number from 1 to 100



Objectives

- ◇ Order numbers up to 100 from smallest to largest, and vice versa.



Math Tale

Mrs. Riego announced the top 5 of her class with averages of 85, 86, 88, 87, and 90. Tristan is one of them and got 88 and he wants to know what his rank is. What should Tristan do?



Let's Explore

Let's help Tristan identify his rank.

You already know how to count number from 1-100.



Let's count using the table below.

1	2	3	4	5	6	7	8	9	10

On the first row, we put the first 10 numbers.

What is the next number after 10?

That is 11. For the next row we put numbers 11-20.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20

Remember that when we order a number, we always start with smaller number.

Let's keep counting until we'll reach 100.

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

What have you noticed in the table?

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

As you can see, in the first column of the table. All numbers end with 1. In other columns it ends with 2, 3, 4, 5, 6, 7, 8, 9, and 0.

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

Now let's go back to the problem.

The top 5 of the class got 85, 86, 88, 87, and 90.

Let us arrange these numbers in order.

We have **85, 86, 87, 88, 90**.

The numbers are arranged from smallest to largest.

Let us try to arrange their grades from largest to smallest.

We have **90, 88, 87, 86, 85**.

The numbers are arranged from largest to smallest.

If Tristan got 88, he is second from the biggest meaning he is 2nd rank.

Let's have another example.

Given the numbers: 83, 85, 84, 87, 86

Arrange the numbers from smallest to greatest:

83, 84, 85, 86, 87

Ordering number from smallest to greatest means you count numbers from left to right in the number line. This also known as **ascending order**.

Now, let us arrange the same set of numbers from greatest to smallest.

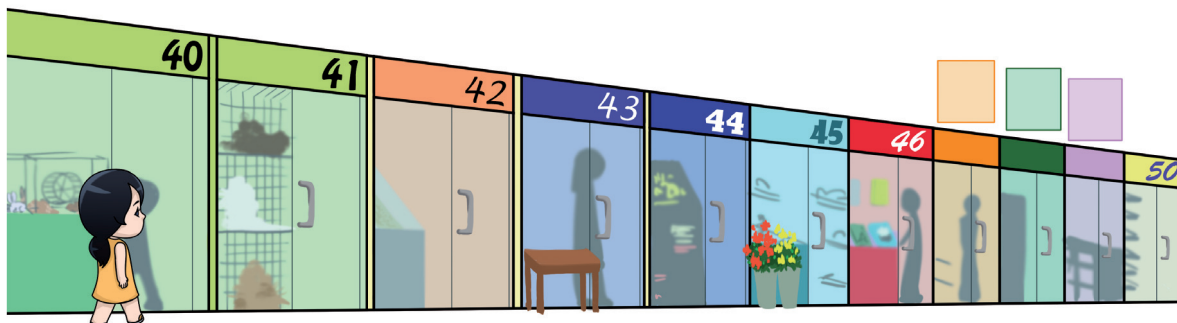
87, 86, 85, 84, 83

Arranging numbers from greatest to lowest means you count numbers from right to left in the number line. It also called **descending order**.



Put to Practice

Tina left her bag in the bookshop. She needs to go back and get it. Tina remembered that she left her bag in shop number 46.



Task 1

Count the number of shops Tina would pass before she reached the bookshop.

Task 2

Write the numbers of the next three shops after the bookshop.

Tina saw 3 packs of biscuits in the grocery store. One pack has 15 biscuits, another has 20 biscuits, and the last one has 25 biscuits. Compare the number of biscuits and arrange them.

Which pack has the most number of biscuits?
How many biscuits are there?

Which pack has the least number of biscuits?
How many biscuits are there?

Arrange the numbers from least to greatest.

Arrange the numbers from greatest to least.



Put to Practice

Tina saw three packs of oatmeal. The packs show how much each weighed.



Task 1

Arrange the numbers from least to greatest.

Task 2

Arrange the numbers from greatest to least.



Skills Builder

I. Write the missing numbers in the boxes provided.



3.

II. Arrange the numbers.

1.

Least to greatest:

 , ,

Greatest to least:

 , ,

2.

Least to greatest:

 , ,

Greatest to least:

 , ,

3.

Least to greatest:

 , , ,

Greatest to least:

 , , ,

III. Write the missing number inside the marble.



Challenge Yourself

Problem Solving Strategy: Counting Backward and Forward

The twins' pet cat, Fermat is playing with the other kittens.

1. Snowy has 1 ball of yarn more than 20.
2. Fermat has 2 balls of yarn more than Snowy.
3. Softie has 2 less balls of yarn than 35.
4. Furry has 5 less balls of yarn than Snowy.
5. Scratchy has 10 more balls of yarn than Furry.

Arrange the names of the cats based on the number of yarns they have.

Least to greatest: , , , ,

Greatest to least: , , , ,



Portfolio Prompts

Arrange the ages of the members of your family from **greatest to least** and **least to greatest**.



Fun Facts

People had a rough idea of “how many” before they invented numbers. They could tell that there were “more” sheep in one herd and “fewer” in another. But they could not count how many more sheep one herd had over the other herd.

LESSON 4

Skip Counting by 2s, 5s and 10s up to 100



Objectives

- ◇ Counts by 2s, 5s and 10s up to 100.



Vocabulary Bank

- **skip count** – counting by groups; fast counting



Math Tale

The Grade 1 students are playing “The Boat Is Sinking.” They have to group themselves by pairs. Tristan wants to count his classmates two at a time.

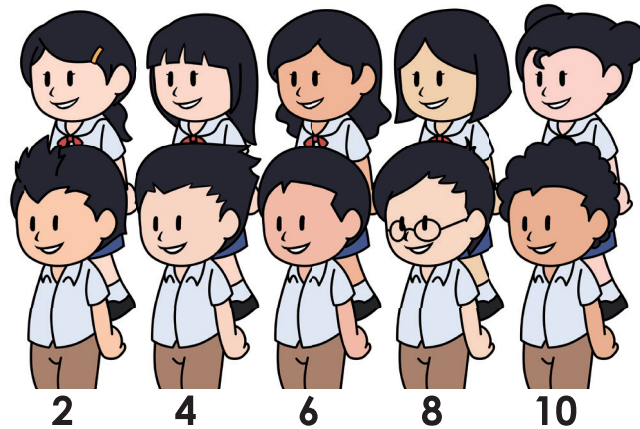
Let’s help him count by 2s.





Let's Explore

Skip counting makes counting faster. When we have a lot to count, skip counting can help.



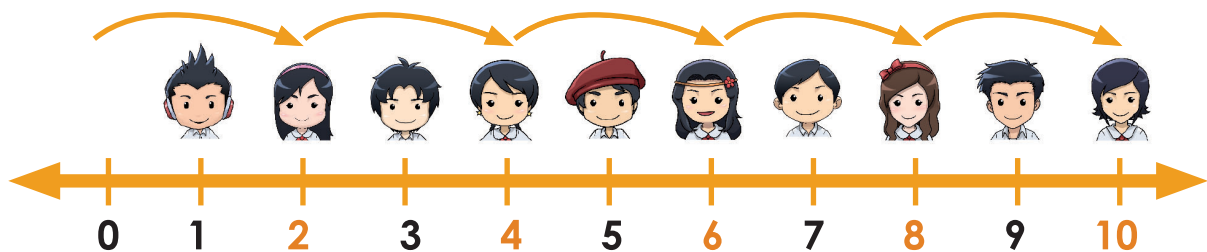
We can skip count using a number line or a 100s chart.

Skip Counting by 2s:

Here's how we can skip count by 2s from 0 to 10 **using a number line**.

First, we start at zero [0].

We count by **skipping** one number. Let's move across the number line to the right, counting by 2s.



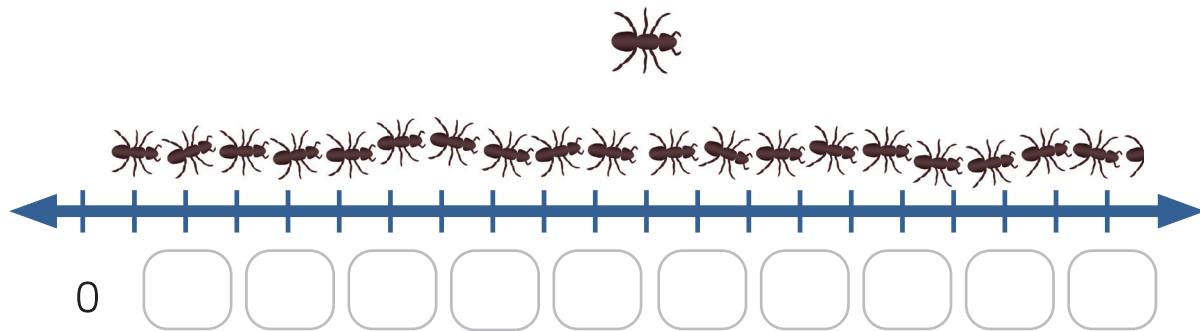
We counted 10 children by 2s!



Keep in Mind

When we skip count by 2s, we count in groups of 2 instead of one by one.

Tristan is watching a line of ants in the school cafeteria. He wants to count the ants, but they are moving too fast. How could he count all the ants before they hide under a rock? Help Tristan count the ants by 2s. Write the number inside the box as you count.



Skip Counting by 5s and 10s

Why do we need to skip count by 5s or 10s?

Skip counting can help us count many objects faster.

Here's how to **skip count by 5s and 10s using a 100s chart**.

To use a number chart, start from the top row and count from left to right. Continue counting on the next row, moving from left to right, until you reach 100.

First, count from 1 to 5:
1-2, 3, 4, **5**

Color the number 5 with a red crayon.

Next, move from 5 and count up by 5 again:

5-6, 7, 8, 9, **10**

Each time you count by 5s, color the number you land on with a red crayon.

Move along the number line counting by 5s until you reach 100.

You have skip counted by **5s: 5-10-15-20-25-30-35-40-45-50-55-60-65-70-75-80-85-90-95-100.**



Keep in Mind

When we skip count by 5s, we count in groups of 5 instead of one by one.

Now, let's skip count by 10's.

Count from 1 to 10. 1-2, 3, 4, 5, 6, 7, 8, 9, **10**.

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

In the chart,
color the
number 10 with
a blue crayon.

Next, move from 10 and count up to 20:

10-11, 12, 13, 14, 15, 16, 17, 18, 19, **20**.

Each time you count by 10, color the number you land on with a blue crayon.

Move along the number line, counting by 10s until you get to 100.

You have now skip counted by **10s**:
10-20-30-40-50-60-70-80-90-100.

All the numbers counted by 5s end in 5 or 0. All the numbers counted by 10s end in 0. Are all the numbers you counted by 10s also counted by 5s?

Red and yellow make orange. In your 100s chart, the numbers counted by 10 should be in orange.



Keep in Mind

When we skip count by 10s, we count in groups of 10 instead of one by one.

Fill in the boxes. Count by 5s.

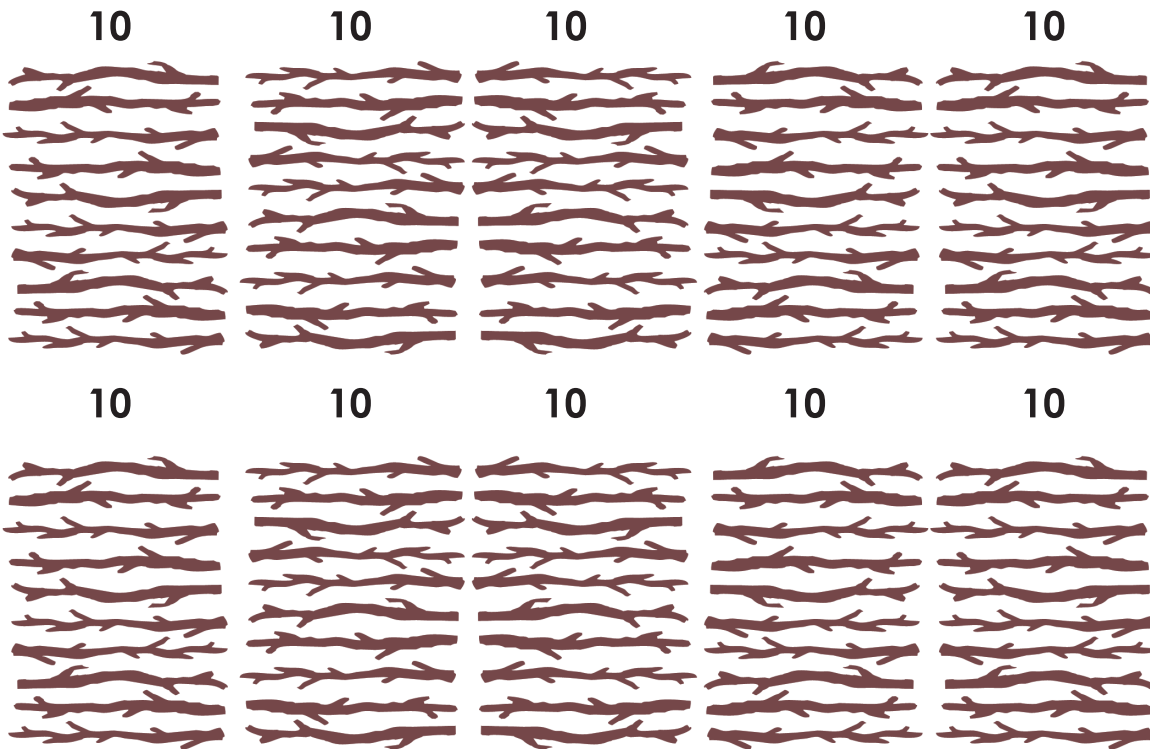
5 10

15 20

How many numbers do you skip when you count by 5s?

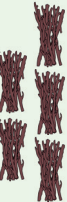
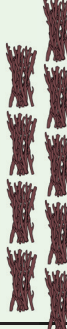
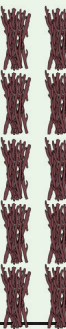
Counting to 100 by 10s

Now, let's find a way to count a big number like 100.



Tristan needs a lot of twigs to build a box. He collected 10 piles. Each pile has 10 twigs.

Look at the table below.

Number	10	20	30	40	50	60	70	80	90	100
How many?	1 ten	2 tens	3 tens	4 tens	5 tens	6 tens	7 tens	8 tens	9 tens	10 tens
										
Number Word	Ten	Twenty	Thirty	Forty	Fifty	Sixty	Seventy	Eighty	Ninety	One hundred

We learned that skip counting can help us count faster. Let's help Tristan count by 10s.

Put 1 counter for each of the twigs.

Every pile has 10 twigs. So each row represents one pile.

Count the first row and write the numeral and number word for the last number. Continue counting on the next row and write the numeral and number word of the last number for that row.

There are 10 piles of twigs.

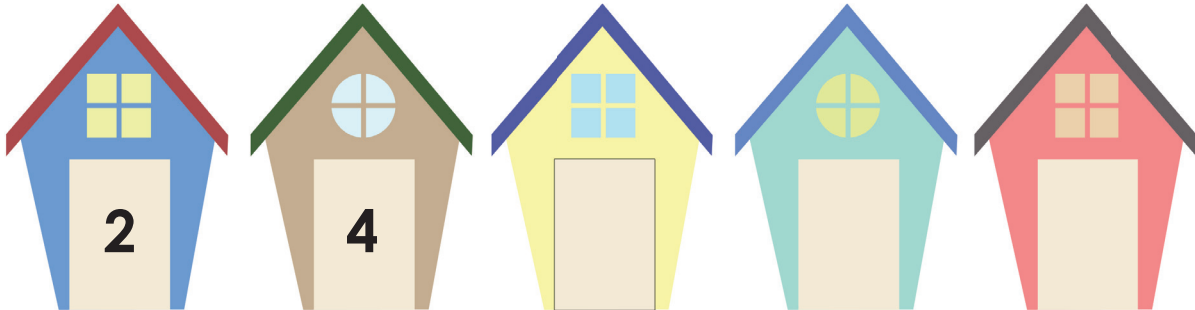
Count the filled up rows by 10s. Say the last number in each row: **10-20-30-40-50-60-70-80-90-100.**

We counted to 100. There are 10 **tens**.
One hundred is the number word.



Put to Practice

On the way home from school, Tina saw the numbers of the houses on her street. The numbers skip by 2. Tina lives in house number 2. She is wondering what the numbers of the next 3 houses are.



Task 1

Help Tina find out what the numbers of the next three houses are. Remember to skip count by 2s.

Task 2

Help Tina to find out what is the number of the last house.



Skills Builder

1. Fill in the missing numbers. Skip count by encircling each number as you count.

Use a **blue crayon** to count **by 10s**, a **red crayon** to count **by 5s**, and a **yellow crayon** to count **by 2s**.

1	2	3	4		6	7	8	9	10
11	12		14	15	16	17	18	19	20
21	22	23	24	25	26	27	28		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		67	68	69	70
71		73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88		90
91	92	93	94	95	96	97	98	99	100

II. Do the following tasks.

1. Skip count by 2s. Write the missing numbers.

2, 4, , , 10, , 14, , 18,

2. Skip count by 5s. Write the missing numbers.

5, , 15, , , 30, 35, , , 50

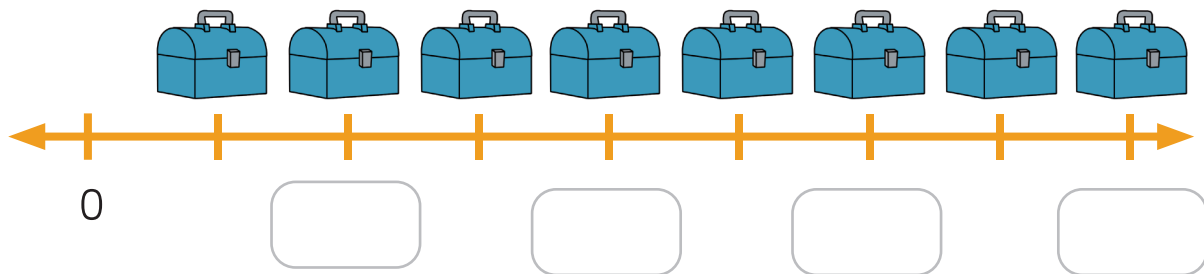
3. Skip count by 10s. Write the missing numbers.

10, 20, , , , 60, , 80, , 100

4. Tristan counted the boys in his class by pairs. He counted 2, 4, 6, 8, 10, 12, ...

He missed a number. Write the number in the box.

5. Skip count by 2s. Fill in the boxes with the correct number.



Challenge Yourself

Problem Solving Strategy: Logical Reasoning

Tina saw a plant with pretty leaves. She noticed that the leaves come in pairs. She started counting the leaves: 2, 4, 6, 8, 10, 14, 18, 20, 22, 24. Tristan noticed that she missed some numbers. Which numbers did Tina forget?



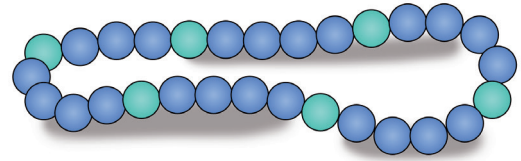


Portfolio Prompts

Skip Counting Necklace

You will need:

- a string
- beads of different colors



What to do:

Create different patterns on your necklace using skip counting. Use a different bead color for every number you land on when you skip count by 2s, 5s, or 10s.

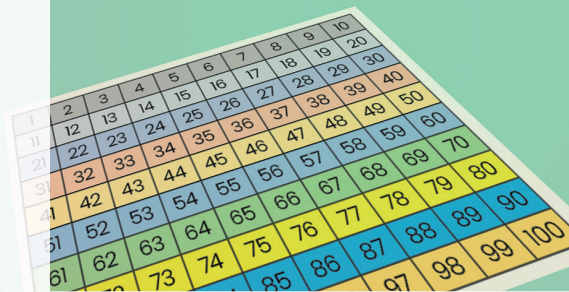


Fun Facts

Ants live in groups called colonies led by a queen that lays thousands of eggs every day.

LESSON 5

Place Value



Objectives

- ◇ Find the place value of digits in 2-digit numbers.
- ◇ Know a digit's value.
- ◇ Identify a digit from its place value.



Vocabulary Bank

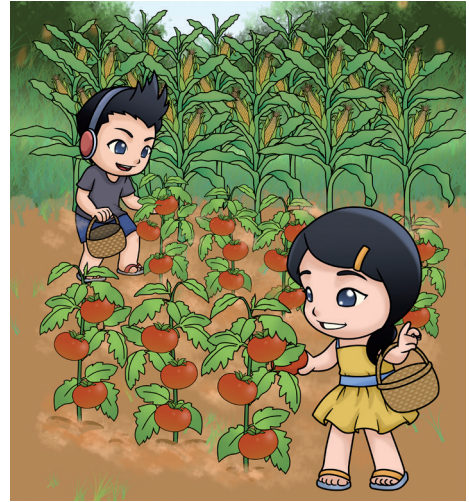
- **digit** – any of 0, 1, 2, 3, 4, 5, 6, 7, 8, or 9
- **place value** – the value of the digit depending on the place that it is in
- **ones** – the value of the first digit from the right
- **tens** – the value of the second digit from the right



Math Tale

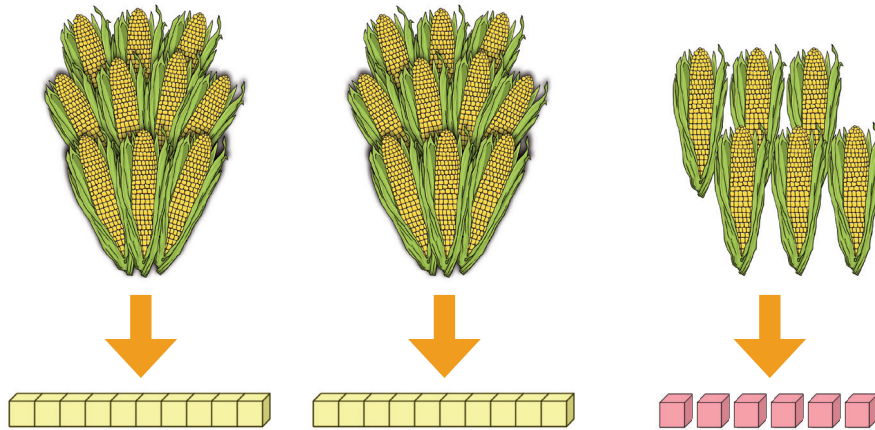
Tristan and Tina are helping at their Grandpa's farm. Their Grandpa needs help with counting the corn cobs and tomatoes ready for picking.

Can you help Tristan and Tina count?



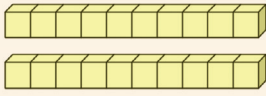
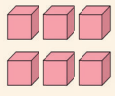
Let's Explore

Help the twins count the corn cobs. Let's use our Base-Ten Blocks to count.



Use longs and units to show the number of corn cobs.

Now, let's use our Place Value Chart.

Tens	Ones
2	6
	
2 tens or 20	6 ones or 6

← **Place Value**

The digit 2 is in the **tens** place, and the digit 6 is in the **ones** place.

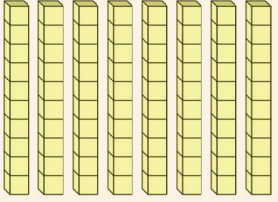
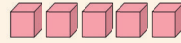
← **Value**

There are **2 tens** and **6 ones**.

2 tens and **6 ones** make 26.

There are 26 corncobs in all.

Let's have another example. Find the place value of 85.

Tens	Ones
8	5
	
80	50

← **Place Value**

← **Digits**

← **Representation**

← **Value**

85	The first digit from the right is 5. It is in the ONES place. There are 5 ones. The value of digit 5 is 5.
85	The second digit is 8. It is in the TENS place. There are 8 tens and it is equal to 80. The value of digit 8 is 8.



Keep in Mind

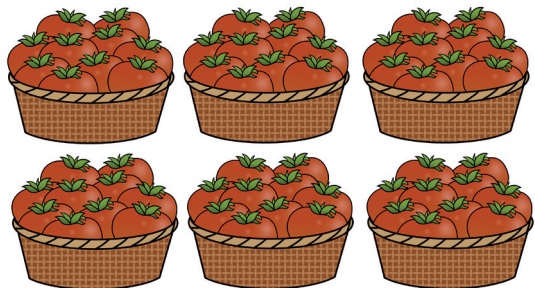
A number can be written as the total value of its digits.

The place value tells the value of each digit in a number.

Tina was asked to count the tomatoes. There are 6 baskets with 10 tomatoes each. Help Tina count.

How many tens are there?

How many ones are there?

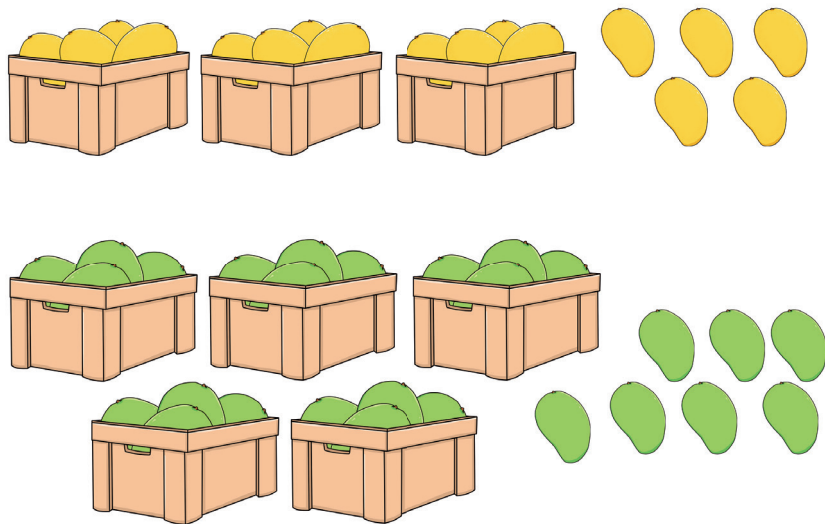


How many tomatoes are there in all?



Put to Practice

The twins are helping their Grandpa group some mangoes. Each small crate holds 10 mangoes.



Task 1

Count the number of yellow mangoes using your Base-Ten Blocks and Place Value Chart. Write the total count of yellow mangoes.

Task 2

Count the number of green mangoes. Write the total count of green mangoes.

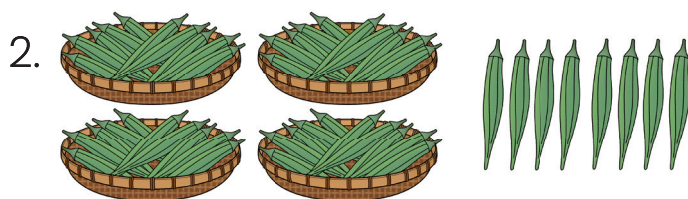


Skills Builder

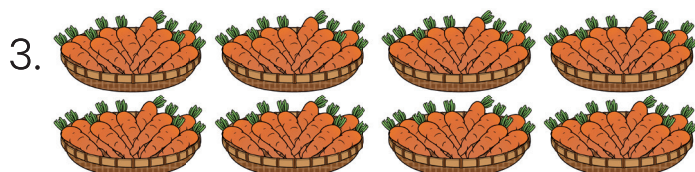
I. Count the sets by tens and ones and complete the Place Value Chart.



Tens	Ones

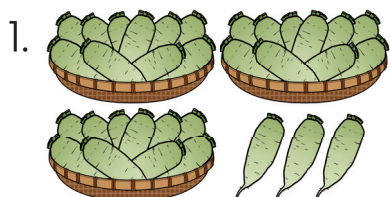


Tens	Ones



Tens	Ones

II. Count by tens and ones and then fill in the boxes.



tens and ones = 33

33 is equal to + .



tens and ones = 50

50 is equal to + .

3.



tens and ones = 94

94 is equal to + .

III. Fill in the boxes based on the number on the pumpkin.

1.



The digit is in the ones place.

The digit is in the tens place.

2.



The digit 6 is in the place.

The digit 2 is in the place.

3.



tens and ones = 85

85 is equal to + .

4.



The digit 9 is in the place.

It has a value of .

The digit 7 is in the place.

It has a value of .

5.



The place value of 2 is .

The place value of 0 is .



Challenge Yourself

Problem Solving Strategy: Reasoning

Tristan and Tina are playing a game. Tina asked Tristan to guess the number she is thinking of. Here are her clues:

The digit in the ones place is between 7 and 5.

The digit in the tens place is 3 more than the number in the ones place.

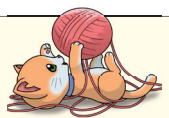
What number is Tina thinking of?

Tens	Ones



Portfolio Prompts

Tell a Number-Pair story: With a friend, tell a story while using counters. For example, tell a story about a baker making pies: "Rain loves to bake pies. She made 10 apple pies in the morning. In the afternoon, she made 7 more. Rain made 17 delicious pies today."

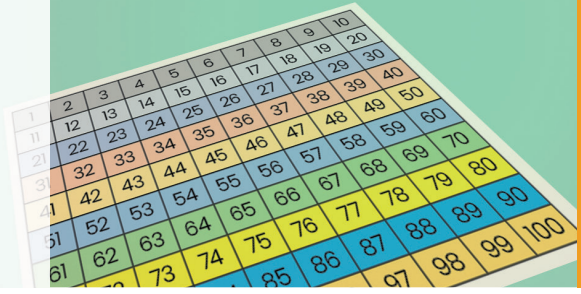


Fun Facts

Some people think that we count by batches of 10 because we have 10 fingers. We call this the **Base-10** or the **decimal system**, which we will learn about later on.

LESSON 6

Decomposing Numbers



Objectives

- ◇ Decompose any 2-digit number into tens and ones.
- ◇ Add numbers by expressing addends as tens and ones.



Vocabulary Bank

- **whole** - complete
- **part** - one of the pieces that make the whole



Math Tale

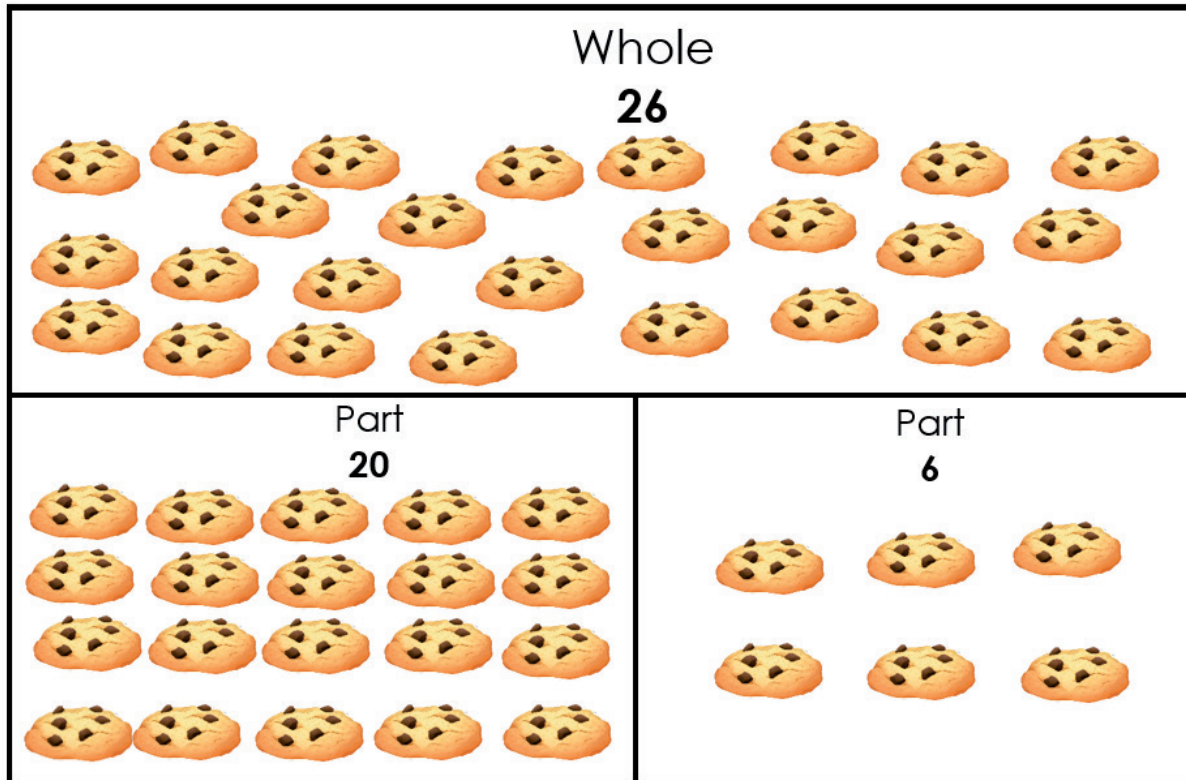
Tina makes 26 cookies. She wants to share them equally with her two friends, Mica and Klare. How can we figure out how many cookies each of them will get?





Let's Explore

To answer this problem, we need to decompose 26 into tens and ones.



26	
TENS: 2	ONES: 6

2 tens and **6** ones make 26.

We can give each of them 1 ten which is 10 cookies.

Since we have 6 ones, let us split it into 2 and it gives us 3 cookies.

How many cookies does Mica and Klare receive?

They have 10 plus 3 cookies each.

$$10 + 13 = 13$$

Thus, Tina's friend will receive 13 cookies each.

Aside from 26 cookies, Tina decided to bake another 12 cookies for her teacher. How many cookies did she bake?

We can get the answer by decomposing the number first or by expressing the addends in expanded form.

$$26 + 12 = ?$$

26 in expanded form is **20 + 6**.

12 in expanded form is **10 + 2**.

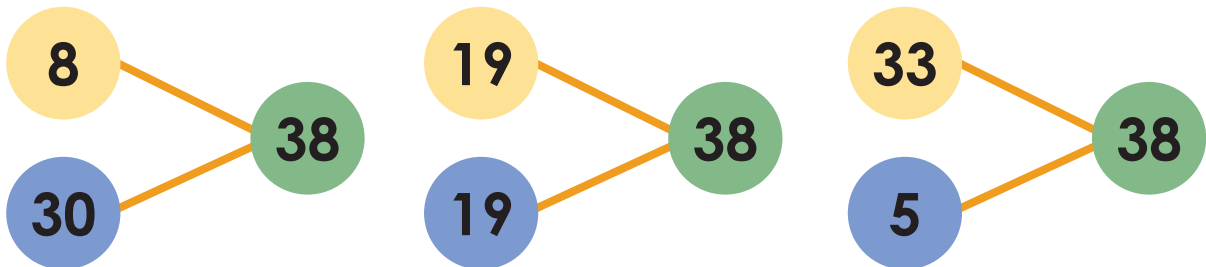
Let us combine all **tens**. $20 + 10 = 30$

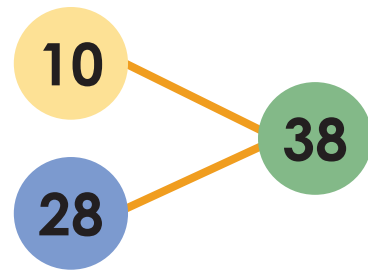
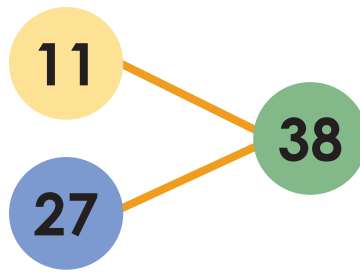
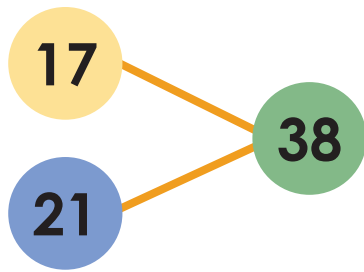
Next is, combine the **ones**. $6 + 2 = 8$

Then, add the sum of our tens which is **30** and the sum of our ones, **8**.

$$30 + 8 = 38$$

We can also show 38 using **number bonds**.





Keep in Mind

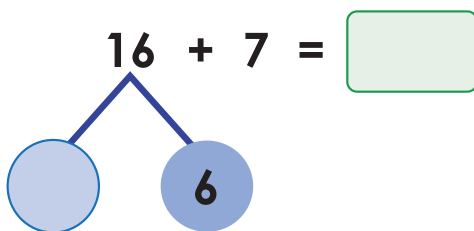
Number bonds help us find numbers that add up to another number. There are different pairs of numbers that make up the same number.



Skills Builder

Fill in the number bonds and complete the number sentences.

1.

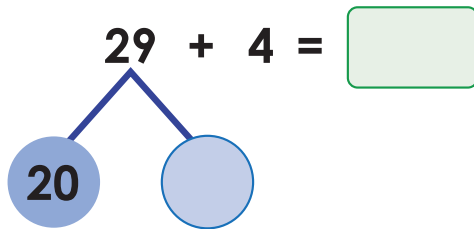


16 is equal to _____ tens and 6 ones.

6 ones and 7 ones make _____.

16 and 7 make _____.

2.

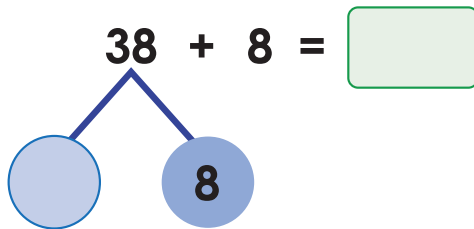


29 is equal to 2 tens and ____ ones.

____ ones and 4 ones make ____.

29 and 4 make ____.

3.

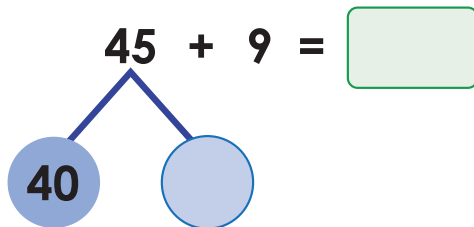


38 is equal to ____ tens and 8 ones.

8 ones and 8 ones make ____.

38 and 8 make ____.

4.

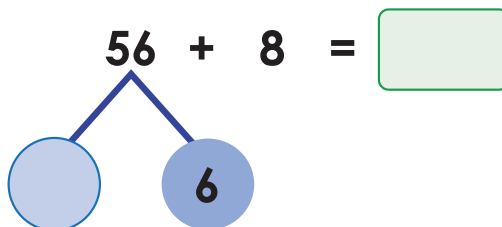


45 is equal to 4 tens and ____ ones.

____ ones and 9 ones make ____.

45 and 9 make ____.

5.



56 is equal to ____ tens and 6 ones.

6 ones and 8 ones make ____.

56 and 8 make ____.

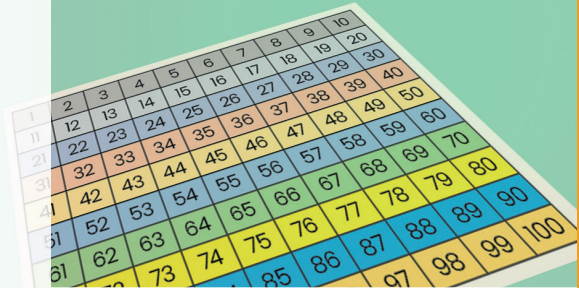


Fun Facts

Did you know that number bonds are like best friends in math? Just like how you and your best friend always stick together, number bonds are pairs of numbers that always add up to the same number.

LESSON 7

Addition with and without Regrouping



Objectives

- ◇ Add two-digit and one-digit numbers, and two-digit and two-digit numbers.
- ◇ Add numbers with sums through 100 with or without regrouping.
- ◇ Add numbers mentally.



Vocabulary Bank

- **vertical** – direction from top to bottom



Math Tale

The Grade 1 class is visiting Mang Pedong's farm in Antipolo. They saw cows, horses, chickens, ducks, goats, and carabaos. Tina wants to know how many animals of each kind are in the farm. Can you help her?

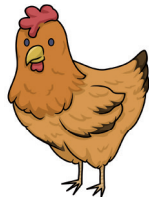




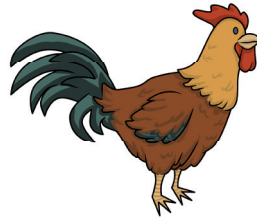
Let's Explore

Let us help Tina find the answer to her question.

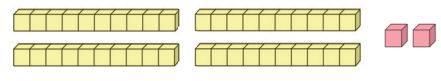
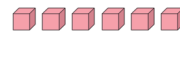
ADDITION WITHOUT REGROUPING



42 hens



6 roosters

 +  = ?

42 **6**

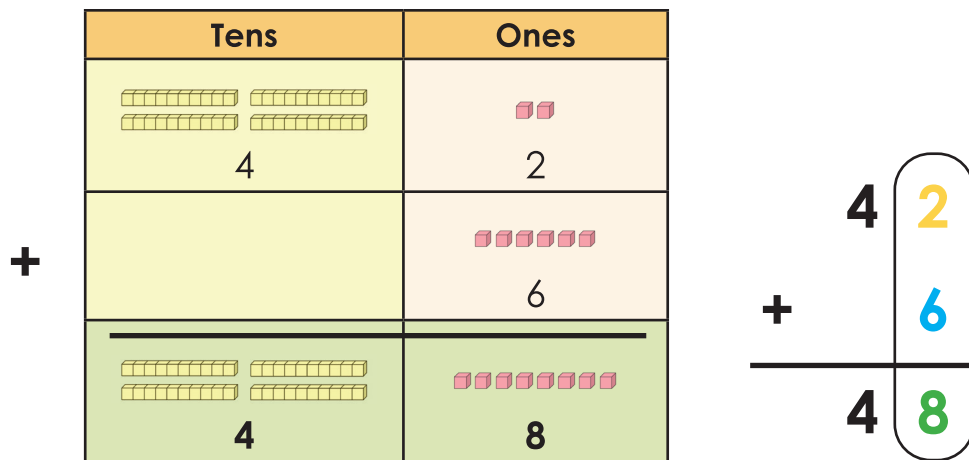
Tens	Ones
 4	 2
	 6

Write the number sentence vertically.
Separate the numbers by tens and ones.

Tens	Ones
 4	 2
	 6
	 8

First, add the ones.
Then, add the tens digits.

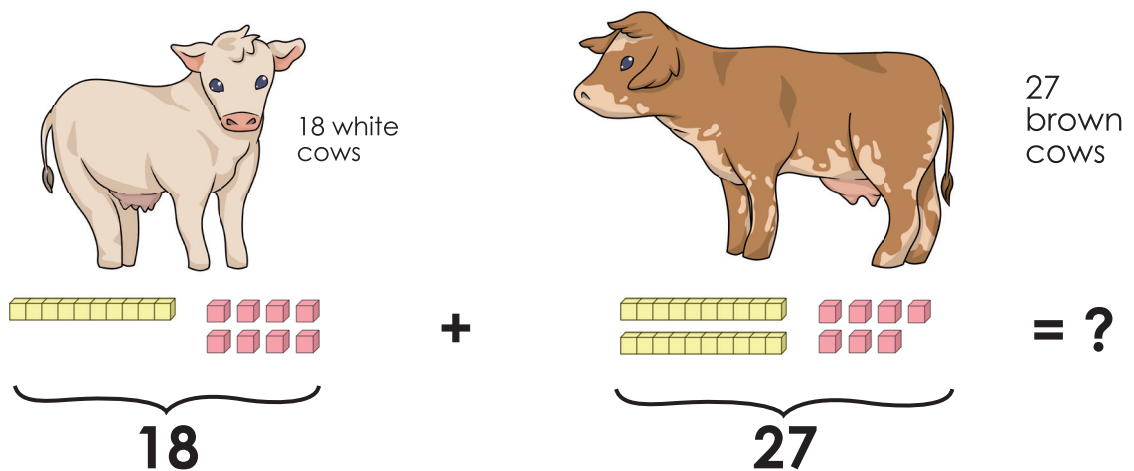
$$\begin{array}{r} 42 \\ + 6 \\ \hline \end{array}$$

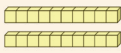


There are 48 chickens in the farm.

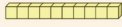
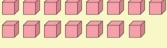
How many cows are there in total if there are 18 white cows and 27 brown cows in the farm?

ADDITION WITH REGROUPING



Tens	Ones
 1	 8
 2	 7

	1	8
+	2	7

Tens	Ones
 1	 8
 2	 7
	 15

Add the ones digits.

8 ones + 7 ones =
15 ones

$$\begin{array}{r}
 1 \text{ } 8 \\
 + 2 \text{ } 7 \\
 \hline
 15
 \end{array}$$

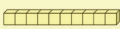
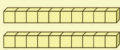
From 15 ones, we can form 10 ones and 5 ones.

Since 10 ones make 1 ten,

15 ones = 1 ten and 5 ones.

Tens	Ones
 1  1	 8
 2	 7
	 15

$$\begin{array}{r}
 1 \text{ } 1 \text{ } 8 \\
 + 2 \text{ } 7 \\
 \hline
 5
 \end{array}$$

	Tens	Ones
+	 1  1	 8
	 2	 7
	 4	 5

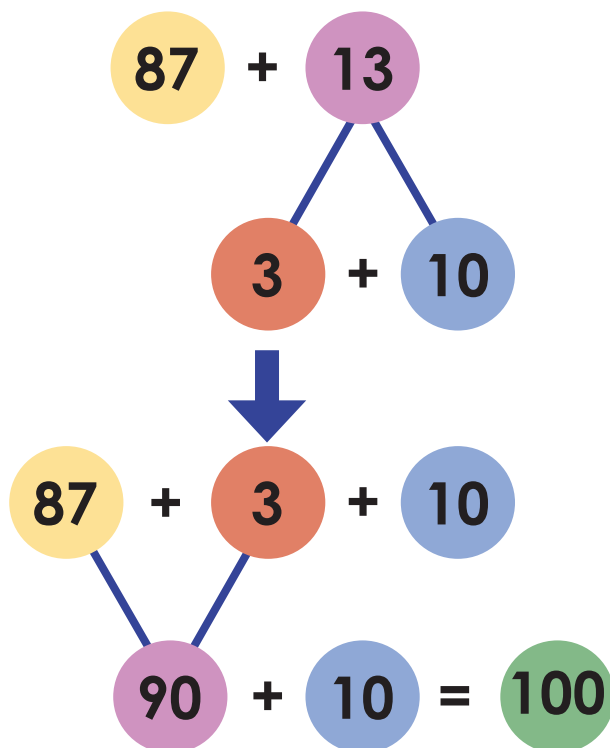
Next, we add the tens:
 $1 \text{ ten} + 1 \text{ ten} + 2 \text{ tens} = 4 \text{ tens}$

$$\begin{array}{r}
 1 \\
 18 \\
 + 27 \\
 \hline
 45
 \end{array}$$

There are **45** cows in the farm.

We can add numbers mentally.

Example let's add $87+13$.



We can break 13 into 3 and 10.

87 and 3 make 90.

90 and 10 is equal to 100.



Keep in Mind

When adding numbers, make sure that the ones and tens digits are aligned. Always add the ones digits first before the tens digits.



Put to Practice

Tristan helped Mang Pedong feed his goats. Tristan listed down the number of goats fed in the farm log.

Goats	Morning	Afternoon
White	22	44
goats		
Black	16	31
goats		

Task 1

Find the number of goats Mang Pedong fed in the morning.

Task 2

Find the number of goats Mang Pedong fed in the morning.



Do It Yourself

Counters

Counters can be used to add large numbers.

You will need:



• a pair of scissors



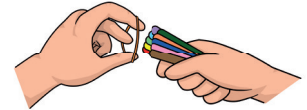
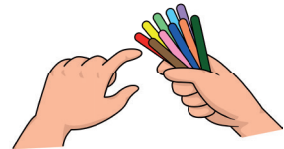
• rubber bands



• 100 pieces of popsicle sticks or plastic drinking straw

Steps:

1. Count 10 popsicle sticks or plastic straws. Cut the plastic straws in half if they are too long.
2. Tie them together using the rubber band. This will be your tens counter.



Skills Builder

I. Add the following. Fill in the missing numbers.

1. $25 + 4 = \underline{\hspace{2cm}}$

+

Tens	Ones

2. $52 + 23 =$ _____

+

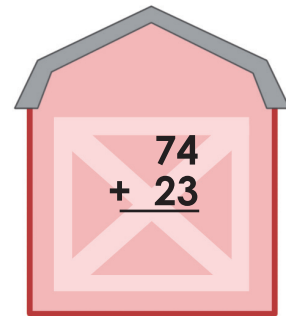
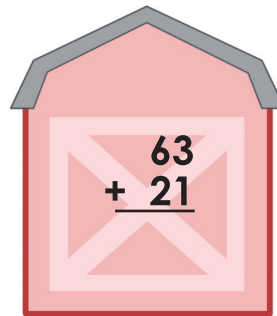
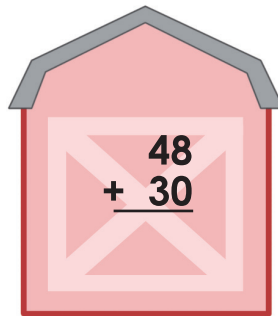
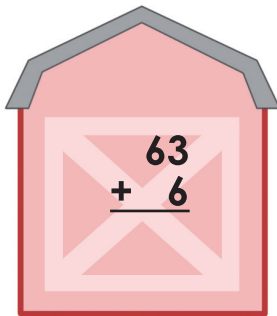
Tens	Ones

3. $81 + 15 =$ _____

+

Tens	Ones

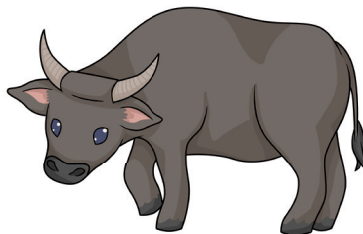
II. Add the following numbers.



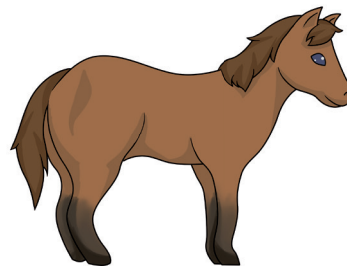
III. The following show the number of animals in the farm. Answer the questions that follow.



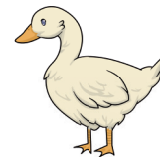
32



15



20



41

1. How many goats and horses are there in the farm?

$$\begin{array}{r} 32 \\ + 20 \\ \hline \end{array}$$

2. How many carabaos and ducks are there altogether?

$$\begin{array}{r} 15 \\ + 41 \\ \hline \end{array}$$

3. If Mang Pedong buys 46 more ducks, how many ducks are there in all?

$$\begin{array}{r} 15 \\ + 41 \\ \hline \end{array}$$



Challenge Yourself

Problem Solving Strategy: Making a Model

Mang Pedong has 34 ducks. His neighbor, Mang Ramon, has 15 ducks more. How many ducks do Mang Pedong and Mang Ramon have in all? Use vertical addition.





Portfolio Prompts

Have you ever been to a farm? On a sheet of paper, draw the animals you saw during your visit. And if have not visited a farm, draw the animals you see around your house.

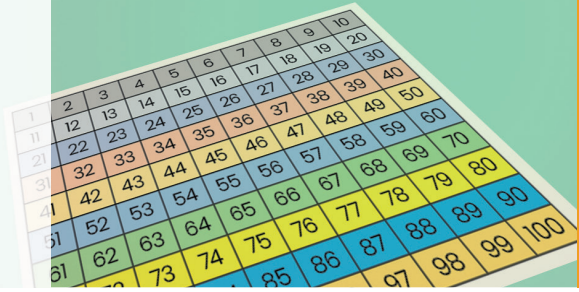


Fun Facts

Chickens are farm animals that are kept for their eggs. The male chicken is called a rooster. It is more colorful than the female chicken or the hen. The bright red skin on the rooster's head is called the wattle.

LESSON 8

Problem Solving Addition



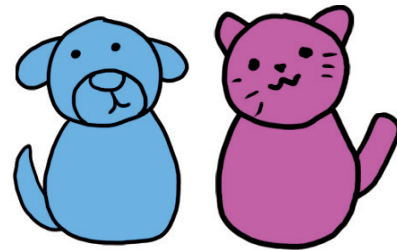
Objectives

- ◇ Solve simple addition problems that add up to 100 without carrying numbers over.



Math Tale

Mica's class made 56 clay kittens and 43 clay dogs. How many clay animals did they make in all?



Let us help Mica find the answer to her question.



Let's Explore

To answer a problem, you must follow 4 steps:

Let's answer the problem by following these steps.

Step 1:

understand



Step 2:

plan



Step 3:

solve



Step 4:

check

Step 1: Understand

What is the question asking for?

The number of clay animals they made.

Know what the problem is asking for and what are the given information.

What are the given information?

The class made 56 clay kittens and 43 clay dogs.

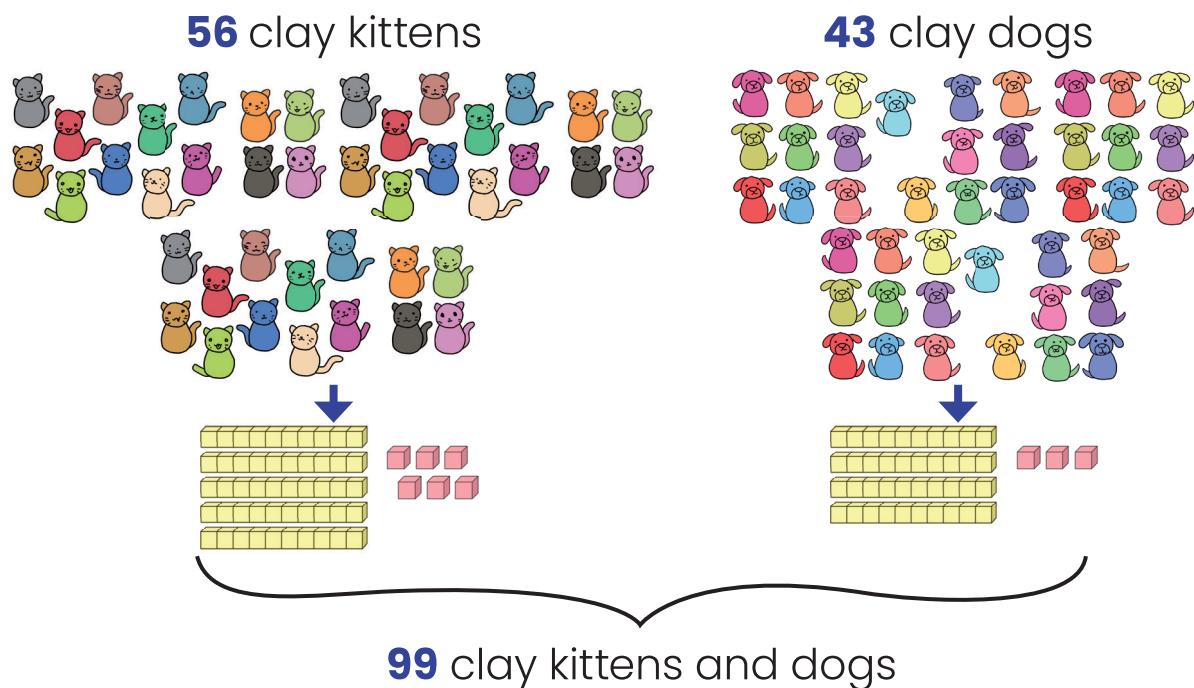
Step 2: Plan

What operation should be use?

We will add 56 and 43.

We can visualize the problem by using our counters.

Step 3: Solve



Use 56 base-ten block units to show the clay kittens and 43 base-ten block units to show the clay dogs. Count all the base-ten block units to get the total.

Step 4: Check

	Tens	Ones
	5	6
+	4	4
	9	9

Write the number sentence vertically. Separate the numbers by tens and ones. First, add the ones. Then, add the tens digits.

56 and 43 make 99. Thus, the class made 99 clay animals in all. The answer is correct.



Keep in Mind

Visualizing a problem by using real objects can help us solve the problem. Solving problems is easier when we follow the steps.

There were 24 pencils and 6 pens on the table. How many pencils and pens were there?

What is being asked in the problem?

What are the given information?

How are you going to solve the problem?

Draw 24 pencils and 6 pens. How many pens and pencils were there?



Portfolio Prompts

Using the following words, make an addition story. Give the answer to the word problem.

Tristan

Joseph

more than

paper planes

how many

makes



Skills Builder

1. Complete the number sentences and answer each problem.

1. The class used 36 paintbrushes for the activity. There were 7 more brushes in the box. How many paintbrushes were there in all?



There were paintbrushes in all.

+

2. Tristan had 23 sheets of colored paper. Joshua gave him 18 more. How many sheets of colored paper did Tristan have?



Tristan had sheets of colored paper in all.

+

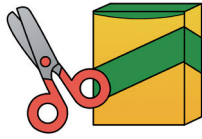
3. Anna helped Miss Tala put 17 colored pencils in the pencil holder. Kristine put 28 more. How many colored pencils were there?



There were colored pencils in all.

+

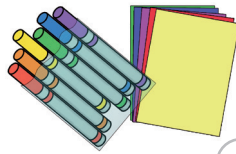
4. Tina bought a pair of scissors for PhP 26 and a box of crayons for PhP 42. How much did she pay for the two items?



Tina paid **PhP** for the two items.

+

5. Miss Tala wanted a set of markers for PhP 64 and a pack of art paper for PhP 13. How much did she need to pay?



Miss Tala needed to pay **PhP** for the items.

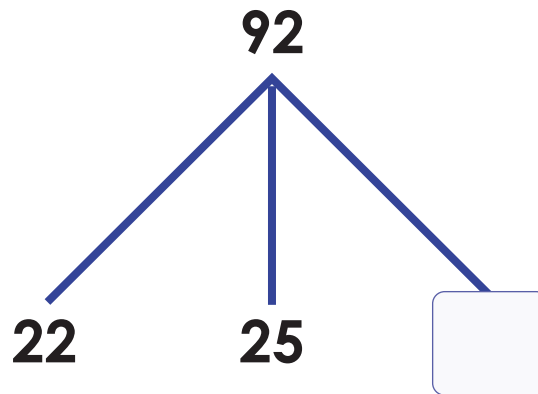
+



Challenge Yourself

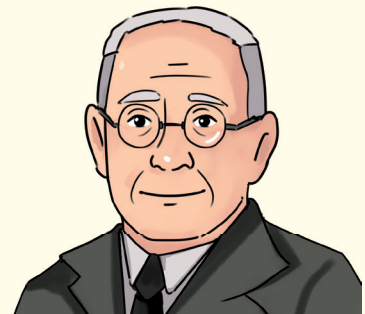
Problem Solving Strategy: Using Number Bonds

Tina and Ken are helping Miss Tala put away the art materials that were used in class. According to Miss Tala, there should be 92 pieces of colored pencils, black pencils, and markers in all. Tina counted 22 markers, and Ken collected 25 black pencils. How many colored pencils do they still need to put away? Use the given number bond to help you to solve.



Fun Facts

The steps in solving a problem was created by George Polya in 1945.



Unit Performance Task

In this performance task, you use non-standard tools to measure length with application of decomposing numbers and addition of numbers that sum up to 100. An empty room of a house will be used as a study room. The owner wants to have five big things for the study room such as a cabinet, table, chair, computer, and printer. As a resourceful builder, you have paper clips and popsicle sticks to measure those things to know whether they fit on the room or not. You show a list of measures of things using non-standard tools to the house owner with ways on how you measure the things. You will be rated according to the given criteria:

Criteria	4	3	2	1
Use of Non-standard Tools	A combination of non-standard tools is used accurately.	Non-standard tools are used accurately.	Non-standard tools are used accurately with one error.	Non-standard tools are used accurately with two or more errors.
Decomposition of the number of materials	A number of materials are decomposed correctly with further illustrations.	A number of materials are decomposed correctly.	A number of materials are decomposed with one error.	A number of materials are decomposed with two or more errors.
Addition of numbers	Addition of numbers are shown correctly with complete solutions.	Addition of numbers are shown correctly.	Addition of numbers are shown but with one error.	Addition of numbers are shown but with two or more errors

UNIT 3

Welcome to an exciting new unit where we blend the worlds of data and basic algebra! First, we'll dive into the realm of data and probability. You'll learn how to collect data on a topic through simple interviews, a crucial skill in understanding data collection. Then, we'll explore presenting this data visually using easy-to-understand pictographs. You'll develop the ability to interpret these pictographs, grasping the meanings behind the symbols and pictures. We'll also guide you in organizing this data into tables, converting visual information into a structured format. This section aims to build a strong foundation in handling and understanding basic data in an engaging way.

Next, we'll switch gears to subtraction and patterns in the world of numbers and algebra. You'll start by learning to subtract numbers up to 20 using pictures and objects for an easy grasp of the concept. Then, we'll delve into finding missing numbers in simple math problems and learn to write math problems in different ways that convey the same meaning. We'll practice subtracting larger numbers, up to 100, in a straightforward manner. And for a fun twist, we'll explore patterns, figuring out what comes next and creating our own.

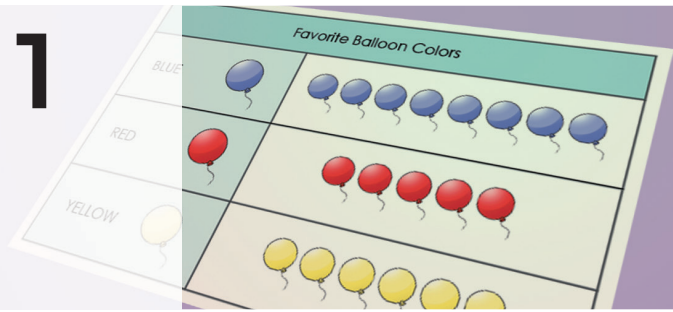
Get ready for a unit filled with interactive activities, combining the essential skills of data handling with the fun of basic algebra. This chapter promises a dynamic and engaging learning experience in data exploration and number patterns!

Favorite Balloon Colors



LESSON 1

Collection of Data



Objectives

- ◇ Collect data in one variable through a simple interview.
- ◇ Show data in a pictograph that uses a scale and make comparisons.



Vocabulary Bank

- **graph** – a figure that shows information.
- **pictograph** – a graph that uses pictures instead of numbers



Math Tale

The twins are celebrating their new baby brother's first birthday. There's ice cream for everyone. The guests are lined up at the ice cream stall. Tristan gave them stubs for the ice cream flavor



they want. He showed the *sorbetero* the number of ice cream stubs for each flavor.

What should Tristan do to know how many scoops of ice cream for each flavor are needed?

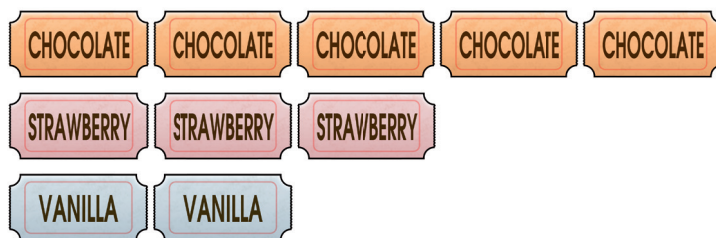


Let's Explore

Let's use a pictograph to help the ice cream vendor in managing the kid's ice cream orders. First, group or sort the stubs.



How many orders of each flavor are there? Group together the same flavors. It is easier to count them when they are grouped or sorted.



Grouping is also called sorting.

Next, use your Blank Graph.

Match a linking cube for each ice cream stub. This will show how many of each flavor was ordered. What do you notice?

Ice Cream Order	
chocolate	
strawberry	
vanilla	

A pictograph shows objects grouped in rows and columns. Pictographs make it easier to compare.

A pictograph helps us compare the number of objects.

It shows how many “more: or how many “less”.

It also shows the “most” and the “least”.

‘Collecting data.’ It’s like a special way to learn interesting things about the world around us. Imagine we want to find out which color is the most popular in our class. We can do that by collecting data.

When you ask your classmate to tell what is his/her favorite crayon color is, and you’re writing it down. That is call **‘collecting data.’** We’re gathering information to learn something fun!

Let’s say we ask Jake, James, and Jacob what are their favorite toys. Jake’s favorite toy is a toy robot, and James loves toy soldiers, and Jacob wants a tank. Then write it down.

The given pictograph shows the number of students who buy their favorite toys.

Favorite Toys					
Jake					
James					
Jacob					
	1	2	3	4	5

Let's compare the toys they bought. Look at the pictograph.

Did James buy more toys than Jake?

First, count how many toys they bought.

Jake bought 3 toys.

James bought 4 toys.

Last, compare the two numbers.

Comparison: $4 > 3$

So, James has bought more toys than Jake.

Tristan and Tina gave out toy prizes for the games at their party. Check how many of each toy they gave away. Group the toys below and then make a table and a pictograph.



Draw a blank graph like the one used for the favorite toys.

Write "Toy Prizes" on the box at the top.

Write the names of the toys on the boxes on the left.

Group the same toys together. Place counters on the boxes beside the name of the toy.

How many kids won dinosaur eggs?

Which toy prize was given to 10 children?

How many balls were given as a prize?

Which toys had an equal number?



Put to Practice

Use the pictograph to answer the questions.

After playing some fun games, it was time to eat snacks. The pictograph shows the food choices.

Party Food										
Cookies										
Spaghetti										
Cake										
Apples										
Sandwiches										
Ice cream										

Task 1

Write how much of each food did the children eat.

_____ ice cream

_____ cookies

_____ spaghetti

_____ cake

_____ sandwiches

_____ apples

Task 2

Compare. Draw the answer on the blanks.

Food that was eaten the most _____

Food that was eaten the least _____

Count how many more sandwiches were eaten than the apples. _____

Determine how many less sandwiches were eaten than the cookies. _____



Skills Builder

I. Use the graphs to answer the questions.

A. Make a pictograph. Write the title of the pictograph and label the rows. Draw the objects on the space provided.

- Write the title of the pictograph.
- Label the rows.
- Draw the objects on the provided space.

Sophia observed the following things at the party.

3 , 6 , and 4 

What is the title of your pictograph?

How many of each thing did you draw?



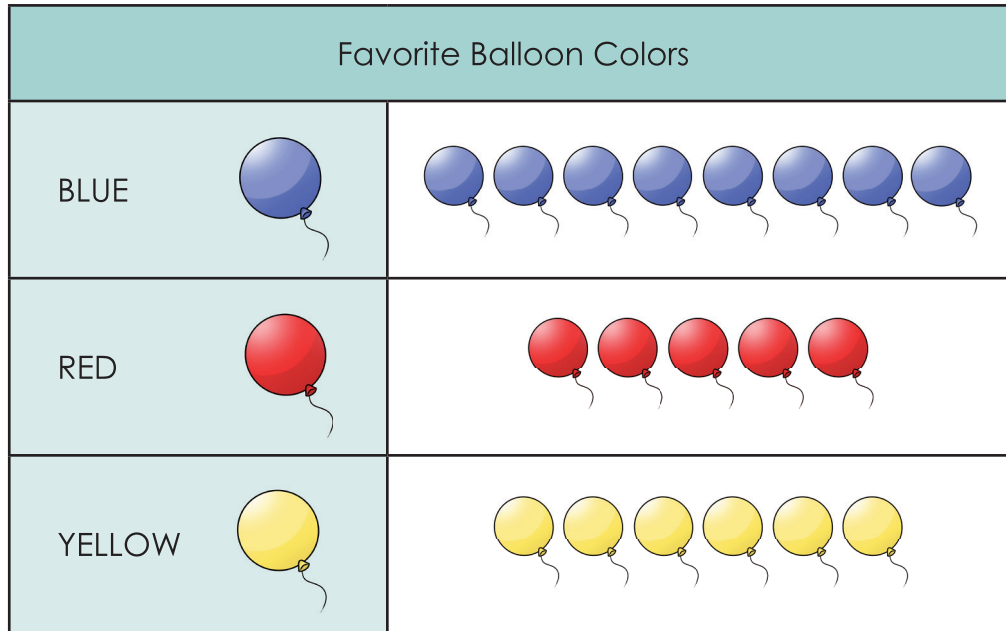




Are there more  than  ?

Are there less  than  ?

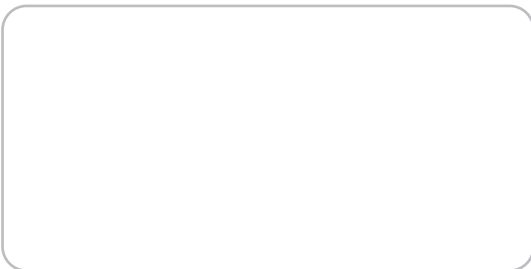
B. Use the pictograph to answer the questions.



Which balloon color is the most favorite? Draw and color it.



Add 3 . Now, which balloon color is the most favorite? Draw and color it.



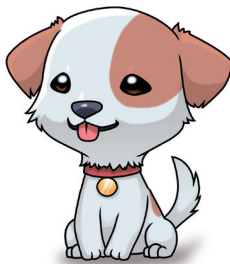
C. Answer the questions below the pictograph.

PETS	Has 4 legs	Can fly	Makes a sound
		✗	✓
	✓	✗	✓
	✗	✓	✓

How many pets can fly?

Do all the pets have 4 legs?

Circle the animals that make a sound.

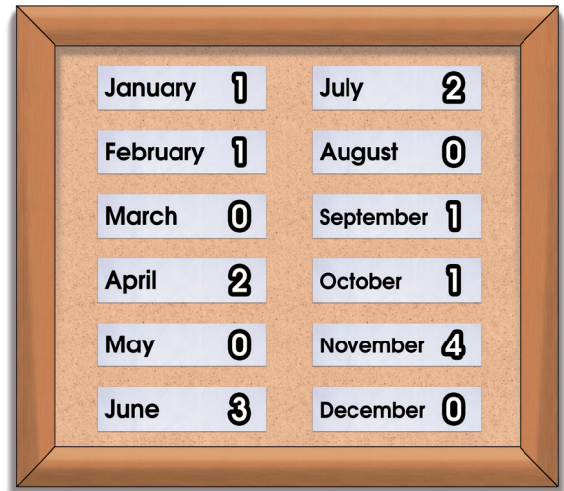




Challenge Yourself

Problem Solving Strategy: Draw a Picture

Tina wants to greet the Dance Club members on their birthdays. She has a list of the months and the number of members whose birthday is on that month.



Help her make a pictograph. Use 1 cupcake for every dance club member.

Birthdays of our Dance Club Members			
January		July	
February		August	
March		September	
April		October	
May		November	
June		December	

1. How many dance members are on the club?
2. Which months have 2 birthday celebrants each?

3. Which months do not have any birthday celebrants?

4. Which has more celebrants, July or October?

5. In which month were most of the dance club members born?



Portfolio Prompts

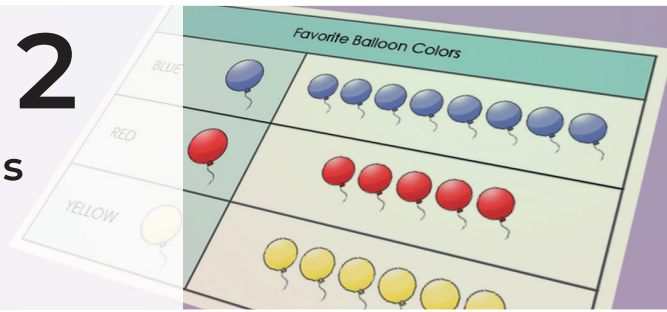
Make your own pictograph of what your friends like to play the most in the playground. Ask 3 of your friends what their favorite playground activity is. They only have to pick 1.



Color 1 box for the activity each friend likes. Talk about it. Which was picked the most? Which was picked the least?

LESSON 2

Tables and Pictographs



Objectives

- ◇ Interpret a pictograph without a scale.
- ◇ Organize data in a pictograph without a scale into a table.



Math Tale

At the school fair, Emily runs a face painting booth with designs like stars, moons, hearts, and flowers. Kids choose a design with a ticket, which Emily collects. She pins these tickets on a board by design and wonders, “How can I tell which design is the most popular?”





With this table, Emily can clearly see which designs are more popular. For example, 'Hearts' appears to be the favorite among all age groups, while 'Stars' are particularly popular among younger children.

Face Painting Design	Number of Tickets	Notes
	15	• Most popular among younger kids
	10	• Popular in the evening
	20	• Favorite among all age groups
	12	• Chosen mostly by girls

She can also note trends, like 'Moons' being more popular in the evening. This information not only helps her prepare more efficiently for future events (like ensuring she has enough supplies for the most popular designs) but also provides insights into the preferences of different groups attending the fair.

By organizing the data into a table, Emily turns a simple collection of tickets into valuable information that can help improve the face painting booth's appeal and efficiency at future events.

A **pictograph** shows data using pictures or symbols. Each symbol stands for a certain number of items. They're easy to understand because they use relevant pictures. A special 'key' tells us what each picture or symbol means. It's important that all the symbols are the same size.

Steps to Create a Pictograph:

1. **Gather Data**

Start by collecting the information you want to show. List your data in a table or list.

2. **Choose Symbols or Pictures**

Pick symbols or pictures that match your data. For instance, use cloud pictures for rainfall data.

3. **Set a Key**

Use a key to explain the value of your symbols. Sometimes, one symbol can't show all the data, so the key helps. For example, 1 cloud = 10 mm of rain.

4. **Draw Your Pictograph**

Make a table with two columns: one for the item and one for the symbol. Then, fill in the table with your symbols. If you have a half or part of an item, you can draw part of a symbol.

Review the Data and Pictograph

Once the pictograph is drawn, make sure that the images exactly represent data as well as the labeling of the pictograph.

Suppose you have a pictograph that represents the number of fruits sold by a fruit vendor over a week, using the following symbols:

-  (Apple) represents 5 fruits
-  (Banana) represents 4 fruits
-  (Grapes) represents 3 fruits

Here's how you can organize this data into a table:

Day	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Apples	   	   	   	   	   	   	   
Bananas	  	  	  	  	  	  	  
Grapes	  	  	  	  	  	  	  

Understanding Pictographs with Fruit Sales

In our table, rows show different fruits like Apples, Bananas, and Grapes. Columns show days of the week. Symbols in the table tell us how many of each fruit got sold on specific days.

Note: You don't always need pictures to make a pictograph if there's no scale.

Pictographs without Scales:

A pictograph without a scale simply uses symbols to show data amounts. But it doesn't tell you the exact number each symbol means. These symbols help us compare visually, but they don't give exact numbers.

For example, consider car sales over four months:

-    (March)
-      (April)
-  (May)
-     (June)

Here, the " symbol shows some cars sold. April had more sales than other months, while May had the least. But, without a scale, we don't know how many cars each " means.

These kinds of pictographs are great for a quick look or general idea but don't give detailed numbers like bar graphs. They're useful when you want a simple visual without needing exact figures.



Keep in Mind

A pictograph shows objects grouped in rows and columns. Pictographs make it easier to compare.

Snack Item	Number of Tickets	Notes
Popcorn	30	Very popular during movie screenings
Cotton Candy	25	Favored by kids
Hot Dogs	30	Consistent seller throughout the day
Ice Cream	35	Most sales in the afternoon

Review the table showing the sales of different snacks at a school carnival and answer the questions that follow.

1. Which Snack is Best?

- What snack sold the most?
- What snack do kids like most

2. When Do Snacks Sell?

- When do people buy a lot of Popcorn?
- What time is best for selling Ice Cream?

3. Getting Ready for Next Time:

- What two snacks should we have more of next time?
- Why do we need to know what snacks sell best?

4. Thinking About Snacks:

- What snacks do people at the carnival like?
- How can we make the snack bar better next time?

5. New Snack Idea:

- What new snack should we try to sell? Why do you think it's a good idea?



Put to Practice

Look at the pictograph provided. Each symbol in the pictograph represents one unit of the snack chosen by students at a party. Count the symbols for each snack.

Pizza:

Pretzels:

Cupcakes:

Watermelon Slices:

Cheese:

Snack Name	Number Chosen

Task 1

Organizing Data into a Table

Create a table to organize the data from the pictograph. Write down the name of the snack in the first column and the number you counted in the second column.

Task 2

Making Comparisons

Using the table you created, answer the following:

- Which snack was chosen the most?
- Which snack was chosen the least?
- How many more Watermelon Slices were chosen than Pretzels?



Skills Builder

I. The table shows the data of 100 students has been collected, who like different colors. The data given was as follows:



= 5 students. The symbol  is represent as "STUDENT".

Color	Students
Red	   
Black	     
Blue	      
Yellow	  

1. How many students love the color blue? _____
2. What is the total of students who love the colors red and yellow? _____
3. How many students love the black color?

II. Answer the following questions.

Here's what a pictograph without a scale might look like:

Suppose you have a pictograph representing the number of fruits sold by a fruit vendor over four weeks:

-      (1st week)
-    (2nd week)
-     (3rd week)
-   (4th week)

1. What week has more sales of fruits? _____
2. What week had the fewest sales? _____
3. When you combine the sales of 2nd and 3rd week, how many fruits are sold? _____

II. Given a pictograph of a school's weekly sports equipment usage:  for 5 basketballs,  for 3 footballs, and  for 2 tennis rackets.

Fill out the table:

Equipment	Symbol Count	Total Items Used
Basketballs	   	
Footballs	  	
Tennis Rackets	    	

1. How many basketballs were used in total if each  means 5 basketballs?

2. Can you figure out the total number of footballs used if each  represents 3 footballs?

3. Each  symbol stands for 2 tennis rackets. How many tennis rackets were used in total?

4. How did working with a partner help you count the sports equipment? Did you use any special tricks?

5. If Which sports equipment was used the most, according to our table?



Challenge Yourself

Use the pictograph data provided to fill in the corresponding table.

Pictograph Data



for 5 apples sold.



for 2 loaves of bread sold.



for 3 carrots sold.

Item	Symbol Count	Total Items Sold
Apples	 	
Bread	  	
Carrots	 	

1. How many apples were sold in total?

2. Calculate the total number of bread loaves sold.

3. Find the total number of carrots sold.



Portfolio Prompts

Create a pictograph representing the class's favorite hobbies.

- Create a pictograph representing the class's favorite hobbies.
- Create a pictograph on poster paper, using the symbols to represent each classmate's response.
- Discuss as a team what your pictograph reveals about the class's favorite hobbies.

LESSON 3

Subtraction



Objectives

- ◇ Show subtraction of numbers up to 20 using a variety of concrete and pictorial models.
- ◇ Illustrate subtraction as taking away elements of a set.



Vocabulary Bank

- **subtract** – to take away
- **subtraction** – process of subtracting
- **difference** – the answer in subtraction
- **subtrahend** – number to be subtracted
- **minuend** – number from which another is subtracted



Math Tale

Mr. Bagkus collected all the Math books today. The students put their books on the teacher's table. There were 10 books



in all. Mr. Bagkus checked 3 books and put them on the shelf. How many books were left on his table?



Let's Explore

Let us find the number of books left on the table. We can show the number of the story using color tiles.



There were 10 books on the table. We use 10 color tiles.



Mr. Bagkus took away 3 books. We can show this by crossing out 3 color tiles.

How many tiles are left? **3 taken away from** 10 is 7.

7 tiles are left. There were 7 books left on the table.

Taking away is also called **subtraction**. It is easier to show the number story using a number sentence. We use the symbol **minus** (–) to show subtraction.

$$\begin{array}{ccccccc} \text{minuend} & & \text{subtrahend} & & & & \\ \downarrow & & \downarrow & & & & \\ 10 & - & 3 & = & 7 & \leftarrow \text{difference} \end{array}$$

To subtract means to take away. A subtraction sentence consists of the form: Minuend – Subtrahend = Difference

We can check if our answer is correct by using addition. If we add the difference and the subtrahend, we get

$$7 + 3 = 10$$

Subtraction is the inverse or opposite operation of addition. To show this more clearly, here are the samples.

$$7 + 3 = 10$$

$$3 + 7 = 10$$

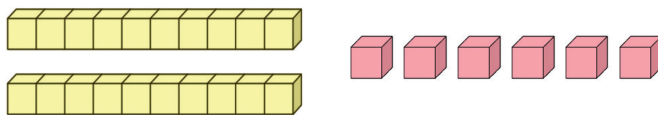
$$10 - 3 = 7$$

$$10 - 7 = 3$$

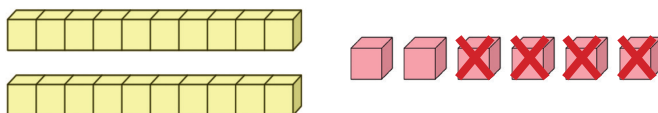
Addition and subtraction are inverse operations. To find one of the addends, subtract the given addend from the sum. You can check your answer in subtraction using addition.

Mr. Bagkus is giving the test paper back to his Grade 1 class. Jacob's paper shows that he made 4 mistakes. If there were 26 questions in the quiz, how many correct answers did Jacob make?

We can use counters to help Mr. Bagkus find out how many correct answers Jacob got.



Let's take away four from 26 base-ten blocks.



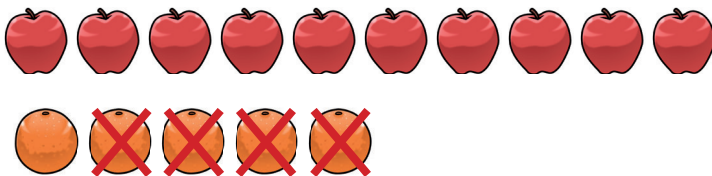
If we take away four base-ten blocks, 22 base-ten blocks will be left. Therefore, Jacob got 22 correct answers.

We can write this number sentence as:

$$26 - 4 = 22$$

Now, let's try another problem in subtraction using pictorial models.

A fruit vendor has 10 apples and 5 oranges a total of 15 fruits, he sold 4 oranges in a few minutes. How many fruits will be left to the vendor?



Let's take away four oranges from 15 fruits.

If we take away four oranges, 11 fruits will be left. Therefore, the vendor has 11 fruits left.

We write this number sentence as:

$$15 - 4 = 11$$



Keep in Mind

To subtract means to take away. A subtraction sentence is

minuend - subtrahend = difference.

Miss Santos is checking some papers. She already checked 7 papers. If Miss Santos needs to finish checking 9 test papers, how many more does she need to check?

Use your color tiles to answer the question.

Write the number sentence for the problem.

$$\square - \square = \square$$

How many more papers does she need to check?



Put to Practice

Practice subtracting numbers by solving each task.

Miss Santos checks the class attendance daily. Here is the record for the last two weeks:

Student's name	No. of school days	No. of days present
Ken	10	8
Luis	10	6
Tristan	10	9

Task 1

Count the number of days Luis was absent.

Task 2

Count the number of absences of Ken and Tristan. Determine who, between Ken and Tristan, has more absences.



Skills Builder

I. Find the difference.

$$\begin{array}{r} 10 \\ - 2 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ - 3 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ - 2 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ - 1 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ - 5 \\ \hline \end{array}$$

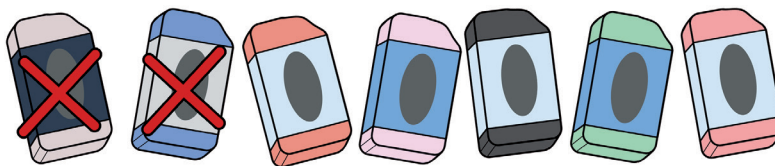
II. Write a number sentence for the following pictures.



$$\square - \square = \square$$



$$\square - \square = \square$$



$$\square - \square = \square$$

III. Solve the following problems.

1. There are 10 students in Miss Santos' next class. If 4 are absent today, how many students are present?

2. Miss Santos received 8 cards from her students. She already read 7 cards. How many cards does she still have to read?



Challenge Yourself

Problem Solving Strategy: Counting Back

Tina helped Miss Santos put the notebooks on the shelf. Tina carried seven notebooks. Two notebooks fell on the floor. How many notebooks were still in her arms?



Portfolio Prompts

Make two subtraction sentences using pictures.



Fun Facts

All over the world, people celebrate Teachers' Day to give thanks to their teachers. Here in the Philippines, Teachers' Day is on October 5. To show their appreciation, students give their teachers cards or small gifts.

LESSON 4

Continuous and Repeating Patterns



Objectives

- ◇ Determine the missing term in a continuous repeating pattern.



Vocabulary Bank

- **pattern** – an arrangement of objects
- **object** – anything that has shape or form and can be seen or touched



Math Tale

Tina, Tristan, and their dad are going to watch a movie. After buying the tickets, they looked for the cinema where the movie is going to be shown. Where is Cinema D?





Let's Explore

Let us look at the Cinema letters.

CINEMA A

CINEMA B

CINEMA C

The names of the first 3 cinemas follow a **pattern**. They are the first 3 letters in the alphabet.

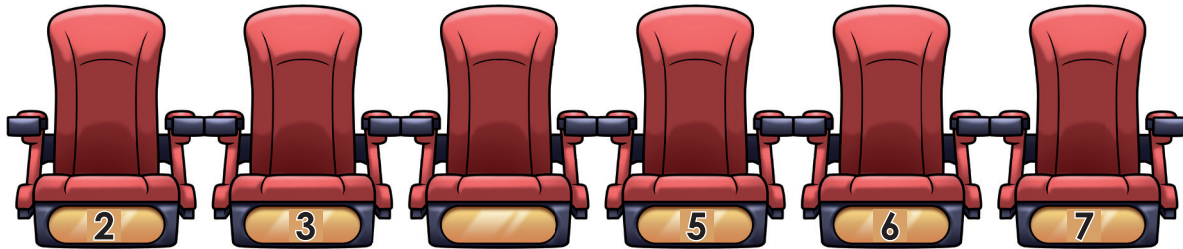
Can you guess what comes after the Cinema C?

A, B, C, **D**

This is an example of a **continuous pattern**.

We are looking for the cinema next to Cinema C.
Cinema D is next to Cinema C.

Inside Cinema D, Dad is looking for his seat number. What is his seat number?

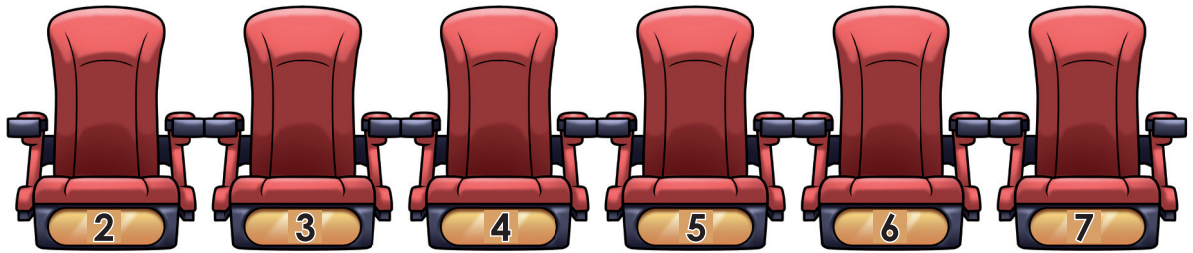


Keep in Mind

A pattern is an arrangement of figures or symbols. Follows a fixed order. In continuous patterns, the figures or objects do not repeat. We can easily tell what comes next or what is missing in a continuous patterns.

The seat numbers follow a continuous pattern.

What number comes after 5?



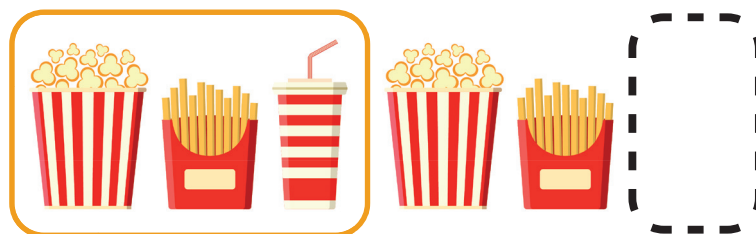
The **number 4** is next to number 3.
Therefore, dad's seat number is 4.



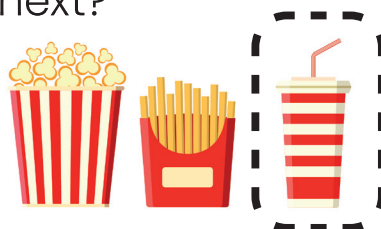
Keep in Mind

We can make continuous patterns using letters, numbers, days of the week, and months of the year.

Before going inside the cinema, they decided to buy some snacks to eat while watching the movie. The snacks are aligned in the stall like this:



Which food comes next?



The next food in line is drinks.

These foods form a **pattern**.

They form a pattern of popcorn, fries, and drinks.

This is an example of a **repeating pattern**.

Tina and Tristan are skip counting by 2s. What are the next 3 numbers in the pattern?

2, 4, 6, 8, 10, 12,

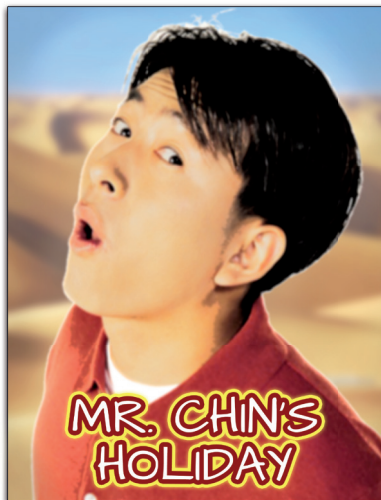
 , , .

Put to Practice

Tristan is looking at the movie posters.



MONDAY



TUESDAY



WEDNESDAY

Task 1

Determine day comes after Wednesday.

Determine what day comes before Monday.

Task 2

Identify which movie is going to be shown first.

Identify which movie is going to be shown last.



Skills Builder

I. Write a check mark in the box if the given order of letters or numbers shows a continuous patterns. If it is not, write a cross mark.

☐

0, 1, 2, 3, 4, 5

☐

4, 6, 8, 10, 12,

☐

4, 7, 5, 3, 8, 2, 1

☐

V, W, X, Y, Z

☐

10, 11, 12, 13, 14, 15

☐

5, 10, 15, 20, 25

☐

H, O, N, E, Y

☐

G, A, M, E, S

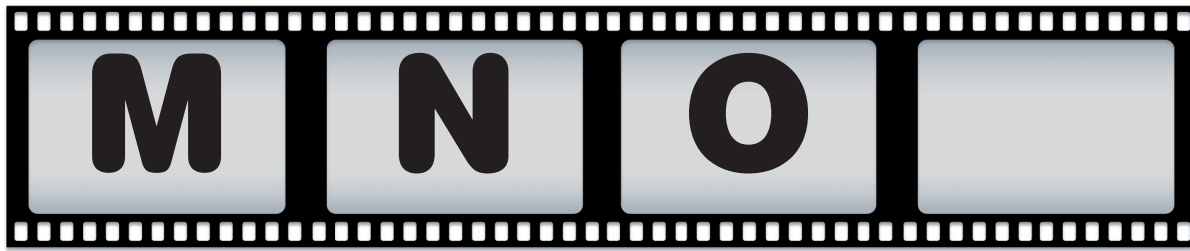
☐

a, c, e, g, i, k

☐

1, 2, 3, 4, 5, 7

II. What is missing in the patterns? Write it on the movie film.





Challenge Yourself

Problem Solving Strategy: Make a List

After the movie, Tina and Tristan helped dad look for their car at the parking lot. Their car is five spaces away from parking space number 32 and four spaces away from parking space number 41. On which parking space number was their car parked?



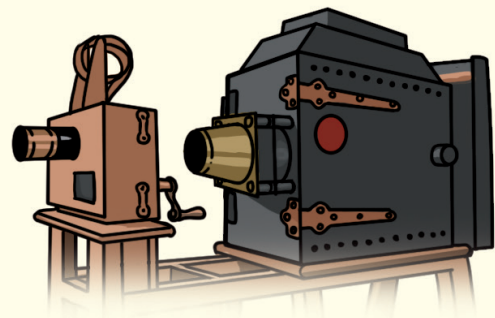
Portfolio Prompts

In this lesson, we learned about continuous patterns. We can use continuous patterns in finding out what comes next in an order of things or events. Putting labels on your things, such as writing numbers or letters on your toy boxes, is one way of ordering things using continuous patterns. Make creative labels for your things and show them to the class.



Fun Facts

The word “cinema” is derived from Cinématographe, a camera invented by the Lumière brothers.



LESSON 5

Patterns in Addition and Subtraction



Objectives

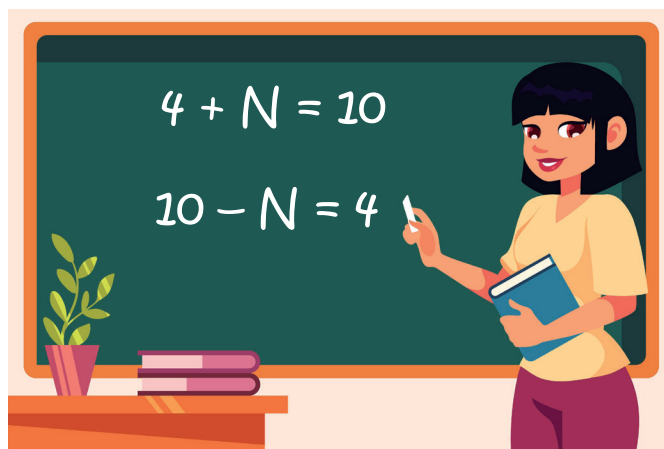
- ◇ Write an equivalent expression to a given addition or subtraction expression.



Math Tale

In the sunny town of Daisy Village, there was an enthusiastic teacher named Miss Kai Alvaro. One day, she taught her fourth-grade students

about patterns in addition and subtraction using colorful stars and circles. They learned that adding three and two made five, and taking away three from seven left four. But now she's teaching another way to solve the patterns in addition and subtraction.

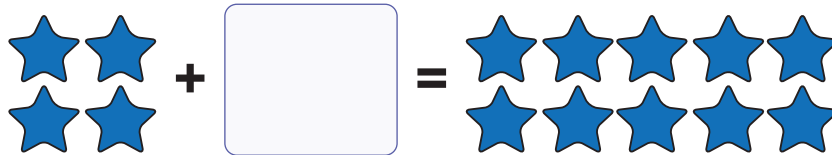




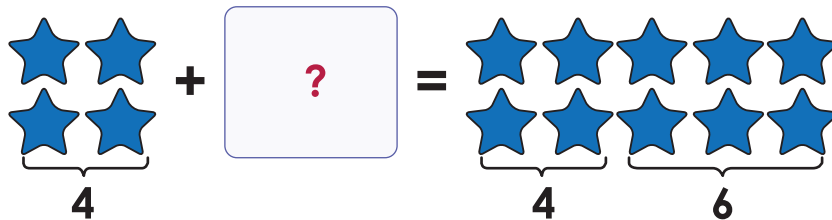
Let's Explore

Let's look at the addition sentence below.

$$4 + N = 10$$



Miss Alvaro used the colorful stars to show the addition sentence above.



$$N = 6$$

$$4 + 6 = 10$$

We need more 6 stars to form 10.

Therefore, 6 is the missing number in the first number sentence.

Let's solve for the second number sentence.

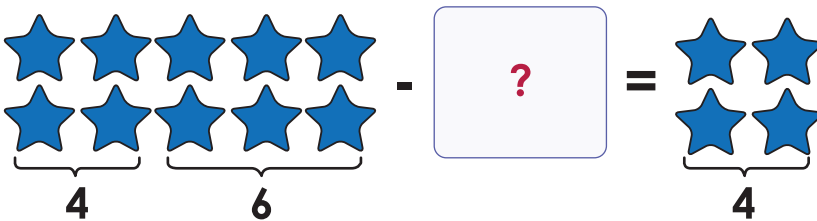
Look at our first number sentence.

$$4 + 6 = 10$$

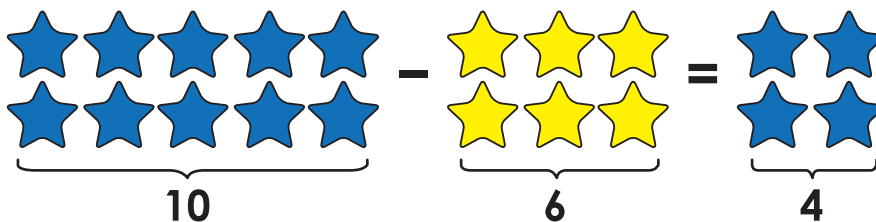
Look at our second number sentence.

$$10 - N = 4$$

Look at the numbers. Which number is missing in the second number sentence?

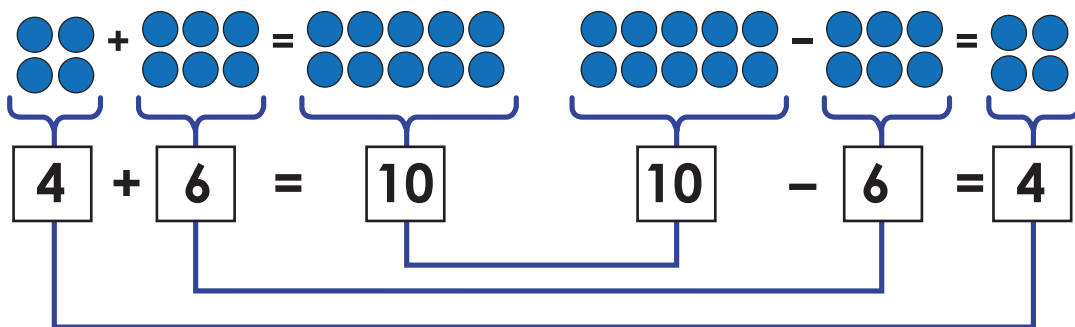


$$10 - 6 = 4$$



Taking away 6 from 10 gives us 4. Therefore, the value of "N" is 6.

Look at the two number sentences. Do you see a pattern?



Notice that the pattern is repeated but backward.

Now, in writing **Equivalent Expressions for Addition:**

Commutative Property: One of the basic principles is the commutative property, which states that the order of adding numbers does not change the result. For example, "**3 + 4**" is equivalent to "**4 + 3**".

Associative Property: The associative property allows changing the grouping of numbers without changing the result. For example, "**(2 + 3) + 4**" is equivalent to "**2 + (3 + 4)**".

And, in writing **Equivalent Expressions for Subtraction:**

Inverse Operation: Subtraction is the inverse operation of addition. To write an equivalent expression for subtraction, one can use addition. For example, "**7 - 3**" is equivalent to "**7 + (-3)**".

Adding Zero: Subtracting zero from any number does not change its value. For example, "**9 - 0**" is equivalent to "**9**".

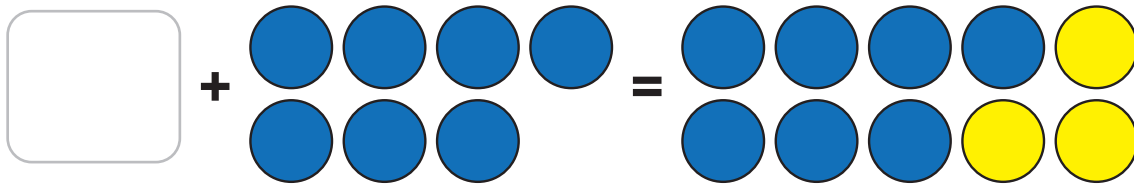
Look for the missing number in the number sentence to find N.

$$N + 7 = 10$$

$$10 - N = 7$$

$$10 - 7 = N$$

How many chips do you need to form 10?



Complete the number sentences. Use patterns.

$\square + 7 = 10$	$10 - 7 = \square$
$7 + \square = \square$	$10 - \square = 7$

Now, study the patterns below and look for the value of N.

$$7 = 0 + 7$$

$$7 = 1 + 6$$

$$7 = 2 + 5$$

$$7 = 3 + 4$$

$$7 = 4 + 3$$

$$7 = 5 + 2$$

$$7 = N + 1$$

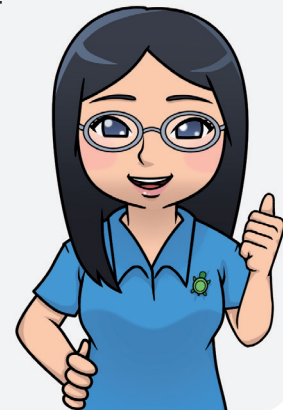
$$7 = 7 + 0$$

Notice that each number on the left side of the equal sign is 7.

The numbers to the right of the equal sign follow a pattern. The numbers are 0, 1, 2, 3, 4, 5, N and 7.

Therefore, $N = 6$.

Check using number boards.



Here are more patterns. Study them and fill in the boxes.

$2 + 5 = 7$ $4 + 3 = 7$ Therefore, $2 + 5 = 4 + 3$.	$10 = 5 + 5$ $10 = 6 + 4$ Therefore, $5 + 5 = 6 + 4$.
$9 = 3 + 6$ $9 = 1 + 8$ Therefore, .	$10 - 4 = 6$ $9 - 3 = 6$ Therefore, .
$6 + 1 = 7$ $10 - 3 = 7$ Therefore, .	$2 + 3 = 5$ $5 = 10 - 5$ Therefore, .



Skills Builder

1. Color the box with the number sentence that is opposite of the given.

1. $N + 1 = 6$

$6 - N = 2$

$6 - N = 1$

2. $N + 5 = 7$

$7 - N = 5$

$N - 7 = 5$

3. $N - 2 = 8$

$8 + N = 2$

$8 + 2 = N$

4. $N + 6 = 9$

$$9 - N = 6$$

$$6 - N = 9$$

5. $8 - N = 3$

$$N + 8 = 3$$

$$N + 3 = 8$$

II. Fill in the box with the correct number.

$$5 = 0 + 5$$

$$5 = 1 + 4$$

$$5 = \square + 3$$

$$5 = 3 + \square$$

$$5 = \square + 1$$

$$5 = 5 + \square$$

$$7 - 7 = 0$$

$$7 - 6 = 1$$

$$7 - 5 = 2$$

$$7 - \square = 3$$

$$7 - 3 = \square$$

$$7 - \square = 5$$

$$7 - 1 = \square$$

$$7 - 0 = 7$$

III. Fill in the boxes with the correct number sentence.

$$1 + 1 = 2$$

$$2 = 0 + 2$$

Therefore, .

$$7 = 8 - 1$$

$$10 - 3 = 7$$

Therefore, .

$$4 + 5 = 9$$

$$9 = 10 - 1$$

Therefore, .

$$10 - 7 = 3$$

$$0 + 3 = 3$$

Therefore, .

$$4 - 3 = 1$$

$$1 = 0 + 1$$

Therefore, .

$$2 = 8 - 6$$

$$1 + 1 = 2$$

Therefore, .



Challenge Yourself

Write an equivalent expression to the given math problem.

1. Scenario: You have 12 apples, and you eat 4. Write another way to express this.

Original Problem: $12 - 4$

Equivalent Expression: _____

2. Scenario: You find 5 seashells and then 3 more. Express this differently.

Original Problem: $5 + 3$

Equivalent Expression: _____



Portfolio Prompts

For the expression $12 + 9$, create an equivalent expression using subtraction. Then, explain how you determined which numbers to use.

LESSON 6

Subtraction of Numbers 1 to 20



Objectives

- ◇ Solve subtraction problems where both numbers are less than 20.



Math Tale

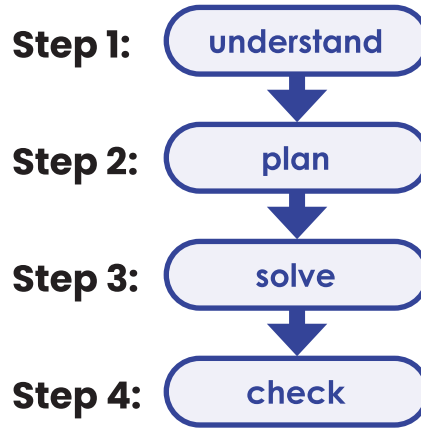
Miss Enriquez returns quiz papers to her Grade 1 class. She mentions there were 10 questions on the quiz and reveals that Joshua got 6 correct. She then asks, "How many questions did Joshua answer incorrectly?" Understanding the problem means we need to find out how many questions Joshua got wrong.





Let's Explore

To answer a problem, you must follow 4 steps:



Let's answer the problem by following these steps.

Step 1: Understand the Problem

What is the question asking for?

How many questions did Joshua answer incorrectly?

What are the given information

Joshua got 6 out of 10 quiz questions right

Step 2: Make a Plan

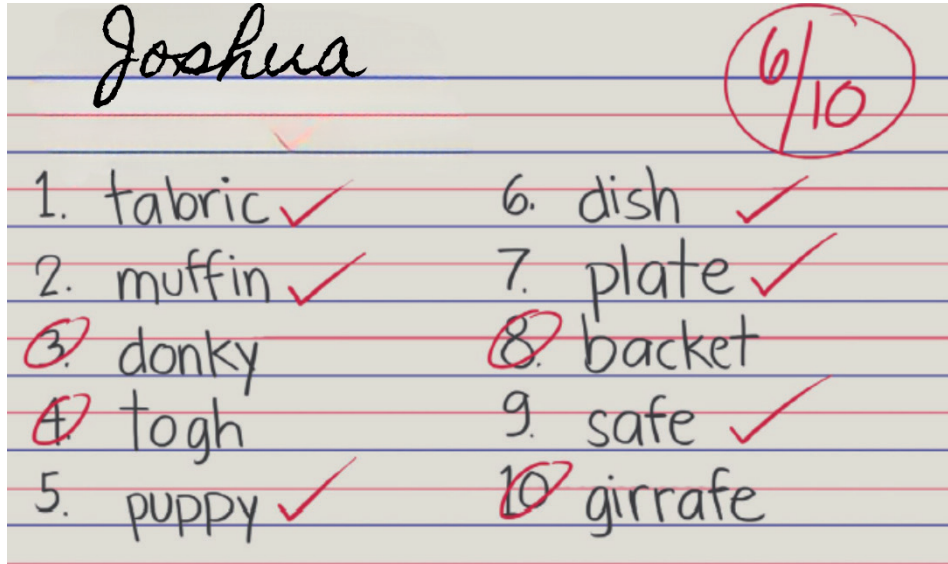
We can find the answer by subtracting.

$$10 - 6 = ?$$

We will take away the number of questions Joshua got right (6) from the total questions (10).

Step 3: Solve the Problem

Let's do the math: 10 questions minus 6 right answers equals 4. So, Joshua got 4 questions wrong.



Step 4: Check the Answer

To check, we add Joshua's right answers (6) and wrong answers (4) together.

$$6 + 4 = 10$$

It should be the same as the total questions. 6 plus 4 equals 10, which is right!



Put to Practice

Hannah and Tina are looking at their sticker collections. Hannah has 8 stickers, and Tina has 15 stickers. We need to figure out: How many more stickers does Tina have than Hannah?

1. What is asked in the problem?

2. What are the given details?

3. How are you going to solve the problem?

4. Draw Hannah's 24 stickers and Tina 45 stickers. How many more stickers does Tina have?



Skills Builder

I. Complete each subtraction problem. Write down your answer.

1. Problem: $11 - 4 = ?$

Your Answer: _____

2. Problem: $9 - 2 = ?$

Your Answer: _____

3. Problem: $17 - 7 = ?$

Your Answer: _____

II. Mark each statement as True or False.

1. Statement: $12 - 5$ equals 6.

Answer:

2. Statement: When you subtract a smaller number from a larger number, the answer is always more than zero.

Answer:

3. Statement: $16 - 8$ equals 8.

Answer:

III. Fill in the blanks with the correct answer.

1. Question: If there are 20 birds on a tree and 7 fly away, the number of birds remaining on the tree is ____.

Correct Answer:

2. Question: Lucy has 10 apples. She gives away ____ apples and is left with 4.

Correct Answer:

3. Question: A baker bakes 19 cookies and sells 12. The number of cookies left is ____.

Correct Answer:



Portfolio Prompts

Imagine you have 18 candies and you give away 6 to a friend. How many candies do you have left? Draw a picture to represent the candies and the subtraction process.

LESSON 7

Subtraction of Numbers 1 to 100



Objectives

- ◇ Subtract numbers where both numbers are less than 100 using concrete and pictorial models, without regrouping: a. 2-digit minus 1-digit numbers, and b. 2-digit minus 2-digit numbers.
- ◇ Subtract numbers by expressing minuends and subtrahends as tens and ones (expanded form), without regrouping.



Vocabulary Bank

- **program** – a public presentation, such as a play.



Math Tale

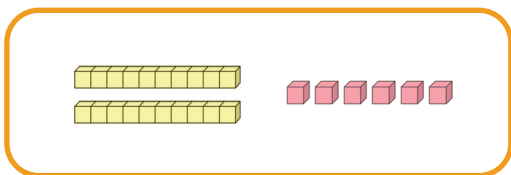
The Grade 1 class is busy backstage. They are preparing for the school program. Tristan and 25 other boys are going to sing. If 4 boys still need to practice, how many boys are ready?



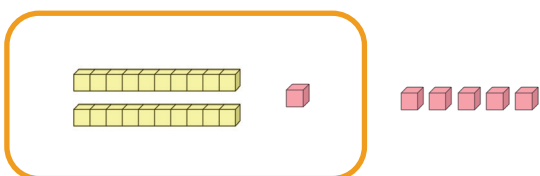


Let's Explore

We can use our counters to help Miss Santos find out how many boys are ready.



Let's take away 5 squares from 26 squares.

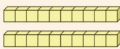


If we take away 5 squares, 21 squares will be left. Therefore, 21 boys are ready to perform.

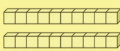
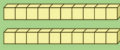
We can write this number sentence as:

$$26 - 5 = 21$$

We can also use our **Place Value Chart** to solve this.

Tens	Ones
 2	 6

Separate 26 into tens and ones.

Tens	Ones
 2	 5
 2	 1

Take away five squares.

Taking away 5 squares gives us 21.

Let's try this another one.

Kathlyn and 47 other girls are dancing. If 35 girls are wearing dresses, how many girls are not wearing dresses?

To answer the problem, let us subtract 35 from 48.

Now, let's use circles to represent the numbers.

Tens	Ones
	

Separate 48 into tens and ones.

Tens	Ones
 4	 8
	 3

$$\begin{array}{r} 48 \\ - 35 \\ \hline 13 \end{array}$$

Subtract the ones first.

Tens	Ones
 4	 8
 1	 3

$$\begin{array}{r} 48 \\ - 35 \\ \hline 13 \end{array}$$

Next, subtract the tens

$$48 - 35 = 13$$

Therefore, 13 girls are not wearing dresses.

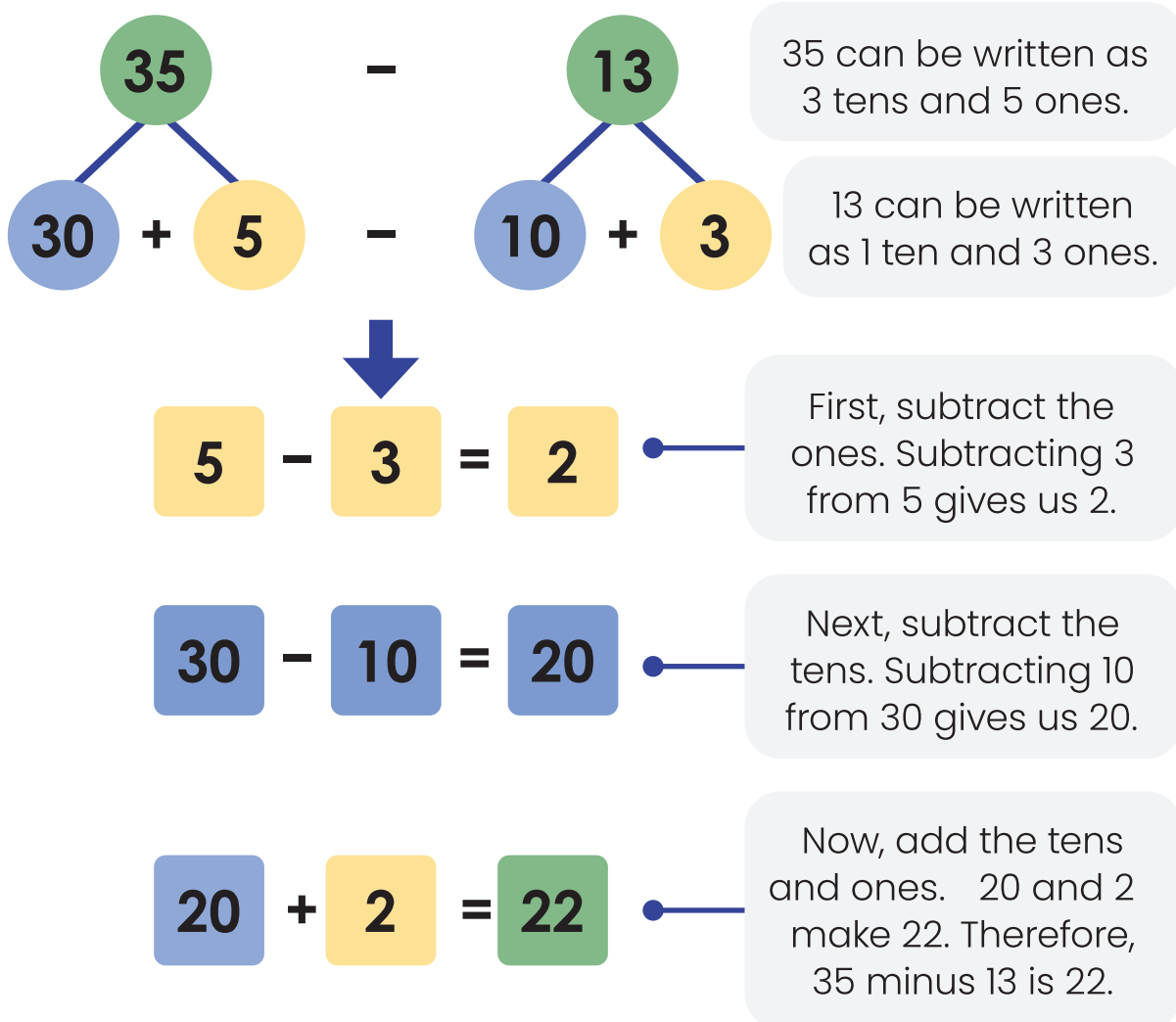


Keep in Mind

Subtraction means taking away. We can subtract easily by separating the tens and ones.

Let's solve the first problem using the expanded form of numbers.

What is $35 - 13$?



The expanded form of the number can also help us to subtract numbers mentally.

There are 36 Grade 1 students who will be dancing. If there are 24 girls, how many boys are going to dance?

Use your counters to subtract.

Tens	Ones

$$\begin{array}{r} 36 \\ - 24 \\ \hline \end{array}$$

How many boys are going to dance?



Put to Practice

Let's practice subtraction without regrouping. Read the school program below and answer the tasks that follow.

Bright Minds Academy

TALENT SHOW

Program

Invocation

Jazz Dance1-Courage

Tap Dance3-Perseverance

Song & Dance1-Honesty

Song Number....Grade 2 Class

Play.....3-Purity

Awarding

Task 1

If four of the 14 performing Grade 1 students are girls, find out how many performers are boys.

Task 2

Out of the 24 Glee Club members, 12 are boys. Determine how many members are girls.



Skills Builder

I. The performances of the Grade 1 students are listed below.

Dancing	37 students
Singing	59 students
Playing Instruments	14 students
Acting in a Skit	48 students

Find out how many more students are:

Dancing than playing instruments

Tens	Ones

Singing than playing instruments

Tens	Ones

Singing than dancing

Tens	Ones

Acting than dancing

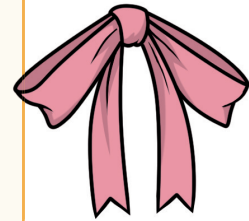
Tens	Ones

II. Encircle the correct answer.

There are 43 ribbons on Tina's costume. Twelve ribbons are red but the rest are pink. How many pink ribbons are there?

33 ribbons

31 ribbons



Out of the 68 adults watching the program, 26 are men. How many women are watching the program?

42 women

40 women



There were 68 students who played the flute and 33 students who played the guitar. How many more students played the flute than the guitar?

35 students

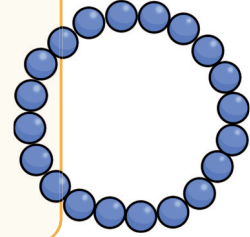
45 students



Mr. Tan bought 27 bracelets for his class. Mr. Go bought 39 bracelets. How many more bracelets did Mr. Tan need to buy for them to have the same number of bracelets?

13 bracelets

12 bracelets



Challenge Yourself

Problem Solving Strategy: Subtracting Tens

There are 80 people watching the program. If there are 50 children, how many adults are in the audience?



Portfolio Prompts

Find out the talents of your classmates. Compare how many of your classmates can sing, dance, play instruments, or act. You can also share your talents in class.



Fun Facts

Drama is a show that was invented by the Greeks. The symbol for drama is made up of two masks. One is a happy face to represent comedy, while the other is a sad face to represent tragedy.



LESSON 8

Repeating Patterns



Objectives

- ◇ Determine the next term/s in a repeating pattern
- ◇ Create repeating patterns using objects, images, or numbers.



Math Tale

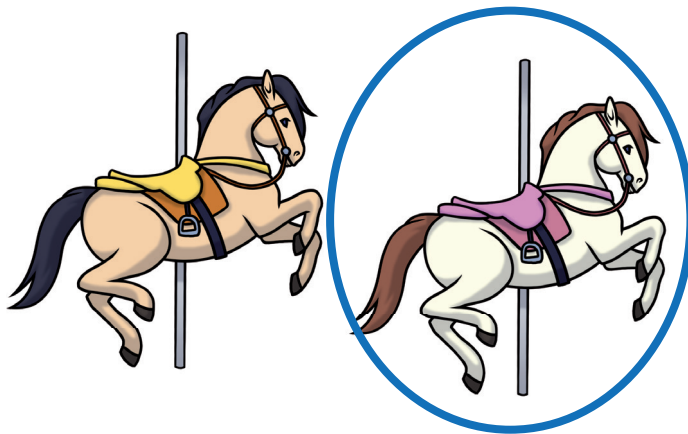
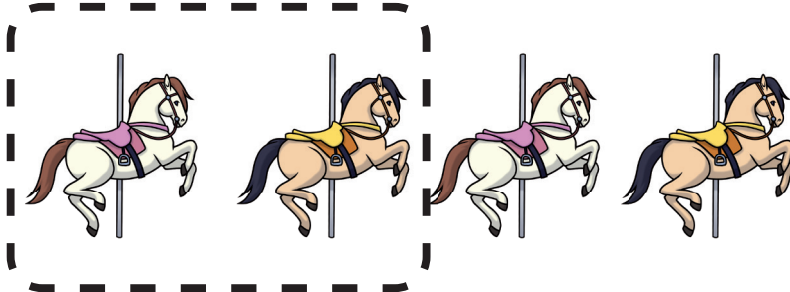
The twins are having a great time at the carnival. Tina wants to try the carousel because the horses look pretty. As the horses move round and round, Tina noticed that some of the horses look the same. They follow a pattern. Help Tina guess what kind of horse will come next.





Let's Explore

Here are the carousel horses.



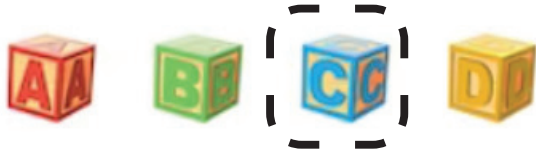
The next horse on the carousel is a **white** horse.

These horses form a **pattern**.
They form a pattern of **brown** and **white** colors.
This is an example of a **repeating pattern**.

The twins saw blocks that followed a pattern of letters and numbers. Can you help them find what is the missing letter in the pattern?



This group of blocks with letters A, B, C, and D forms a pattern. The missing block letter is C.



Now, let's find out what is the next number.

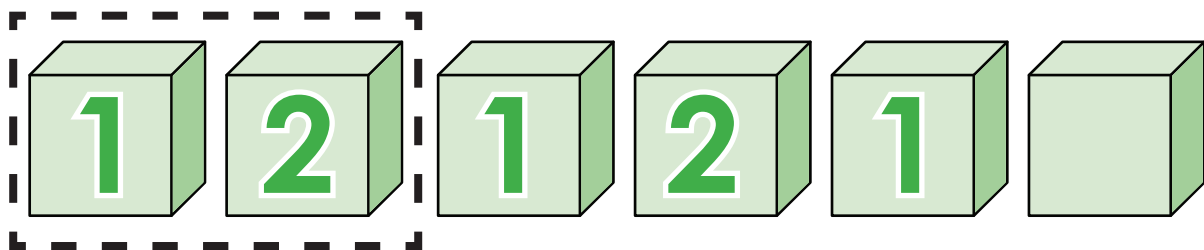


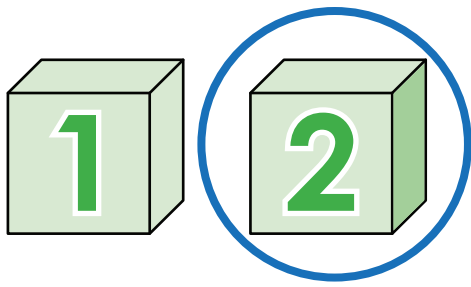
The numbers 6, 7, 8, and 9 form a pattern. The next block number after 8 is 9.



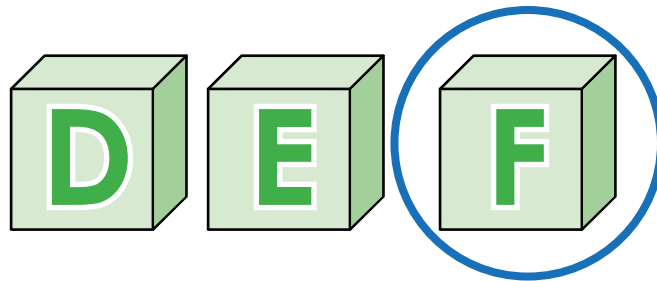
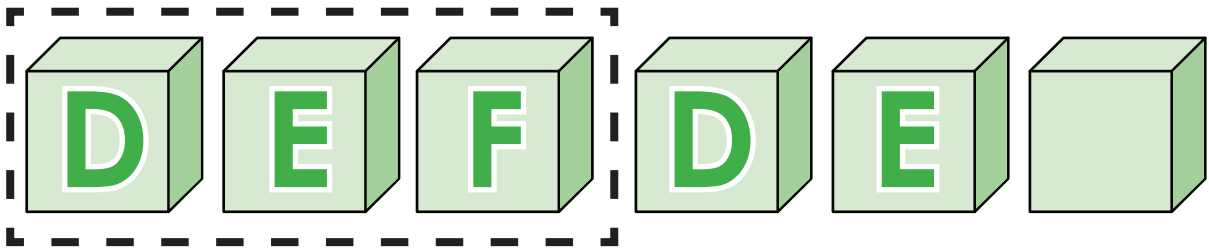
Always remember, we can form repeating patterns using letters, numbers, colors, shapes, and sizes.

Tristan saw blocks that follow a pattern of letters and numbers. Can you help him find what comes next in the pattern?



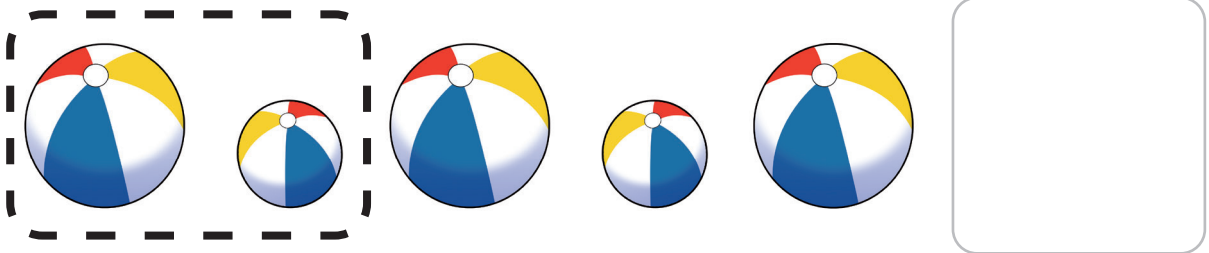


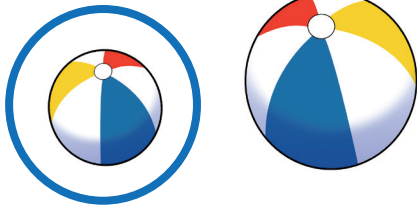
This group of blocks with numbers 1 and 2 form a pattern. The next block number is 2.



The letters D, E, and F form a pattern. The next letter is F.

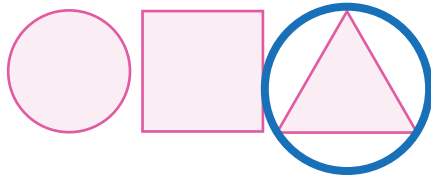
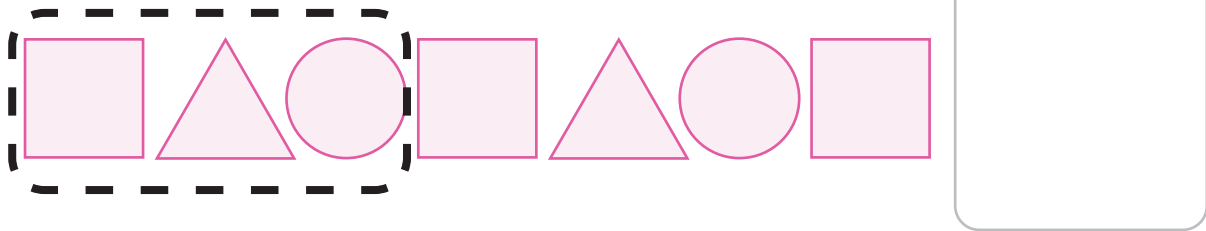
These balls form a pattern. What is the next figure in the pattern?





The balls follow a pattern in size. The next is the small ball.

These figures also form a pattern. Can you guess which figure comes next?



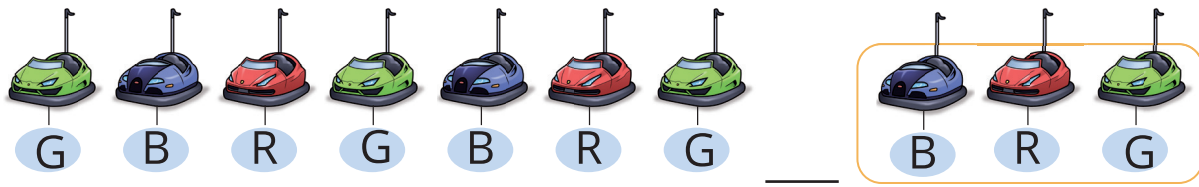
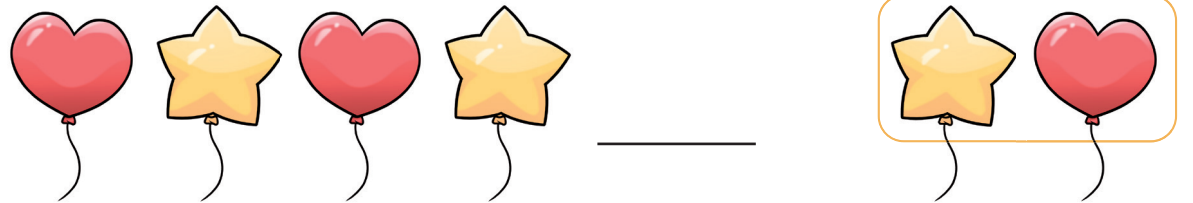
The figures follow a pattern in shape. The next is the triangle.



Keep in Mind

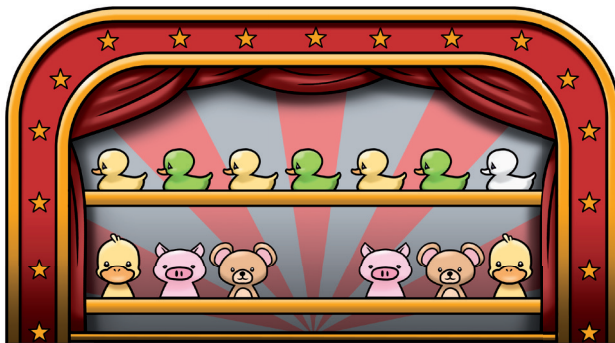
We can form repeating patterns using letters, numbers, colors, shapes, and sizes.

The twins are going around the carnival. They saw different rides and games. Look at the patterns below and check the object that will complete the pattern.



Put to Practice

Tristan tried some of the carnival games.



Task 1

On the first level, color the last duck based on the pattern.

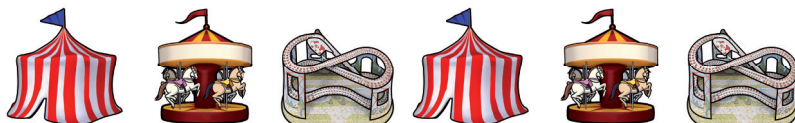
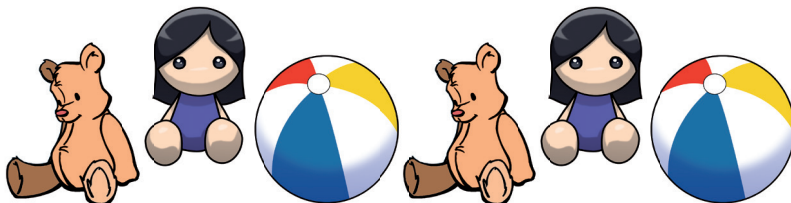
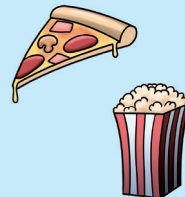
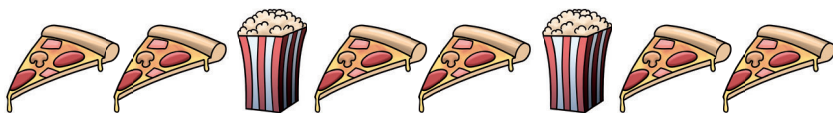
Task 2

On the second level, Tristan knocked down the object in the middle. Guess what object it was.

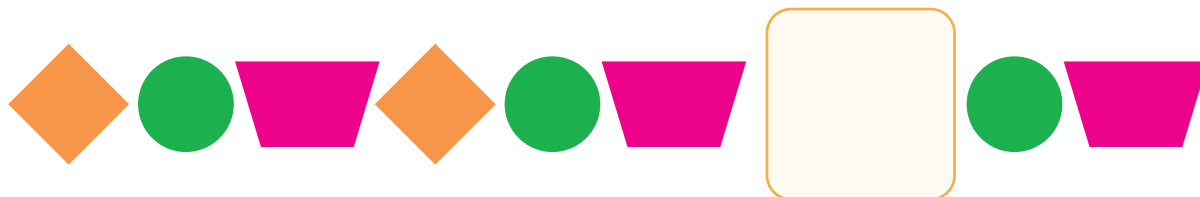


Skills Builder

I. Box the object on the right that comes next in the repeating pattern.



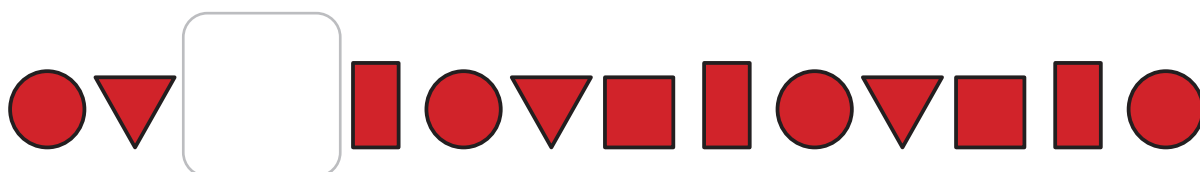
II. Fill in the box to complete the following patterns by drawing the missing object.



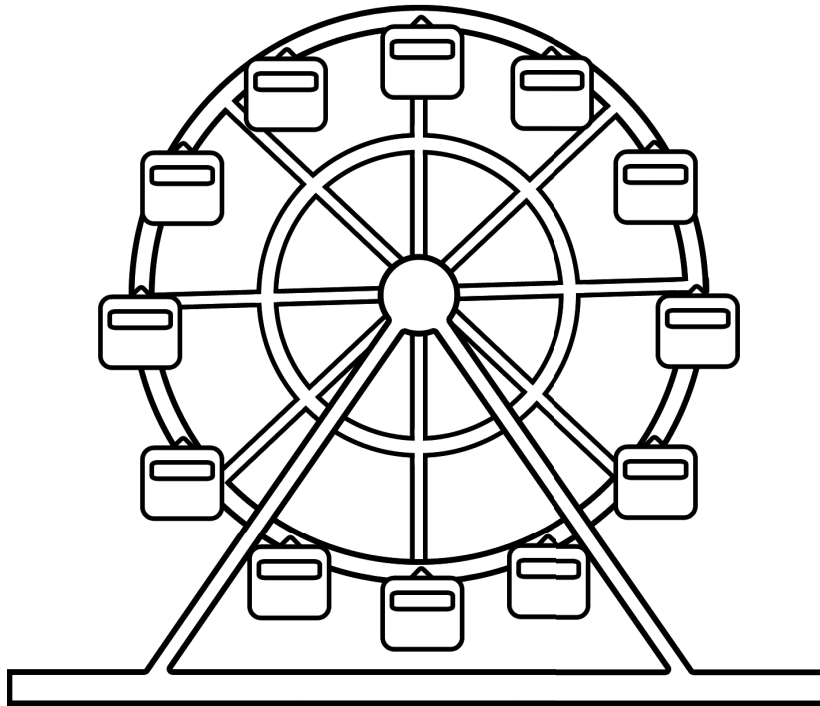
H A H A T H A T



5 6 7 8 5 6 7 8 5 6 8



III. Make your own Ferris wheel design using repeating patterns.



Challenge Yourself

Problem Solving Strategy: Finding Similar Objects

Mr. Funny, the carnival clown, is giving away balloons of different shapes to the children. What is the next child going to get?





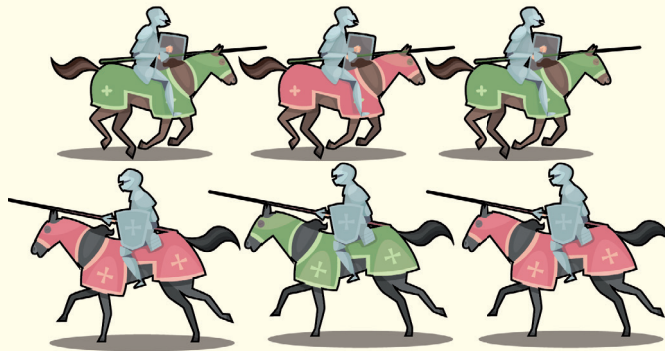
Portfolio Prompts

In this lesson, we learned about repeating patterns. This lesson is important because we can use it in making designs or guessing what is next. In making bracelets or necklaces, the beads usually follow a pattern. You can make your own jewelry pieces by using repeating patterns.



Fun Facts

The word carousel came from the Italian word “carosello.” Carosello was a game played in Turkey and Arabia during the twelfth century.



Unit Performance Task

You are with a group of people who have already collected data and they want the collected data to be organized and interpreted.

What's your favorite food?

Chicken	51
Spaghetti	67
Ice Cream	42
Dinuguan	9
Ampalaya	5

As an organizer, you will show a pictograph with interpretations showing the difference of foods to your groupmates. The students will be rated according to the given criteria:

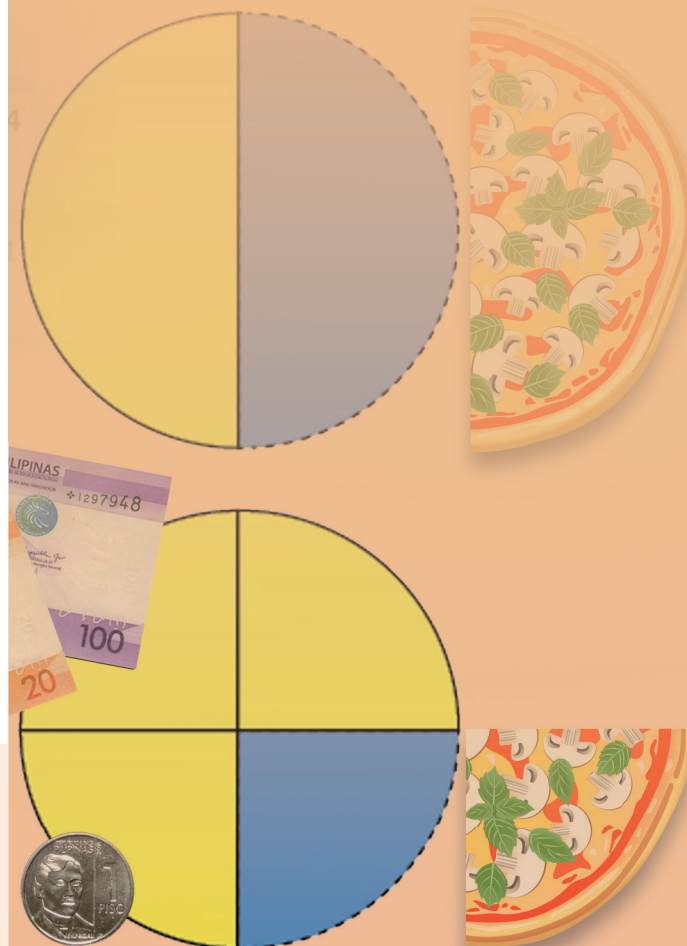
Rubric

Criteria	4	3	2	1
Pictograph Presentation	The pictograph is presented correctly with neat illustrations of figures.	The pictograph is presented correctly.	The pictograph is presented with one error.	The pictograph is presented with two or more errors.
Correct Subtraction (one – digit) Materials	Subtraction of numbers with one-digit subtrahend are shown correctly with complete solutions.	Subtraction of numbers with one-digit subtrahend are shown correctly.	Subtraction of numbers with one-digit subtrahend are shown but with one error.	Subtraction of numbers with one-digit subtrahend are shown but with two or more errors.
Subtraction (two-digit)	Subtraction of numbers with two-digit subtrahend are shown correctly with complete solutions.	Subtraction of numbers with two-digit subtrahend are shown correctly.	Subtraction of numbers with two-digit subtrahend are shown but with one error.	Subtraction of numbers with two-digit subtrahend are shown but with two or more errors.

UNIT 4

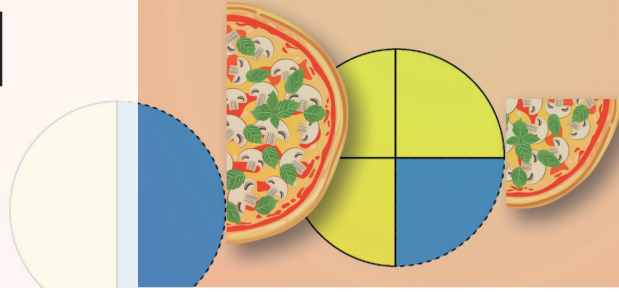
Welcome to our exciting math adventure where we'll discover fractions, money, and time together! In this journey, we'll explore numbers, coins, bills, and clocks to learn about math in fun and interesting ways.

First, we'll dive into fractions like $\frac{1}{2}$ and $\frac{1}{4}$, imagining them as pieces of pizza or cake to understand how they represent parts of a whole. Then, we'll jump into the world of money, where we'll recognize coins and bills up to PhP 100. We'll count shiny coins like 1 peso, 5 pesos, and 10 pesos, and colorful bills like 20 pesos and 50 pesos. We'll even compare them to see which ones are bigger or smaller! After that, we'll solve puzzles and play games to practice counting halves and quarters, and figure out how much money we have when we put coins and bills together. We'll also learn about time by looking at big clocks with colorful hands, figuring out what time it is when the big hand points to the numbers. We'll talk about days of the week, months of the year, and even use a special calendar to find out important dates. So get ready to join the math fun as we explore fractions, money, and time – it's going to be a blast!



LESSON 1

Halves and Fourths



Objectives

- ◇ Illustrate $\frac{1}{2}$ and $\frac{1}{4}$ as parts of a whole.



Vocabulary Bank

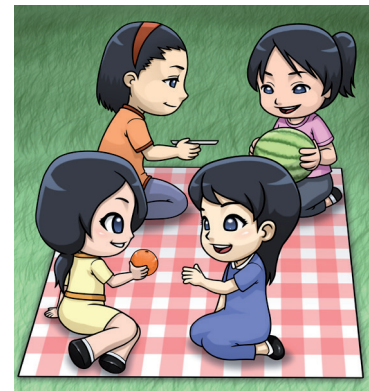
- **picnic** – a meal eaten outdoors
- **ingredient** – one of the things used to make something



Math Tale

A Picnic with Friends

Tina and her three friends are having a picnic at the park. They all have food to share. Tina has an orange. She wants to share it with Kim. Joy has a watermelon. She wants to share it among the four of them. How much of each fruit would each of the girls get? Dad told Tina and Tristan to look around for objects with different shapes. What kinds of shapes did





Let's Explore

This is Tina's apple. We call this a **whole**. If the apple is cut into two equal parts,



one part



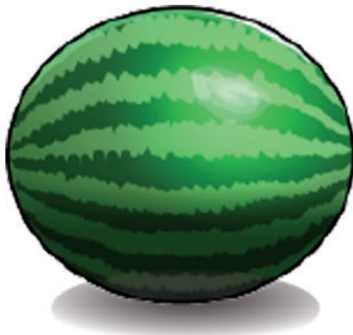
is called **one-half**.

Kim and I would get one-half of the apple.



We can also write it as $\frac{1}{2}$.

This is Joy's watermelon. This is a **whole** watermelon. If the watermelon is sliced into four equal parts,



One part



is called **one-fourth**.

We can write it as $\frac{1}{4}$.

Each of us would get one-fourth of the watermelon.



Keep in Mind

In $\frac{1}{2}$, we cut a whole into 2 equal parts and take 1 part.

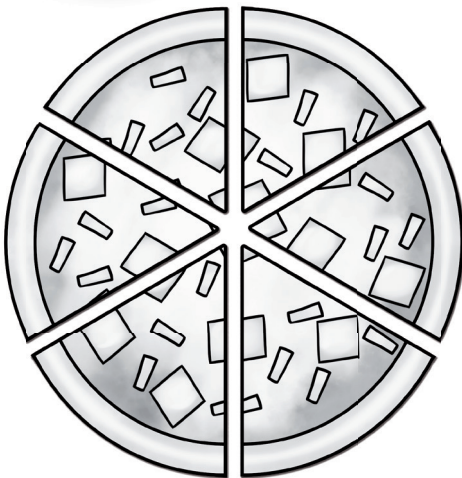
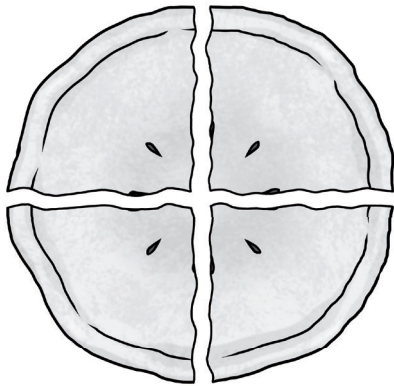
In $\frac{1}{4}$, we cut a whole into 4 equal parts and take 1 part.



Keep in Mind

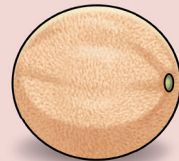
A whole can be divided equally into parts. Halves and fourths are parts of a whole.

Color the objects that are divided equally into halves and fourths below.



Put to Practice

The ingredients used to make fruit salad are banana, strawberry, melon, and papaya slices.



Task 1

Show how the melon should be cut equally into fourths.

Task 2

Cut the strawberry and papaya so they can be shared by two children.



Do It Yourself

Shape Cutters

Sharing by halves and fourths is easier to show using shape cutters.

You will need:

- 6 sheets of construction paper
- a pair of scissors
- a short envelope or plastic bag with zip lock

Steps:

1. Using construction paper and a pair of scissors, cut out 3 figures of the same size for each of the following shapes: circle, square, and rectangle.
2. Cut one figure for each shape into halves and label the parts $\frac{1}{2}$.
3. Cut another figure for each shape into fourths and label the parts $\frac{1}{4}$.
4. Answer:
 - a. How many halves are there in a whole?
 - b. How many fourths are there in a whole?
 - c. How many fourths are there in a half?



Fun Facts

The term “salad” came from the Latin word “sal” which means salt.



Challenge Yourself

Problem Solving Strategy: Making a Fold Line

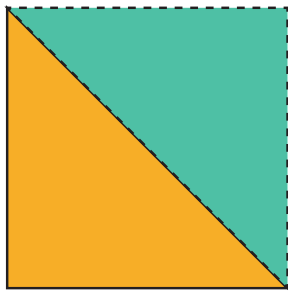
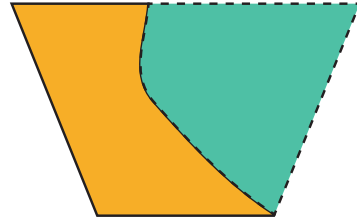
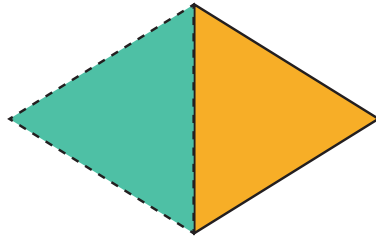
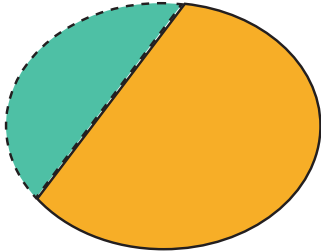
Tina’s mother baked her a cake. How will Tina share it with 4 of her friends?



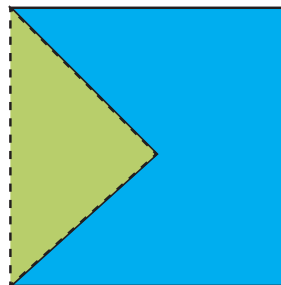
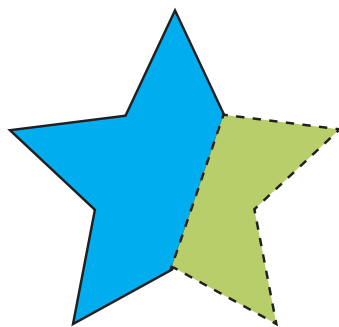
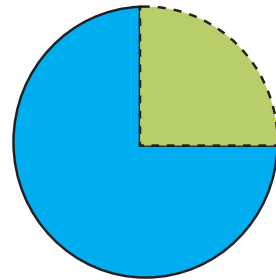
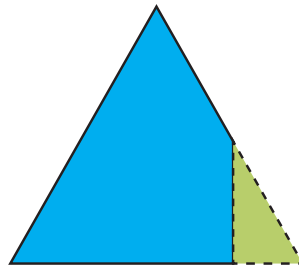
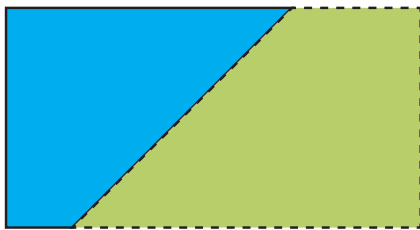


Skills Builder

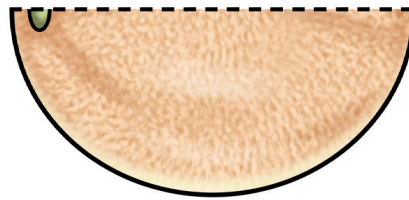
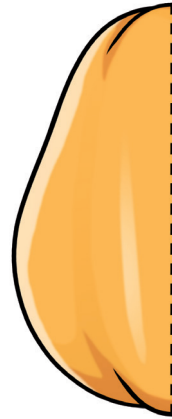
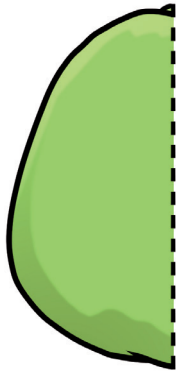
I. Box the figures that show $\frac{1}{2}$.



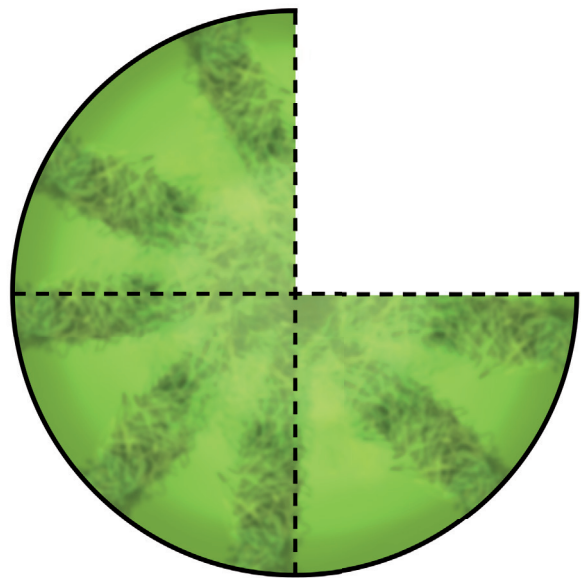
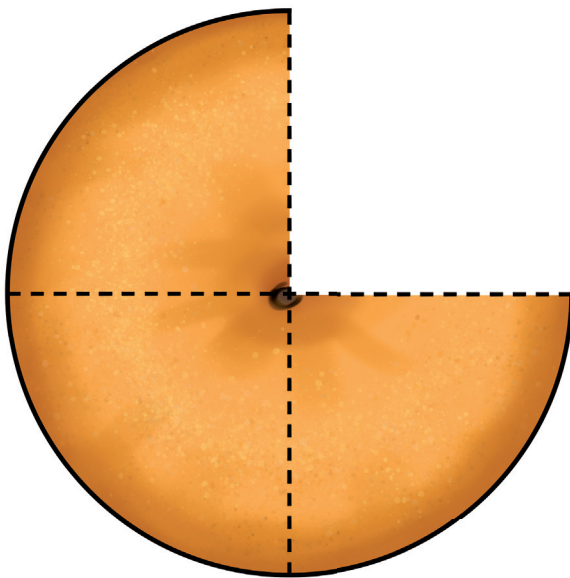
II. Encircle the pictures that show $\frac{1}{4}$.



III. Draw the other half of the pictures below.

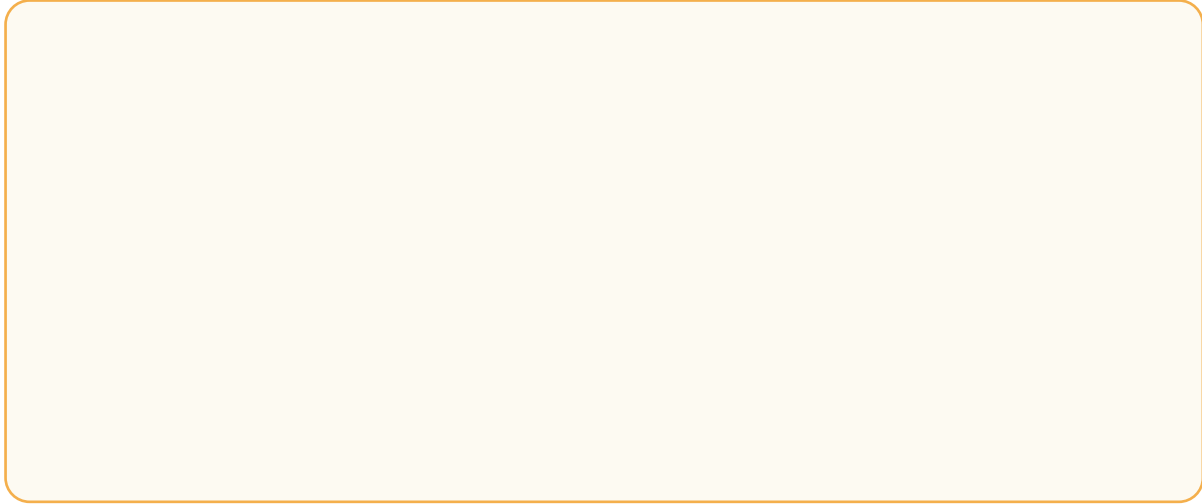


IV. Complete the pictures by drawing the missing fourth part.

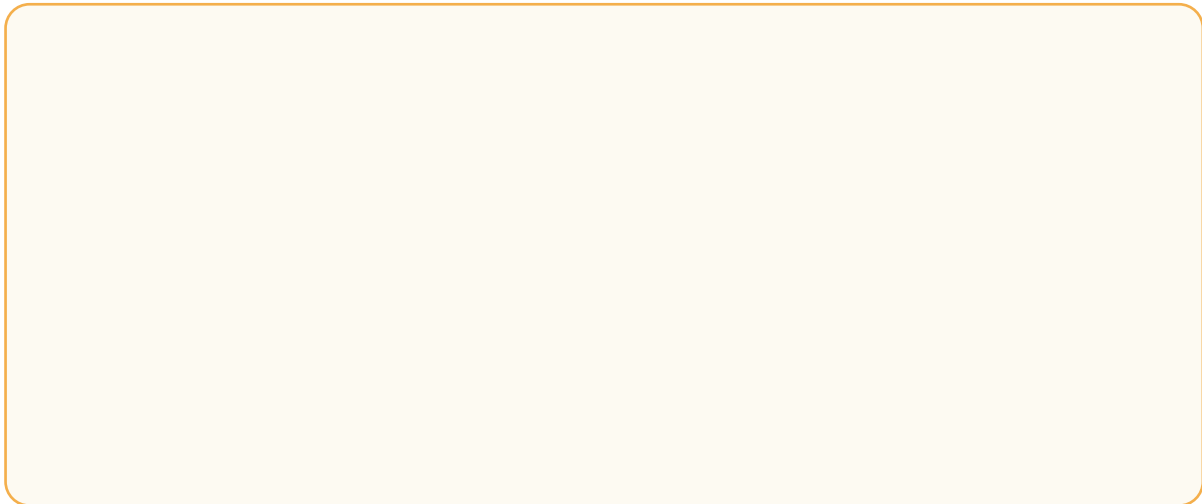


V. Solve by drawing.

1. Joy and her 3 friends ordered pepperoni pizza for *merienda*. How much of the pizza will each one get?



2. Tina cuts a pie into 4 parts. She wants to share the pie equally with Tristan. How much of the pie will each of them get?



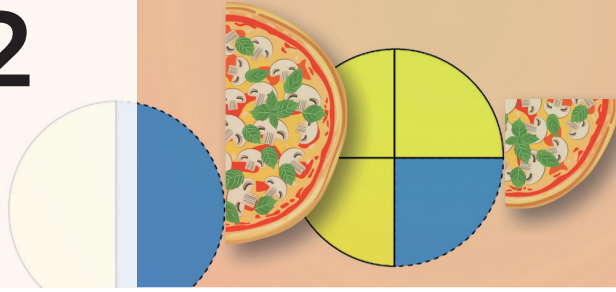


Portfolio Prompts

In this lesson, we learned how to use halves and fourths in sharing equal parts. Make your own fruit or vegetable salad recipe. Determine whether the ingredients will be cut into halves or into fourths. You may add a picture of the salad in your recipe.

LESSON 2

Comparing Halves and Fourths



Objectives

- ◇ Understand the concepts of one half and one fourth.
- ◇ Compare one half and one fourth using visual models.
- ◇ Identify and describe the differences between these fractions.



Math Tale

Jane loves pizza, so she bought two same-size pizzas with different flavors. Her son, Ricky, also loves pizza as much as his mom. Jane asked Ricky which of the two pizzas he would choose to eat.



Let's Explore

The mushroom pizza is already cut into halves, while the pepperoni pizza is already cut into fourths.

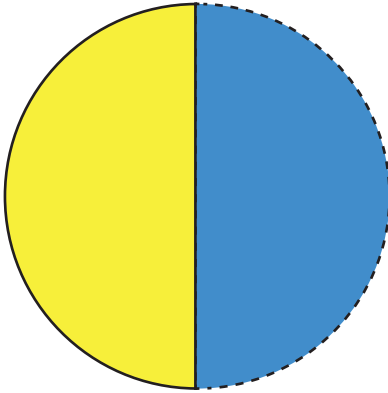
- If Ricky wants a bigger slice of pizza, which flavor will he choose?
- If Ricky wants more slices of pizza, which flavor will he choose?



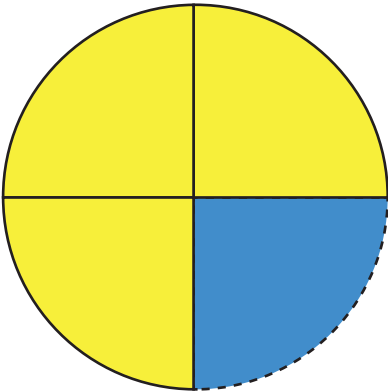
MUSHROOM PIZZA



PEPPERONI PIZZA



This circle will represent the mushroom pizza that is cut into halves, cutting it into halves, meaning dividing it into two equal parts. The shaded part is $\frac{1}{2}$ of the whole pizza.



This circle will represent the pepperoni pizza that is cut into fourths, cutting it into fourths meaning dividing it into four equal parts. The shaded part is $\frac{1}{4}$ of the whole pizza.

Ricky knows from the models that if he wants a larger slice, he should get the mushroom pizza. And if he wants more slice of pizza, then he should choose the pepperoni pizza.



Keep in Mind

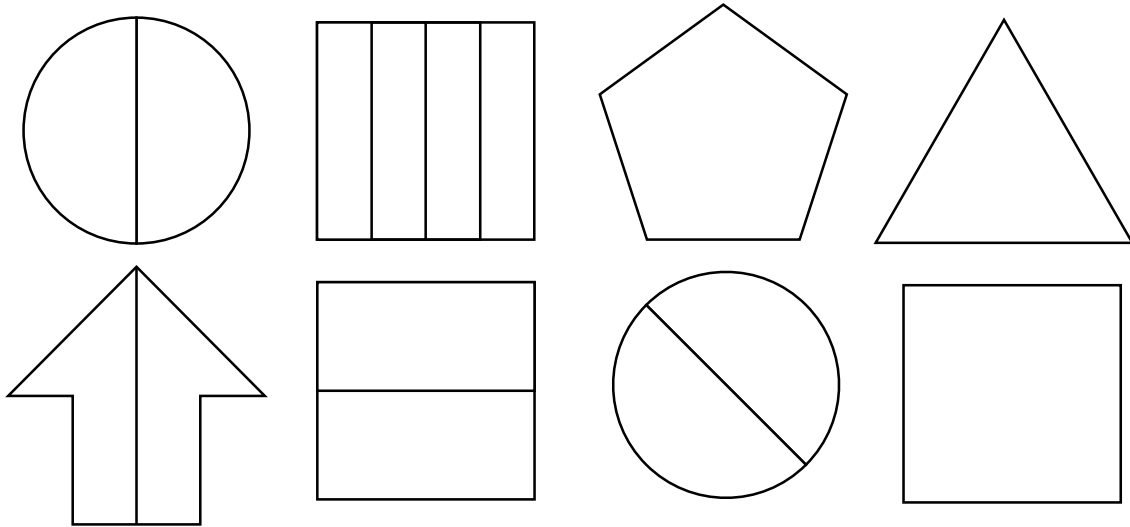
Half $\frac{1}{2}$: Imagine you have a pizza. If you cut it into two equal parts, each part is called a half. It's like sharing the pizza equally with a friend.

Fourth $\frac{1}{4}$: Now, if you cut the pizza into four equal parts, each part is called a fourth. It's like cutting the pizza into smaller pieces, but still making sure everyone gets a fair share.



Put to Practice

Use the figures below.



- I. Color the shapes cut into halves BLUE and color the shapes cut into fourths RED.
- II. Which of the following figures cut into halves and into fourths?
- III. Which of the following figures cut into into fourths?



Skills Builder

1. What type of visual model would best represent the fraction $\frac{1}{2}$?

- a. Circle divided into 4 equal parts
- b. Square divided into 3 equal parts
- c. Square divided into 2 equal parts
- d. Circle divided into 8 equal parts.

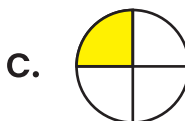
2. Which model represents the fraction $\frac{1}{4}$?



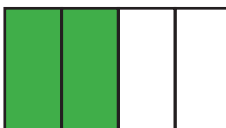
3. Which model represents the fraction $\frac{1}{2}$?



4. Which of the following DOES NOT represent $\frac{1}{4}$?



5. What fraction of the rectangle is green?



a. $\frac{1}{2}$

b. $\frac{1}{4}$

c. $\frac{3}{4}$

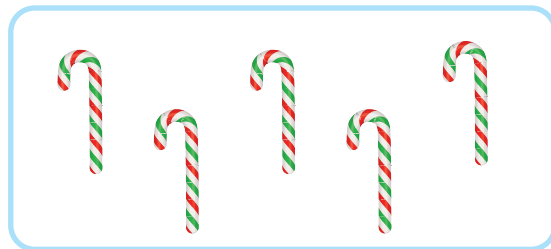
d. $\frac{2}{3}$

II. Compare the following sets. Color which set has more items.

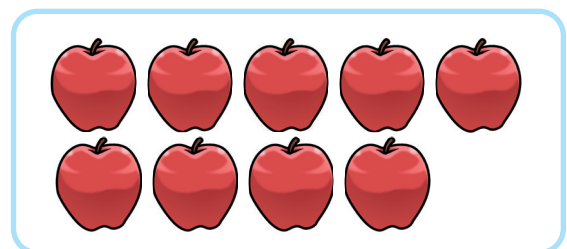
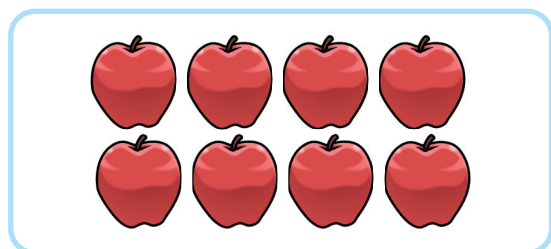
1.



2.

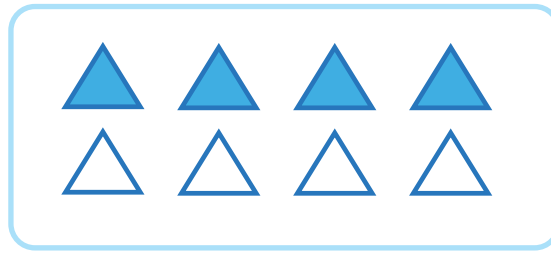


3.

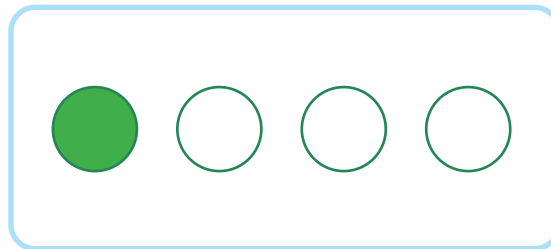


III. Count the colored shapes. Determine if it is $\frac{1}{2}$ half or $\frac{1}{4}$ quarter of a set.

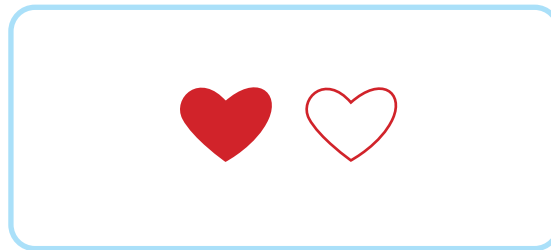
_____1.



_____2.



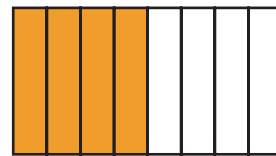
_____3.



IV. Study the two models below. Answer the following questions.



Model A



Model B

1. Which model represents the fraction $\frac{1}{2}$?
2. Which model represents the fraction $\frac{1}{4}$?
3. Compare the size of the shaded area in Model A and Model B. Which model has a larger shaded area?



Challenge Yourself

Materials Needed

- Fraction strips or circles
- Whiteboards and markers

Instructions:

- Represent both $\frac{1}{2}$ and $\frac{1}{4}$ using their fraction models. Shade the appropriate sections to show each fraction.
- Compare the fraction models of $\frac{1}{2}$ and $\frac{1}{4}$ and discuss within the group which one is larger.

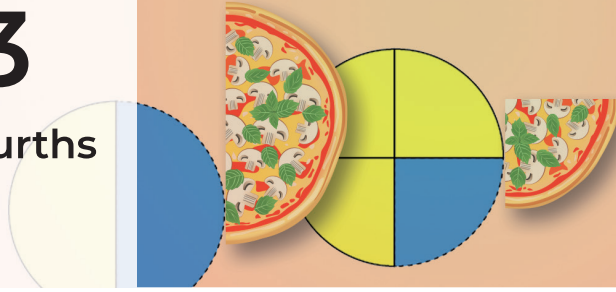


Portfolio Prompts

Identify a real-world object or situation where $\frac{1}{2}$ and $\frac{1}{4}$ are used. Explain how understanding these fractions is helpful in that context.

LESSON 3

Counting Halves and Fourths



Objectives

- ◇ Count halves and fourths



Math Tale



Lily had a pizza at her party. She wanted to share it equally with her friends. Her dad showed her how to cut the pizza into halves (two equal parts) and then into fourths (four equal parts). Lily cut the pizza and counted “1, 2, 3, 4” fourths. Everyone got an equal slice!



Let's Explore

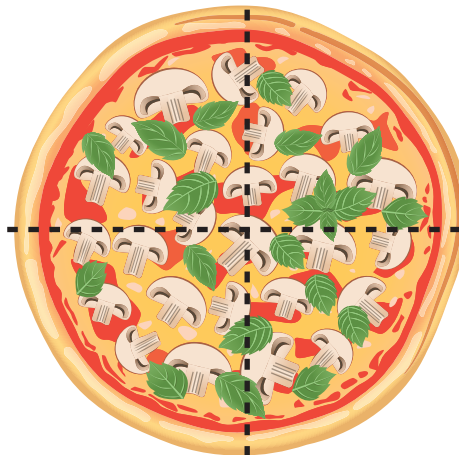
Lily observed the whole pizza, understanding it as one complete piece.

Her dad suggested cutting the pizza straight down the middle.



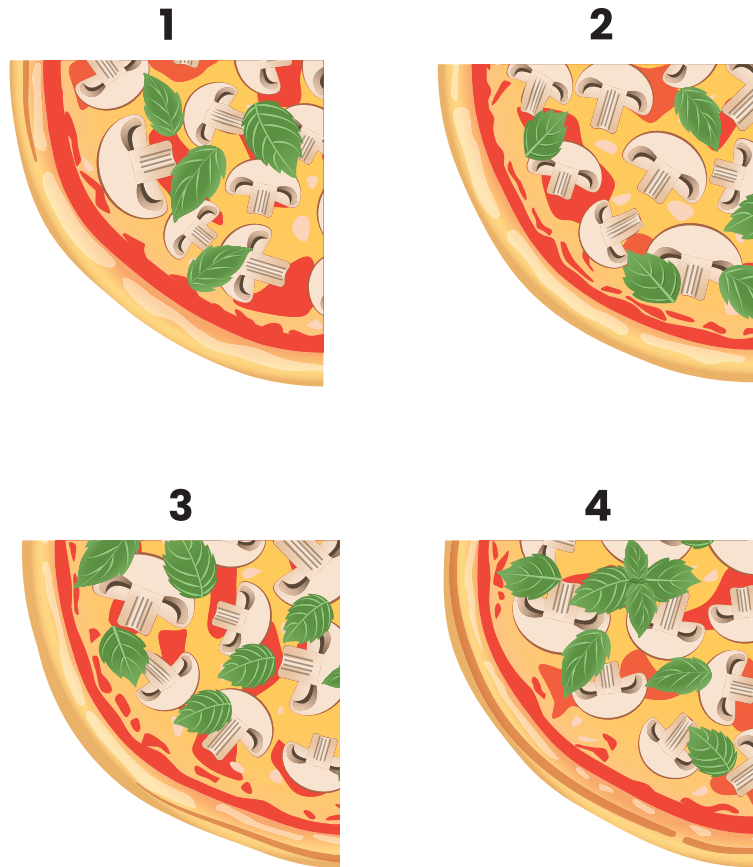
Halves

Next, Lily made another cut across the first one, dividing each half into two more parts. This created four parts in total, each called a fourth.



Fourths

Lily counted the pieces aloud, "1, 2, 3, 4," ensuring there were four equal fourths. Each friend, including Lily, would get one fourth of the pizza.



Halves – When you divide something into two equal parts, each part is called a half. For example, cutting an pie into two equal pieces gives you two halves of the pie.

Fourths – When you divide something into four equal parts, each part is called a fourth. Like when you cut a pie into four equal pieces, you get four fourths of the pie.



Put to Practice

Myra bought 16 hair clips. She wants to share half of them to Leah and quarter of it to Jessica.



- I. How many clips does Leah receive? Explain your answer.
- II. How many clips does Jessica receive? Explain your answer.
- III. After giving some of her hair clips to her friends, how many clips left for Myra?



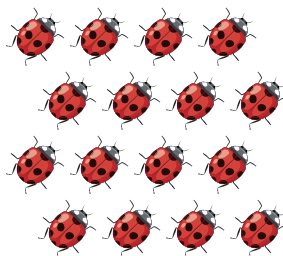
Skills Builder

Read each question below. Encircle the letter of the correct answer.

1. Alvin have 8 oranges and he eat half of them, how many oranges he has left?
a. 2 b. 3 c. 4 d. 6
2. If you have 16 toy cars and you give away a quarter of them, how many toy cars did you give away?
a. 2 b. 4 c. 8 d. 12
3. If you have 30 minutes and you spend a half of it watching your favorite shows on TV, how many minutes do you spend watching?
a. 5 minutes c. 15 minutes
b. 10 minutes d. 20 minutes
4. Which of the following is equally divided into a fourth?

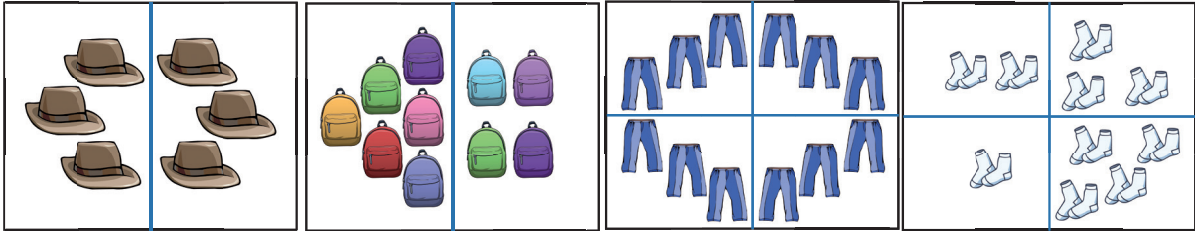


5. How many groups of 4 you can make from these beetles?

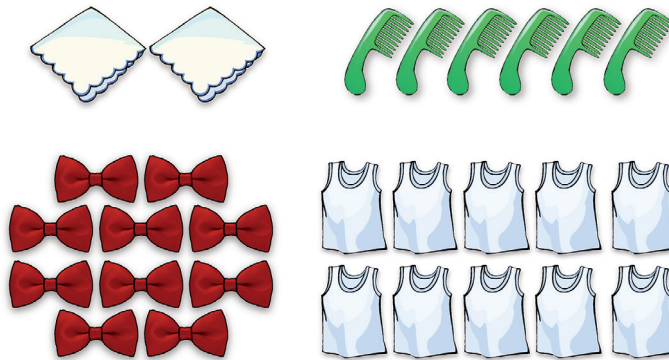


- a. 2 b. 4 c. d. 16

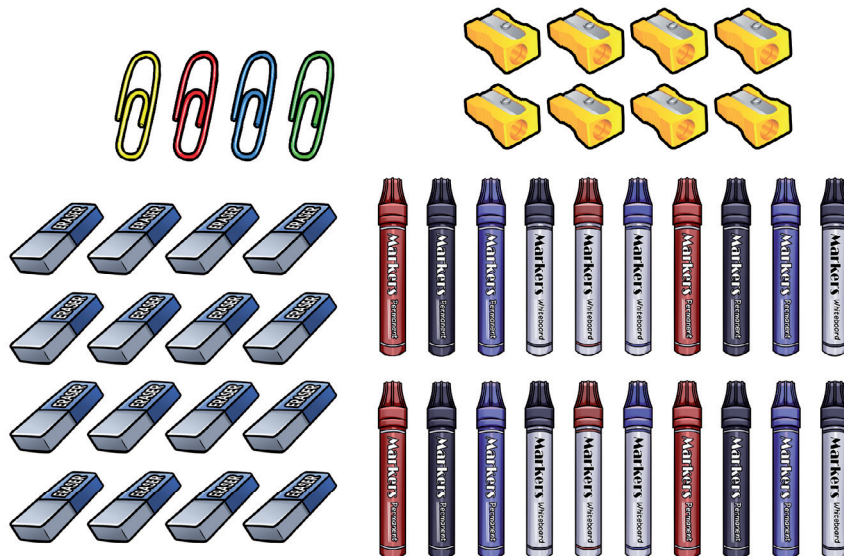
II. Put a check if the group shows $\frac{1}{2}$ or $\frac{1}{4}$ of a set.



III. Show half of each set. Box the groups.



IV. Show one-fourth of each set. Encircle the groups.





Challenge Yourself

Draw the whole set given its part. Then, complete the statement about the set.



of ____ is _____. There are _____ starfishes in all.



of ____ is _____. There are _____ pearls in all.



of ____ is _____. There are _____ shells in all.



Portfolio Prompts

Tristan bought a pack of trading cards. He says that it is easy to get $\frac{1}{2}$ and $\frac{1}{4}$ of the number of his cards because a pack usually has 5 to 10 cards.

Answer the table below.

Number of Cards	Can easily get $\frac{1}{2}$ of it?	Can easily get $\frac{1}{4}$ of it?
5	no	no
6		
7		
8		
9		
10		

LESSON 4

Recognizing Philippine Money



Objectives

- ◇ Recognize coins (excluding centavo coins) and bills up to PhP 100 and their notations.
- ◇ Determine the value of a number of bills and/or a number of coins (excluding centavo coins) up to PhP 100.



Math Tale

David asks for money from her parents to buy the material he needs for a school project. Her mother gave him one piece of a violet bill. How much money did David's mother give?



Let's Explore

To buy things like food, clothes, toys, and school materials, you will need money. Did you know that there are different kinds of money around the world? In the Philippines, we use bills and coins.

Here's the list of Philippine Coins:



PhP 1



PhP 10



PhP 5



PhP 20

And here's the list of Philippine Bills up to PhP 100:



PhP 20



PhP 50



PhP 100

Let's go back to our problem.

How much money did David's mother give? It's a violet bill.



Thus. David's mom give him PhP 100 for his school project.

Remember: PhP 20 can be both a coin and a bill.



Put to Practice

Study the sets of money below and answer the following questions.



Set A



Set B

- I. How much money is in each set?
- II. Which has the smaller amount?
- III. Which has the largest amount?



Skills Builder

I. Write the correct notation of each coin.

1.



2.



3.



II. Write the correct notation of each bill.

1.



2.



3.



III. Read each sentence and replace each picture with symbols.

1. Dad wants a strawberry yogurt shake. He needs _____ to buy it.



2. Mom wants ice cream. She needs _____ to buy it.



3. Tristan wants to buy a ball. He needs _____ to buy it.



IV. Look at each object and its price. Draw inside the box the bills and coins that will make up the price. Use any coloring materials to color the bill properly.





Challenge Yourself

Paolo's mom wanted her 100-peso bill to be exchanged to smaller bills and coins.

Help Paolo give different ways to make PhP 100 out of other peso bills and coins.

I. Use a bill only.

II. Use a coin only.

III. Use bills and coins.



Portfolio Prompts

Create a chart or poster displaying the different Philippine coins and bills they have learned, including their values and notations. They can use drawings, cut-outs, or printed images to represent each coin and bill.

LESSON 5

Comparing Philippine Money



Objectives

- ◇ Compare different denominations of peso coins (excluding centavo coins) and bills up to PhP 100.



Math Tale

The Cruz siblings decided to save money for a week from their daily allowance to buy gifts for their mother's birthday the next week. They tally all their savings per day.



Day	Chelsie	Jake
Day 1	PhP 20	PhP 15
Day 2	PhP 10	PhP 20
Day 3	PhP 25	PhP 50
Day 4	PhP 50	PhP 50
Day 5	PhP 30	PhP 40
Day 6	PhP 100	PhP 40
Day 7	PhP 50	PhP 100

Answer the following questions:

1. On what day did that Chelsie save more than Jake?
2. On what day did the siblings have the same amount of savings?
3. In Day 7, who saved more?
4. On what day did the siblings save the most?



Let's Explore

Our lesson is about comparing amount of money in coins and in bills up to 100, and determine if they are equal, greater than, or less than to each other. When comparing amounts of money, we use relation symbols $<$ (less than), $>$ (greater than), or $=$ (equal). It's important to remember that comparing money is the same as comparing numbers.

Example: If Anna has three 20-peso bills and Jhon has seven 10-peso coins, we might want to know who has more money.

Anna		= PhP 60.00
Jhon		= PhP 70.00

The picture shows that Jhon has more money since 70 is greater than ($>$) 60.

In comparing values of different denominations of bills and coins, the total amount should be determined first.

In comparing the digits, start from the greatest place value to the least place value. The value of each kind of bill and coin should be written, then added. In showing the relation of the value of money, the symbols $>$, $<$, and $=$ are used.



Put to Practice

Miguel bought a bar of chocolates and box of milk.



1. If Miguel pays 3 PhP 20 bills for the bar of chocolate, how much it is?
2. Miguel give 2 PhP 50 bills for the box of milk. How much is the milk?
3. Which one is more expensive? The bar of chocolates or box of milk?



Skills Builder

I. Encircle the set of money that has a bigger value.

1.



2.



3.



II. Compare the amounts in column A with those in column B. Write $>$, $<$, or $=$ in the blank provided.

COLUMN A

1.



2.



3.

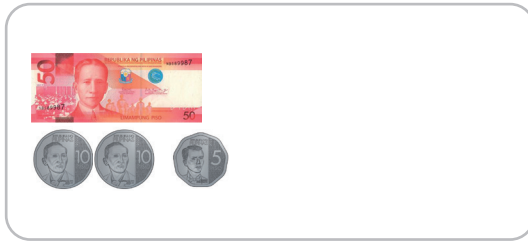


COLUMN B

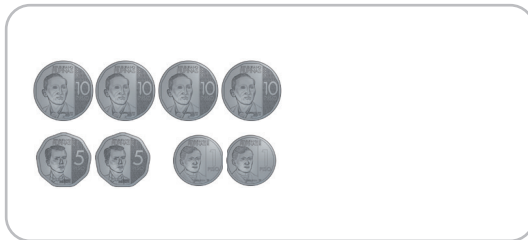


III. Draw a smiling face 😊 inside the box that has a bigger value.

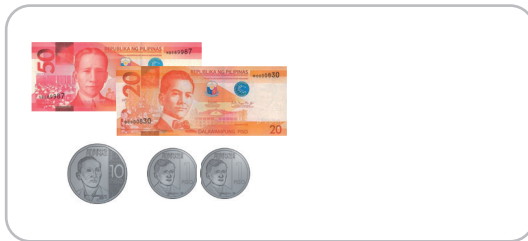
1.



2.

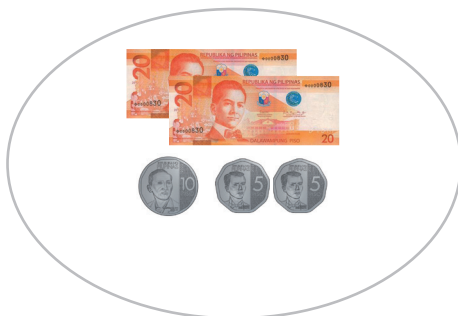


3.

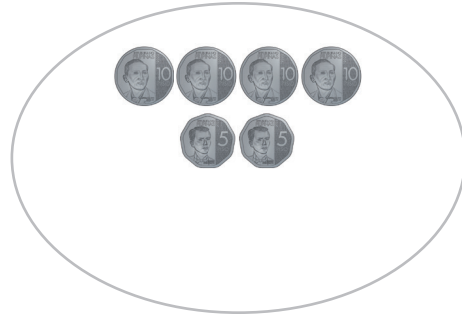
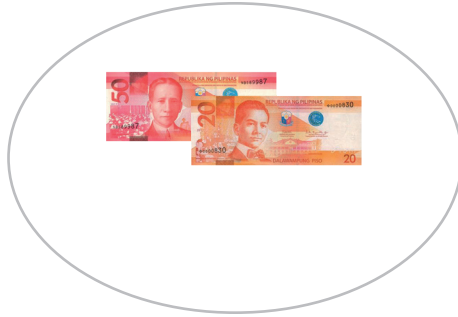


IV. Put a check mark inside the circle that has a smaller value.

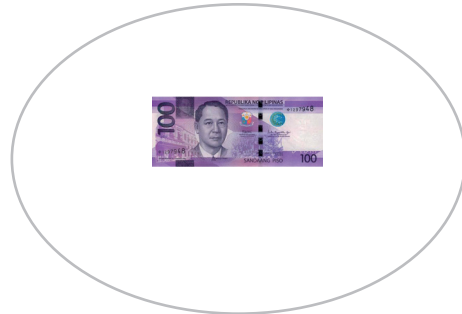
1.



2.



3.



V. Answer the following questions.

1. Ella has 3 PhP 20 bills while Mico has 10 PhP 10 coins. Who has the larger amount of money?
2. Alfred give 2 PhP 5 coins to his sister and 5 PhP 5 coins to his brother. Who has the smaller amount of money?
3. Jen receive 3 PhP 20 bills from her grandma and 2 PhP 50 bills from her sister. Who gave the bigger amount of money?



Challenge Yourself

Kara and James' Shopping Adventure

Kara and James decided to go shopping together at "The Coin and Bill Store." They each had some coins and bills. Let's find out what they can buy!

Kara: 4 coins of PhP 5 each

James: 1 bill of PhP 50

1. A. How much money does Kara have in total with her 4 coins of PhP 5 each?

B. How much money does James have with his 1 bill of PhP 50?
2. Who has more money, Kara with her 4 coins of PhP 5 each, or James with his 1 bill of PhP 50?
3. The magical store has some awesome toys. If there's a toy that costs PhP 30, can Kara and James buy it together? If yes, how will they pay for it? If not, what other toys can they afford?



Portfolio Prompts

Create a chart or poster comparing different denominations of peso coins and bills. Include information such as the name of each coin and bill, its value, and a description of its physical characteristics.

LESSON 6

Problem Solving Philippine Money



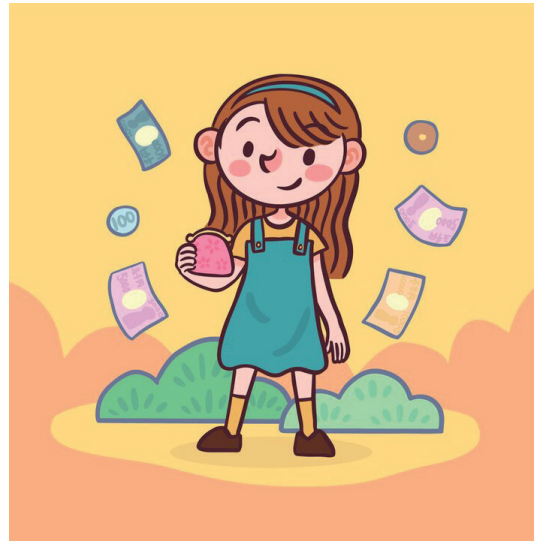
Objectives

- ◇ Solve 1-step problems (given orally or in pictures) involving addition of money where the sum is up to PhP 100, or subtraction of money where both amounts are less than PhP 100.



Math Tale

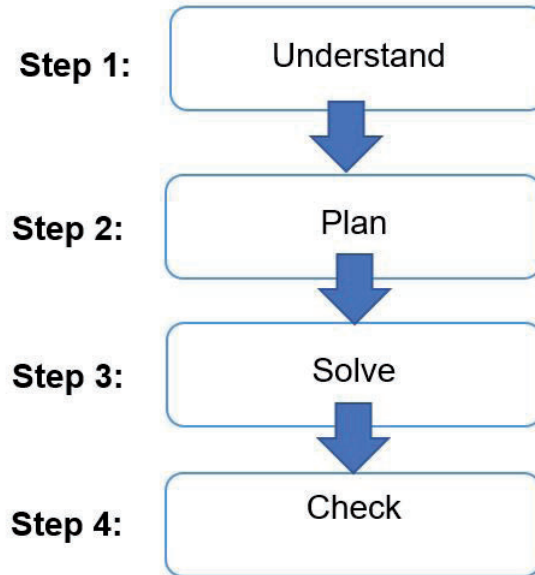
Ziah receives a weekly allowance of PhP 50 from her parents. She also occasionally earns extra money by doing chores around the house. Last week, she earned PhP 30 by helping her dad clean the garage and PhP 20 by washing her mom's car. However, this week, she had to spend some of her money on a new book that costs PhP 25. How much money does Ziah have left?





Let's Explore

Here are the steps in solving a problem.



Let's answer the problem using these steps.

Step 1: Understand

In this step, we need to know what the problem is asking for and what are the given details.

- What is the question asking for?
- *How much money does Ziah have left?*
- What are the given details?

Ziah receives a weekly allowance PhP 50 and earns extra money of PhP 30 and PhP 20 from doing household chores. She spends PhP 25 for her new book.

Step 2: Plan

To help us solve the problem, identify what are the operations to be used.

PhP 50 – Weekly Allowance



PhP 30 and PhP 20 – Extra Money



PhP 25 – for her new book



Add first the weekly allowance and her extra money.

Subtract from the sum.

Step 3: Solve

Let us solve the problem.

$$\text{PhP } 50 + \text{PhP } 30 + \text{PhP } 20 = \text{PhP } 100$$

Get the total amount of Ziah's money.

$$\text{PhP } 100 - \text{PhP } 25 = \text{PhP } 75$$



Subtract the amount of the book from the total amount to find out her remaining money.

Step 4: Check

To check, we add her remaining money and the amount of the book she bought. It should be equal to the total amount of her money PhP 100.

PhP 75

+

PhP 25

=

PhP 100



Therefore, Ziah has PhP 75 left.



Put to Practice

Dad wants a strawberry yogurt shake. He needs  to buy it.

Mom wants a yogurt ice cream cone. She needs  to buy it.

Tina wants yogurt in a cup. She needs  to buy it.

Tristan wants yogurt milk. He needs  to buy it.

Fermat wants sweet sprinkles. He needs  to buy it.



Keep in Mind

Money is used to pay for things and services.



Challenge Yourself

Problem Solving Strategy: Listing

Tristan wants to buy a ball of yarn that costs Php 50. On a piece of paper, draw the bills and coins that Tristan would need to buy the yarn. You can use a chart like the one below. Use any combination of bills and coins to show the total price.

Bills	Coins

Let's practice counting with coins.

Tristan wants to buy 1 gumball.
Gumballs are 10 pesos each.



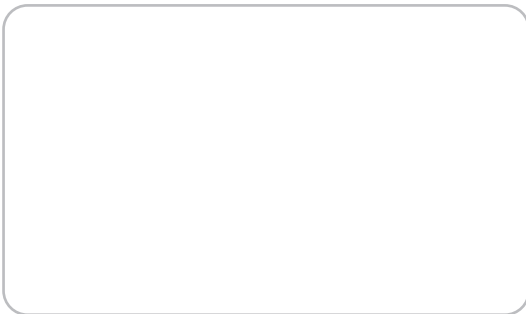
Tristan has these coins:



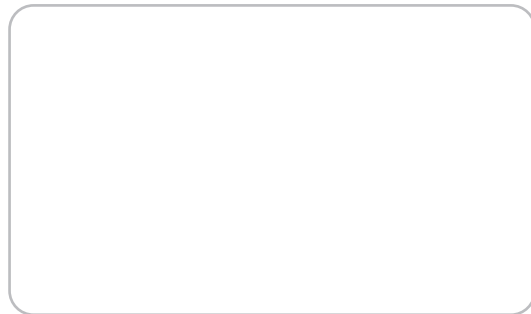
Which coins could Tristan use to buy a gumball?

Group different coins together to make 10 pesos.

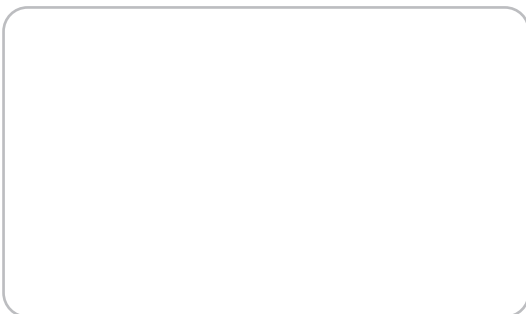
Draw the sets of coins below.



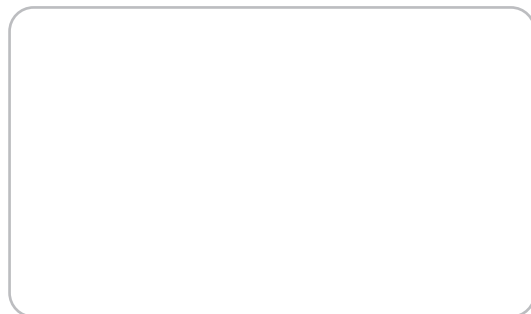
PhP 10



PhP 10



PhP 10



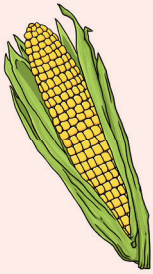
PhP 10



Skills Builder

1. Complete the sentences. Encircle the letter of the correct answer.

Everyone got hungry at the mall. They bought these snacks.



1. Mom paid for the cupcake. How much was the cupcake?

a. PhP 30

b. PhP 18

c. PhP 20

2. Dad paid for the burger. How much was the burger?

a. PhP 60

b. PhP 55

c. PhP 78

3. Tristan paid



for the corn. How much was the corn?

a. PhP 80

b. PhP 44

c. PhP 24

4. Tina paid



for the spaghetti. How much was the spaghetti?

a. PhP 35

b. PhP 45

c. PhP 55

II. Encircle the set of money that has a bigger value.

Column A



Column B



Draw a heart  if the money is enough to buy the items.
Draw a star  if the money is not enough to buy the items.

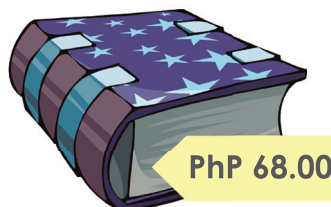
___ 1.



___ 2.

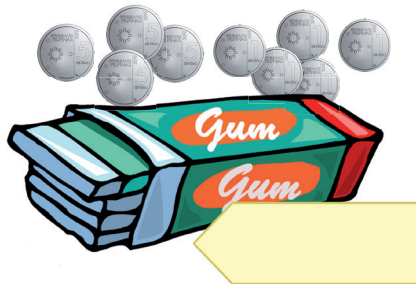


___ 3.

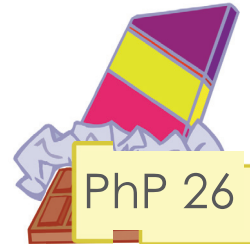


IV. Do the following tasks.

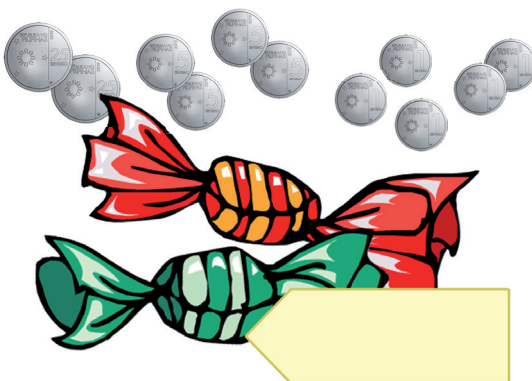
1. Count the coins. Write the price of the gum on the tag.



3. Box the bills or coins needed to buy the chocolate.



2. Count the coins. Write the price of the candy on the tag.



4. Tristan has  in his wallet. He wants to buy a cupcake for Tina. Which cupcake could he buy? Encircle the cupcake.





Fun Facts

Paper money was first used in China over 1000 years ago.



Portfolio Prompts

Create your own money banks and make your money grow. Get empty covered jars or plastic containers of the same size. Ask an adult to put a slit on top or at the side from which you can insert money. Label each container:

EARN SAVE SPEND GIVE

Earn – Find ways to earn some money. Sell baked goods. Resell trash for cash. Help wash the dishes or water the garden. Some people like your aunt, uncle, or grandparents are willing to pay you for helping them.

Save – Would you like to have your own money instead of always asking from your parents? Save your money. It's good to have your own savings.

Spend – Good spenders are careful with money and they make smart choices. Record what you buy and spend your money wisely.

Give – Help those who are in need. You will be happy making others happy.

LESSON 7

Telling Time



Objectives

- ◇ Identify the position of objects moved in half turn or in quarter turn, in clockwise or in counter-clockwise direction, given an initial facing direction.
- ◇ Read and write time by the hour, half hour, and quarter hour using an analog clock.
- ◇ Give the days of the week and months of the year in the correct order.

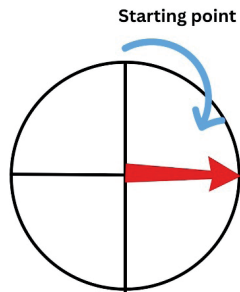


Math Tale

In Timmy's class, they had a fun activity named "Timmy's Arrow Adventure," focusing on learning about half and quarter turns.

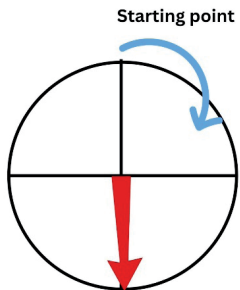
Before beginning the game, the teacher explained how the position of objects changes with quarter and half turns.





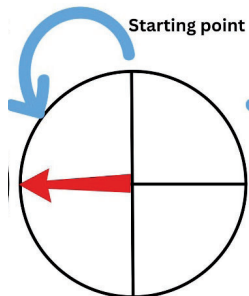
A quarter turn clockwise

Object points to the left after a 90-degree counter-clockwise turn.



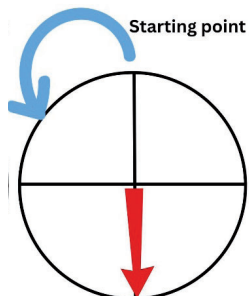
A half turn clockwise

Note that the object now faces the opposite direction of its starting point.



A half turn counter-clockwise

half turns lead to the same end position – directly opposite the start.



A quarter turn counter-clockwise

Object points to the left after a 90-degree counter-clockwise turn.

Clockwise (CW): Turning in the direction of a clock's hands.

Counter-Clockwise (CCW): Turning in the opposite direction of a clock's hands.

Telling Time by the Hour

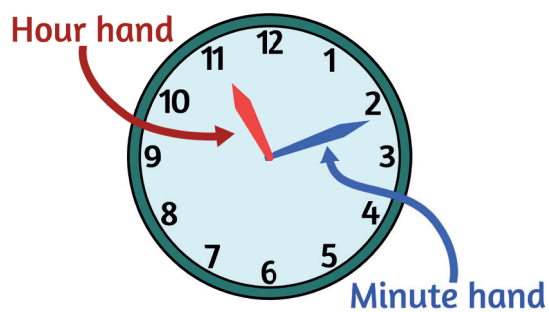


What has hands and a face
but is not a person?

A clock.



This is an analog clock.



This is a digital clock.



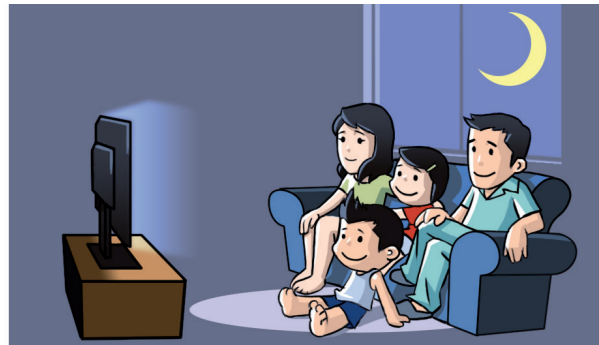
A clock tells us the time. It helps us know which activity we should do at each time of the day.

Let's tell time.

Tristan has to play football and watch a movie with his family.

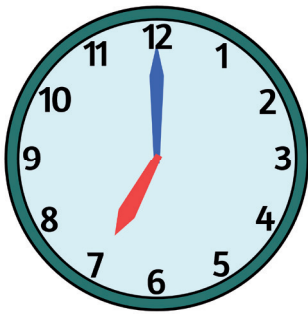


7 o'clock in the morning



7 o'clock in the evening

To tell time, we look at the numbers where the clock's hands are pointing.



The hour hand points to 7.

The minute hand points to 12.

This shows 7 o'clock.

We say "7 of the clock" or simply "7 o'clock." We use "am" to show morning and "pm" to show afternoon or evening.



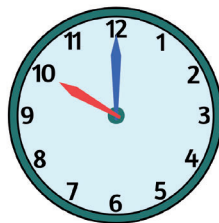
Tristan is going to practice football at 7:00 am.

He is going to watch a movie at 7:00 pm.

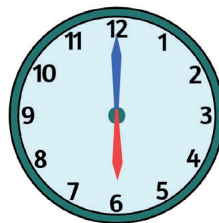
Here are more examples on how to tell time by the hour using an analog clock.



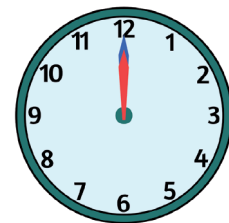
3 o'clock



10 o'clock



6 o'clock



12 o'clock



Fun Facts

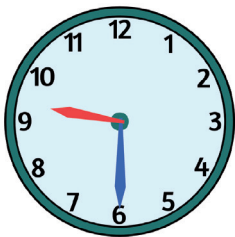
The AM or am in telling time stands for ante meridian. It means morning.

The PM or pm in telling time stands for post meridian. It means afternoon or evening.

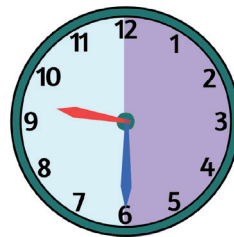


Prime Meridian

Look at the clocks. Which numbers are the hour hands and minute hands pointing at?



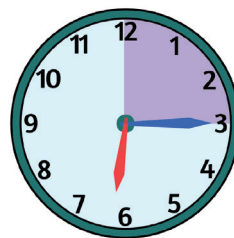
The time is 9:30.
It is half past 9 o'clock.



$\frac{1}{2}$ of an hour (or 60 minutes) is 30 minutes.



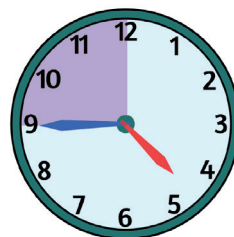
The time is 6:15.
It is a quarter past 6 o'clock.



A quarter is $\frac{1}{4}$.



The time is 4:45.
It is a quarter before 5 o'clock.
It is 15 minutes before 5 o'clock.

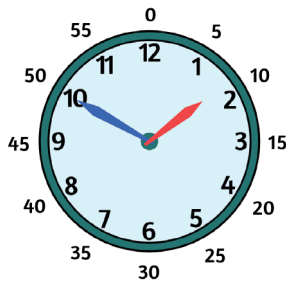


$\frac{1}{4}$ of an hour (60 minutes)

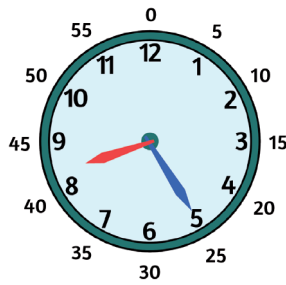


Study how to tell time by the minute.

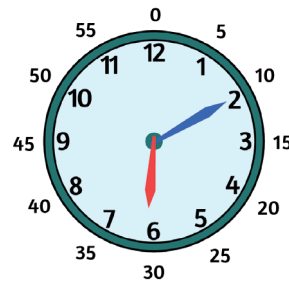
Count by 5s.



The time is 1:50.
It is 50 minutes
past 1 o'clock.



The time is 8:25.
It is 25 minutes
past 8 o'clock.



The time is 6:10.
It is 10 minutes
past 6 o'clock.



Put to Practice

Tristan's mother will have a busy schedule on Saturday. These are the things she has to do.

Saturday - things to do

7 o'clock in the morning - go to market

half-past 9 in the morning - go to grocery

quarter past 11:00 in the morning - cook lunch

12:00 noon - eat lunch

20 minutes after 2 in the afternoon - buy gift

10 minutes before 5 in the afternoon - dress up

7:00 in the evening - watch movie with family

Task 1

What will Tristan's mother do first, next, and last? Arrange the activities by time.

1

2

3

4

5

6

7

Show the time for each activity on your paper plate clock.

Task 2

Determine what Tristan's mother will do after she goes to the grocery. _____

Identify where Tristan's mother will go before cooking. _____

Identify what time Tristan's mother can take a short nap. _____



Do It Yourself

Paper Plate Clock

Make your own clock to learn how to tell time.

You will need:

- paper plate
- 2 colors of construction paper
- a pair of scissors
- ruler
- brad [1-hole fastener]
- markers

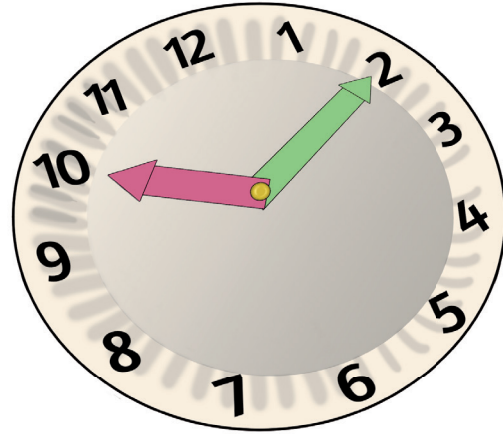
With markers, write the numbers 1-12 clockwise around the plate. Make sure that they have equal distances between them. (12 should be at the top, just like a clock.)

Out of the 2 construction papers, cut the following:

- rectangle - 3 inches long and $\frac{1}{2}$ inch wide [1st color]
- rectangle - 2 inches long and $\frac{1}{2}$ inch wide [2nd color]

- 2 triangles from each color (attach to one end of each rectangle with the same color to make a clock hand)

With a pencil, punch a hole at the center of the paper plate and on each flat end of the rectangles. Attach the clock hands on the plate with a brad. Now you can move the hands to tell time.



Put to Practice

Use the clock below to answer the following questions.

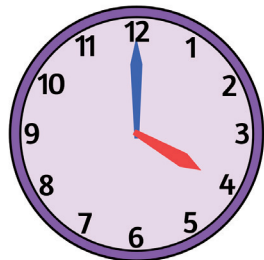


1. What time is on the clock?
2. What time will be in 3 hours?
3. What time was it 2 hours and 30 minutes ago?

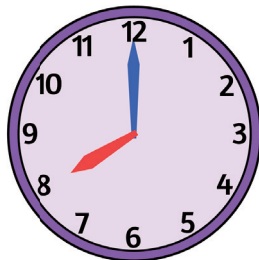


Skills Builder

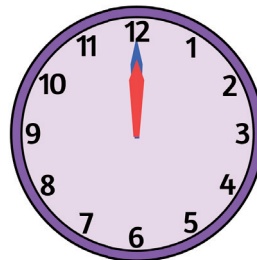
I. Tell time by the hour. Write the time.



____:____

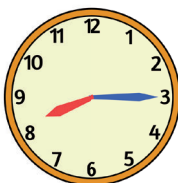
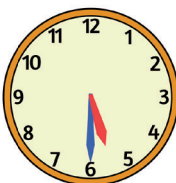
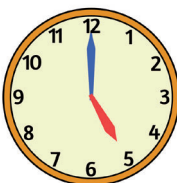
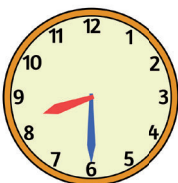
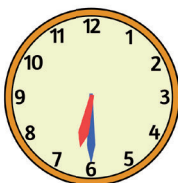


____:____



____:____

II. Tell time by the half hour. Match the time to the clock that shows the same time.



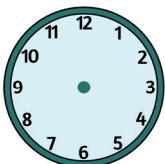
half past 8

half past five

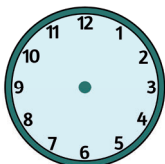
half past 6

III. Show the time by drawing the clock hands.

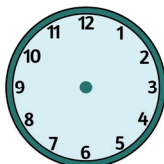
1. 3 o'clock



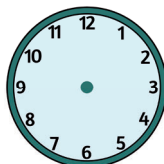
2. half past 3



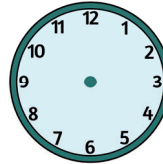
3. quarter past 5



4. quarter before 8

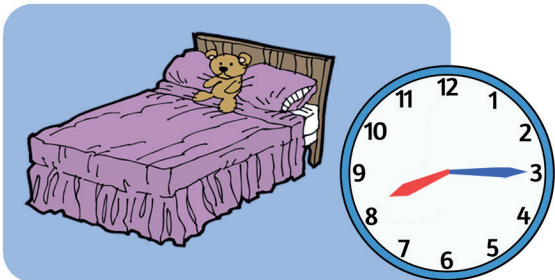
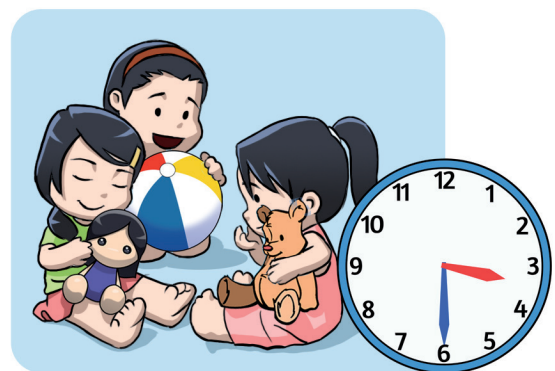
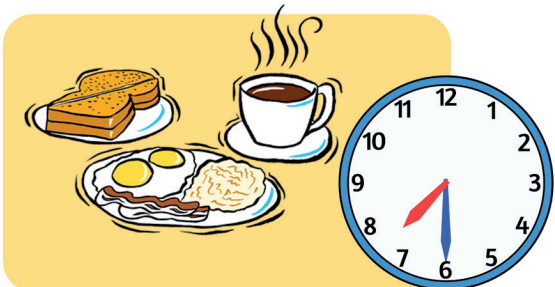
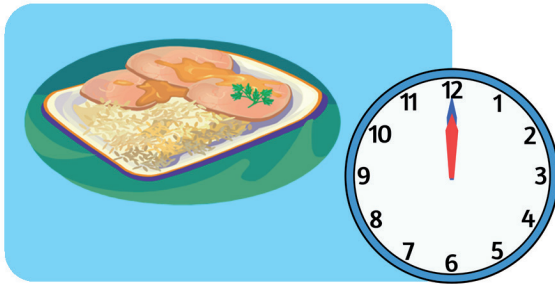


5. 15 minutes before 12



6. 8:30	7. 9:35	8. 6:55	9. 12:05	10. 3:15
---------	---------	---------	----------	----------

IV. Look at the pictures. Order them according to time by writing the numbers 1-2-3-4-5.



What did Tina do at 7:00?

At what time did she eat breakfast?

What was Tina doing at 12:00?

What is the time did Tina fix her room?

Who was Tina with at half past 3?



Challenge Yourself

Problem Solving Strategy: Make a Model

Tina gave Fermat a bath. She started bathing Fermat at half past 2.

She finished bathing Fermat at 3 o'clock.

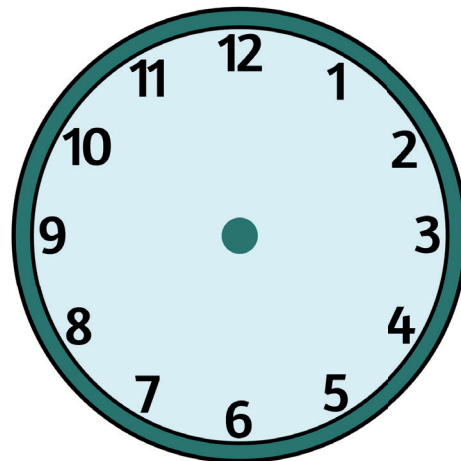
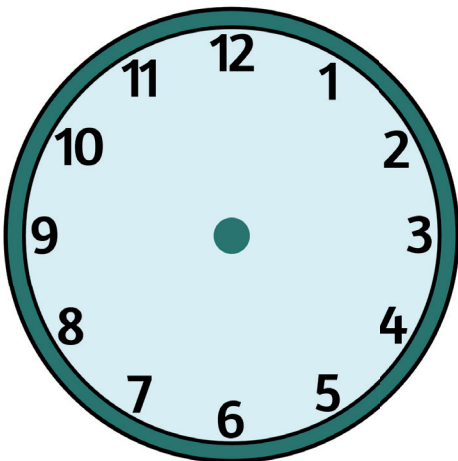
Draw the clock hands to show the time on the clock below.

Time Fermat started bathing

Time Fermat finished bathing

____ : ____

____ : ____





Portfolio Prompts

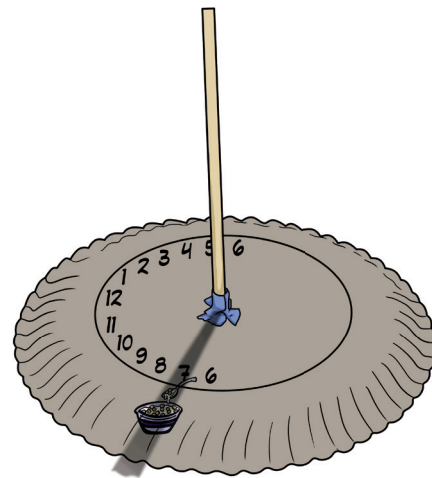
SUNDIAL ACTIVITIES

Before there were clocks, people used sundials. They depended on the sun to tell time. Make your own sundial by writing the numbers 1-12 on a paper plate, just as shown in the drawing. Attach a chopstick at the center of the paper plate. On a sunny day, bring your sundial out to see the shadow of the chopstick on it. Compare the shadow on the paper plate with the actual time on an analog clock.

Do the activity below.

My Day

Draw your activities throughout the day on the sundial (while the sun is still out). Compare the time on your paper plate clock with the hands on an actual analog clock.



Fun Facts

Evolution of a clock:



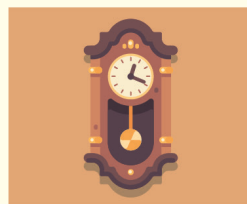
sunrise & sunset

(?)



sundial

(1500 BC)



analog clock

(1656)



digital clock

(1883)

LESSON 8

Using a Calendar



Objectives

- ◇ Give the days of the week and months of the year in the correct order.
- ◇ Determine the day and month of the year using a calendar.
- ◇ Solve problems involving time (hour, half hour, quarter hour, days in a week, and months in a year).



Vocabulary Bank

- **calendar** – a type of chart that shows the months, weeks and days of a year
- **year** – a period made up of 12 months
- **month** – a period of about 30 days
- **week** – a period of 7 days
- **days** – Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday



Math Tale

Back to school! Summer is over. The twins are getting ready for school. Mother wrote down all the “things to do.”

In what order is mother going to do the activities this week?



Let's Explore

A week is made up of 7 days. The order of the days of the week is as follows:

Sunday
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday

There are 7 days in a **week**.



Week

People usually go to school or work on

Monday, Tuesday, Wednesday, Thursday, and Friday.

People usually rest and don't go to school or work on

Saturday and Sunday.

Look at the “Things to Do” notes. These are activities.



Let's help fix the calendar for the week.

A weekly calendar shows the 7 days of the week and activities.



First, arrange the days of the week.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday

Next, arrange the activities under each day of the week.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Sunday wash school uniforms	Monday iron school uniforms	Tuesday get books from school	Wednesday cover books with plastic	Thursday buy bag and shoes	Friday shine shoes	Saturday clean room



Keep in Mind

A CALENDAR is a type of chart. It helps put order in our week or month.

Tristan has five different things he likes to do after school.
This is his activity schedule.

Monday	Tuesday	Wednesday	Thursday	Friday
				
paint	go biking with friends	read books	go to piano lessons	go to soccer practice

What will Tristan do on
Thursday?

What will he do on Monday?

What day will he bike with
friends?

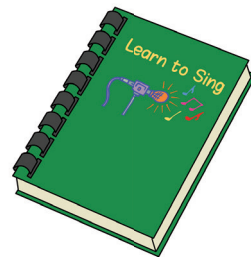
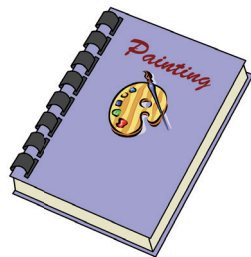
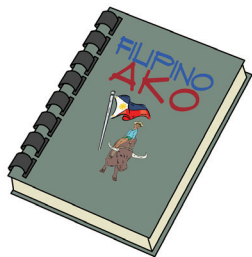
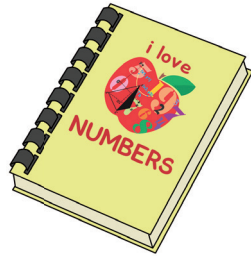
What day will he play soccer?

Will he go out with friends on
Wednesday?



Put to Practice

The twins got their books for school.



The teacher also gave them their class schedule.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
No School	Language	Math	Science	Filipino	Art & Music	No School

Task 1

In the box above, you see the days of the week. Under each day of the week is a subject in school. Answer the following questions by coloring the calendar using the given color.

When will they bring the "Speak & Write" book? [red]

On what day will they bring 2 books for 2 different subjects? [blue]

When will they bring the book with an astronaut on its cover? (yellow)

On what day will they bring the book with numbers? (green)

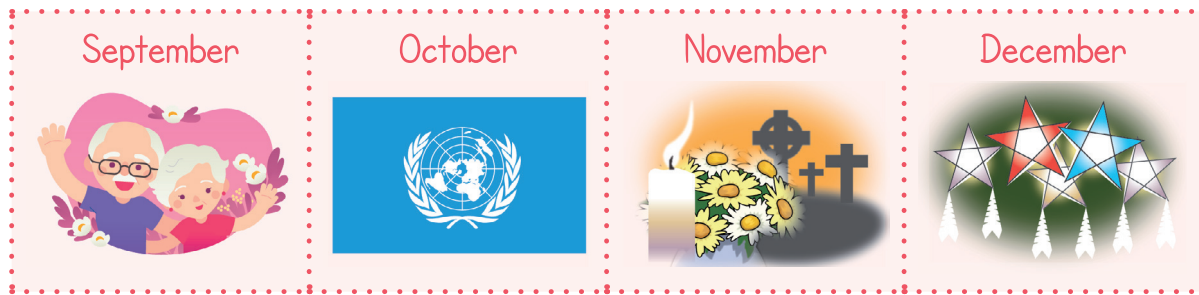
On what day will they bring the book with the Philippine flag? (orange)

Task 2

Sandy invited Tina to sleepover at her house. Mother said she cannot sleepover when it's a school day and when there are classes the following day. Identify what day Tina can sleepover at Sandy's house.

Tristan and Tina received a note from their teacher: "Special Days of the School Year." Can you guess the special days in each month?





Keep in Mind

A year has 12 months.

A yearly calendar shows the MONTHS, the DAYS of the week, and the ACTIVITIES of each day.

Months

A year is made up of 12 months. The order of the months of the year is

January, February, March, April, May, June, July, August, September, October, November, and December.

There are different activities that take place during different months of the year.

How many days are in a MONTH?

January						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				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

February						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
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

March						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
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				

April						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			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		

May						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					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						

June						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	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				

July						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			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	

August						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						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					

September						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		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			

October						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				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

November						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
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					

December						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		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		

Which months have 31 days? Color them green.

Which months have 30 days? Color them yellow.

Which month has less than 30 days? Color it blue.



Fun Facts

Most Latin-based languages derived the names of the seven days of the week from the Roman period, where they related each day of



the week with what they considered the seven planets, namely the Sun, the Moon, Mercury, Venus, Mars, Jupiter, and Saturn.

From: <http://www.timeanddate.com/calendar/days/>



Do It Yourself

Pocket Weekly Planner

You will need:

- cardboards
- a pair of scissors
- ruler
- markers

1. Cut a piece of cardboard into a rectangle that is 2 inches long and 7 inches wide. (Be careful when using the scissors.)
2. Using a ruler and a marker, divide the rectangle into 2 rows and 7 columns that measure 1 inch each.
3. Write the days of the week on the top row, starting with Monday. You can color or draw on it.
4. Use the bottom row to note down things you need to do and/or are looking forward to doing this week.
5. Bring it with you to help you remember tasks and events. Make more if you enjoyed planning your week!



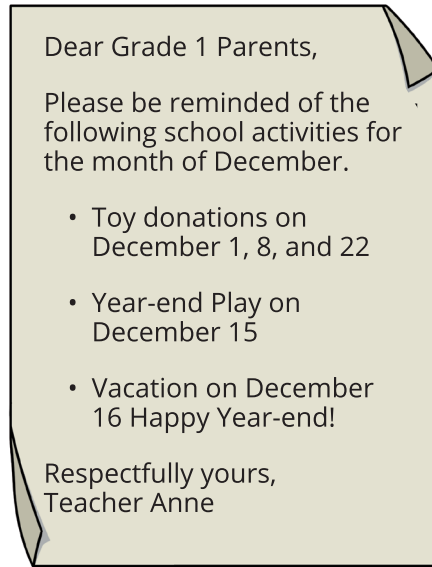
Skills Builder

1. Look at the January calendar.

January						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				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

1. What day of the week does January 8 fall on?
2. What day of the week does 3 days after January 19 fall on?
3. What day of the week does a week before January 16 fall on?
4. What date is the second Friday of January?
5. What date is the third Saturday of January?

II. Read the teacher's letter:



December						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		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		

1. What dates are on Teacher Anne's letter? Mark them on the calendar with a star.
2. Will they have to bring their toy donation to school on Sunday?
3. Which day of the week will the last day of the year be? Mark it on the calendar with a circle.

III. Three friends are celebrating their birthdays in June. Which days of the week will those be? Let's get a calendar to find out which days their birthdays fall on.

June						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	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				

1. Liza's birthday is on June 25. Liza's birthday is on a _____.
2. Tammy's birthday is 5 days after Liza's birthday. Tammy's birthday is on a _____.
3. Danee's birthday is on the first day of June. Danee's birthday is on a _____.



Challenge Yourself

Problem Solving Strategy: Draw It!

A calendar helps us be organized. Help the twins make a calendar. They go to school in the morning. In the afternoons, they have other activities.

Write the task number under the day of the week when they will do the task.

1. Buy shoes on a day that is not a school day
2. Submit homework on the 1st school day of the week
3. Play at the park after school on the last school day of the week
4. Go to the library on a day when there is no Math class
5. Practice piano on the day they go to church

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
MORNING	Go to church	Math Science Reading	Math	Art & Music Science	Math	Math Science	Swimming Lesson
AFTERNOON							



Portfolio Prompts

I CAN DO MY TASKS!

In this lesson, we learned that a calendar helps us plan our activities.

Work with your parents to create your own task chart. Write or draw a symbol for your tasks on each square at the top of the chart. It may include “fix my bed,” “brush my teeth,” “do my homework,” “feed my pet,” “practice the piano,” and others.

Draw a happy face 😊 on the square below the task on the day when you did it.

How many tasks did I do today? – Write the number on the last column of squares on the right for each day.

How many tasks did I do this week? – Write the number on the last row of squares for each column.

I CAN DO MY TASKS!								
My Tasks:								How many tasks did I do today?
Sunday								
Monday								
Tuesday								
Wednesday								
Thursday								
Friday								
Saturday								
How many tasks did I do this week?								

Unit Performance Task

The Department of Education would like to hire Grade 1 pupils to be part of their numeracy program. The hired Grade 1 pupils shall become actors who shall give review lessons to their co-Grade 1 pupils through a form of a dance, a song, or an act which shall encompass the following:

- Illustrating and comparing the fractions $\frac{1}{2}$ and $\frac{1}{4}$,
- Recognizing and determining the value of Philippine coins and bills up to 100
- Adding money where the sum is up to 100 and subtract money where both amounts are less than 100
- Identifying the position of an object following a half turn or quarter turn, in clockwise or counter-clockwise direction,
- Identifying and working with time measured in hours, half hours, quarter hours, days, weeks, months, and years.

Your created output should not exceed 50 minutes and shall be placed in a USB to be submitted to your Adviser a week before the Fourth Quarter Exam. The submitted output shall be scored based on the following criteria.

	Weight	Outstanding 5	Developing 4	Beginning 3
Mastery of the content	4	The actor performer mastered the concepts of the given lesson	The actor performer somehow mastered the concepts of the given lesson	The actor performer did not master the concepts of the given lesson
Relevance to the topic	4	The created output is relevant to the given topic	The created output is somehow relevant to the given topic	The created output is not relevant to the given topic
Creativity	2	The actor performer is very creative in presenting the lesson	The actor performer is somehow creative in presenting the lesson	The actor performer is not creative in presenting the lesson

