

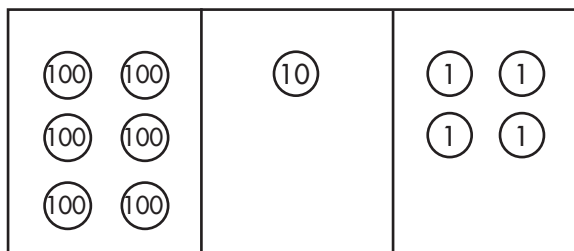
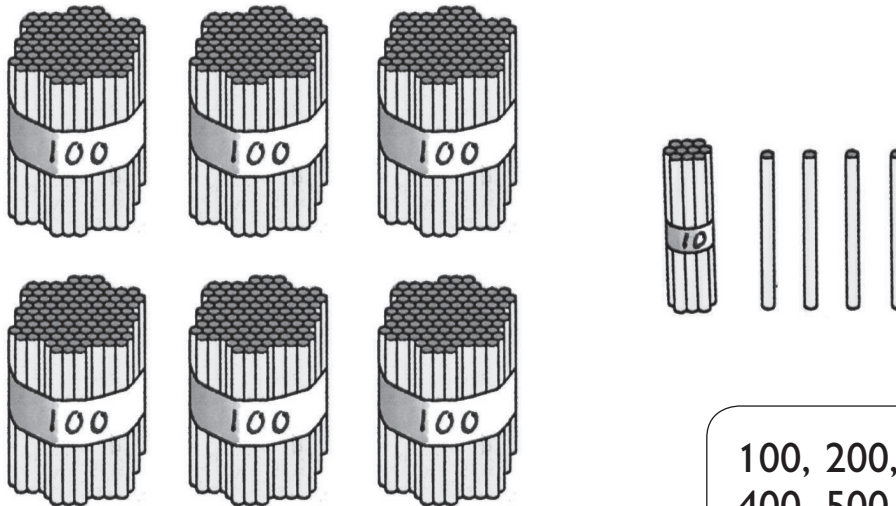
# Unit 1 : Numbers to 1,000

## Friendly Notes

### Counting Within 1,000

We can group big numbers into hundreds, tens, and ones. This makes counting easy.

1. Count the straws.



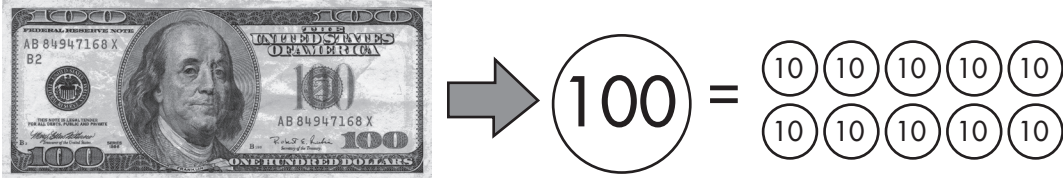
100, 200, 300,  
400, 500, 600,  
610, 611, 612,  
613, 614



$$\begin{aligned} 6 \text{ hundreds } 1 \text{ ten } 4 \text{ ones} &= 614 \\ 600 + 10 + 4 &= 614 \end{aligned}$$

We put 10 tens together to make a hundred.  
We put 10 hundreds together to make a thousand.

2. This is a one-hundred-dollar bill.



We can exchange 10 ten-dollar bills for a one-hundred-dollar bill.

## Comparing Numbers

When we compare numbers, we work from left to right.

1. Which number is greater?

189	302	→	<table border="1"><tr><td>H</td><td>T</td><td>O</td></tr><tr><td>1</td><td>8</td><td>9</td></tr><tr><td>3</td><td>0</td><td>2</td></tr></table>	H	T	O	1	8	9	3	0	2
H	T	O										
1	8	9										
3	0	2										

First, compare the hundreds.

3 hundreds is greater than 1 hundred.

302 is greater than 189.

$302 > 189$

'>' means  
greater than.



2. Which number is smaller?

285	255	→	H	T	O
			2	8	5
			2	5	5

First, compare the hundreds.  
They are the same.

Next, compare the tens.  
5 tens is smaller than 8 tens.  
So, 255 is smaller than 285.  
 $255 < 285$

'<' means  
less than.



3. Which number is the smallest?  
Which number is the greatest?

535	311	422	→	H	T	O
				5	3	5
				3	1	1
				4	2	2

First, compare the hundreds.  
3 hundreds is less than 5 hundreds and 4 hundreds.  
So, 311 is the smallest number.

5 hundreds is greater than 4 hundreds and 3 hundreds.  
So, 535 is the greatest number.

To make the smallest or greatest possible number from a group of numbers, place the numbers in a chart. Then compare the numbers from left to right.

4. What is the smallest number that can be made using 6, 2, and 8?

H	T	O	
6	2	8	✗
6	8	2	✗
8	6	2	✗
8	2	6	✗
2	6	8	
2	8	6	✗

Compare the hundreds.

2 hundreds is smaller than 6 hundreds and 8 hundreds.

So, we look at 286 and 268 only.

Compare the tens.

6 tens is smaller than 8 tens.

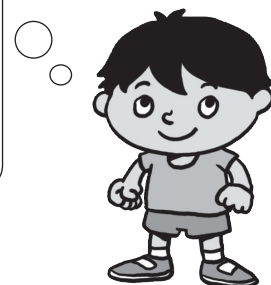
So, 268 is the smallest number.

$$268 = 200 + \boxed{60} + 8$$

$$286 = 200 + \boxed{80} + 6$$

80 is greater than 60.

286 is greater than 268.



# Unit 2 : Addition and Subtraction

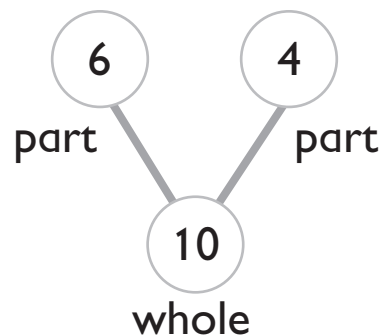
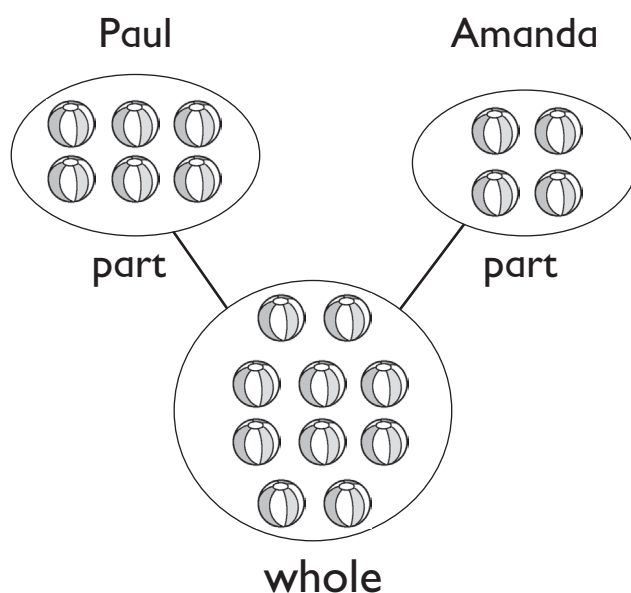
## Friendly Notes

### Meanings of Addition and Subtraction

We add two parts to find the whole.

We subtract one part from the whole to find the other part.

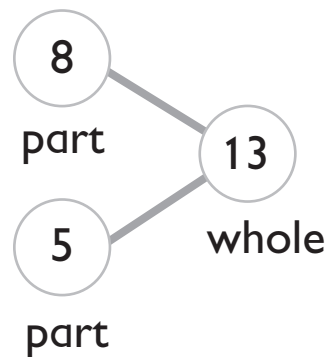
- Paul has 6 balls.  
Amanda has 4 balls.  
How many balls are there altogether?



$$6 + 4 = 10$$

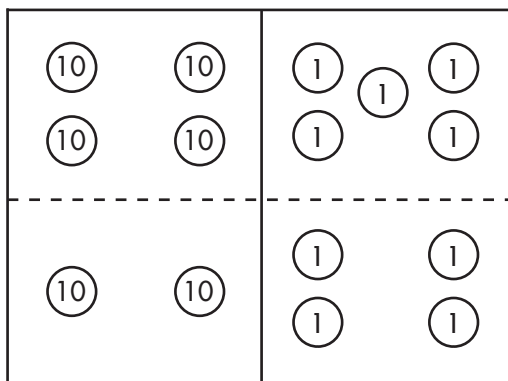
There are 10 balls altogether.

$$2. \quad \begin{array}{l} 8 + 5 = 13 \\ 13 - 5 = 8 \end{array} \quad \begin{array}{l} 5 + 8 = 13 \\ 13 - 8 = 5 \end{array}$$



3. Maria has 45 books in her room.  
June has 24 books.  
How many books do they have altogether?

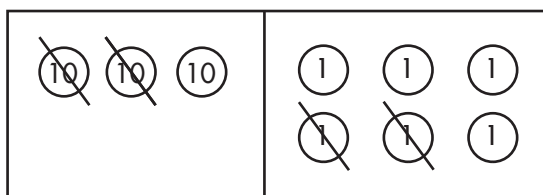
$$45 + 24 = 69$$



They have 69 books altogether.

4. Carlos and Eric bought 36 stickers.  
Carlos bought 22 stickers.  
How many stickers did Eric buy?

$$36 - 22 = 14$$



Eric bought 14 stickers.

## Addition Without Renaming

When we add two numbers, we can write one number on top of the other.

Make sure the digits are arranged in the correct columns.

$$432 + 54 = \underline{\hspace{2cm}}$$

$$\begin{array}{r} \text{H T O} \\ 432 \\ + 54 \\ \hline \end{array}$$

This is wrong!



Add  
the ones.

In the number 54,  
the digit 5 stands  
for 5 tens.

The digit 4 stands  
for 4 ones.

$$\begin{array}{r} \text{H T O} \\ 432 \\ + 54 \\ \hline \end{array}$$

This is correct!



Add the tens.

$$\begin{array}{r} \text{H T O} \\ 432 \\ + 54 \\ \hline 6 \end{array}$$



$$\begin{array}{r} \text{H T O} \\ 432 \\ + 54 \\ \hline 86 \end{array}$$



Add the hundreds.

$$\begin{array}{r} \text{H T O} \\ 432 \\ + 54 \\ \hline 486 \end{array}$$

$$432 + 54 = 486$$

## Subtraction Without Renaming

When we subtract one number from another, we always write the greater number on top. Make sure the digits are arranged in the correct columns.

$$368 - 65 = \underline{\quad}$$

H T O
3 6 8
- 6 5
-----
-----

This is wrong!



In the number 65,  
the digit 6 stands  
for 6 tens.  
The digit 5 stands  
for 5 ones.

H T O
3 6 8
- 6 5
-----
-----

This is correct!



Subtract  
the ones.

H T O
3 6 8
- 6 5
-----
3
-----



Subtract the tens.

H T O
3 6 8
- 6 5
-----
0 3
-----



Subtract the hundreds.

H T O
3 6 8
- 6 5
-----
3 0 3
-----

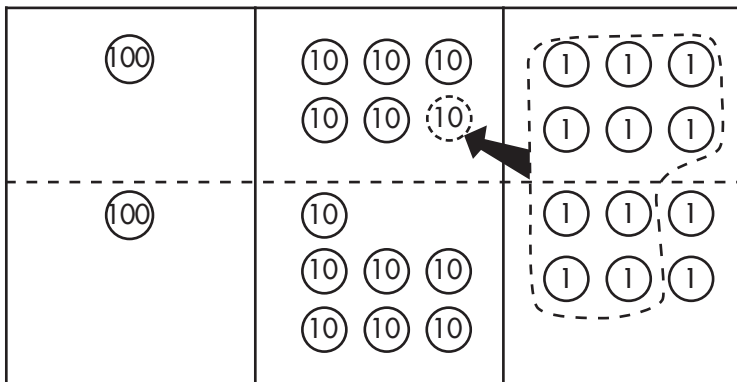
$$368 - 65 = 303$$



## Addition With Renaming

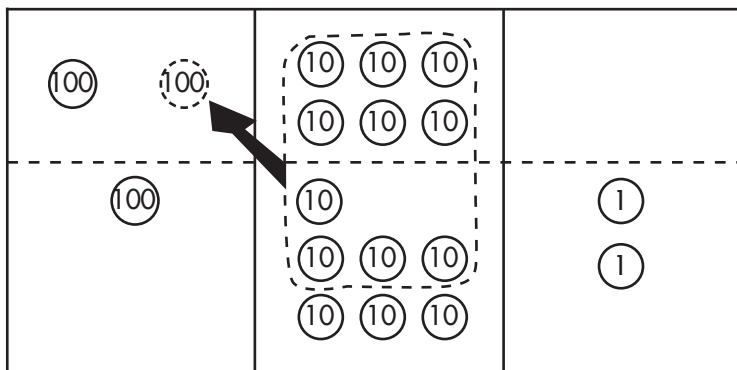
When there are 10 ones or more, change 10 ones for 1 ten. When there are 10 tens or more, change 10 tens for 1 hundred.

Add 156 and 176.



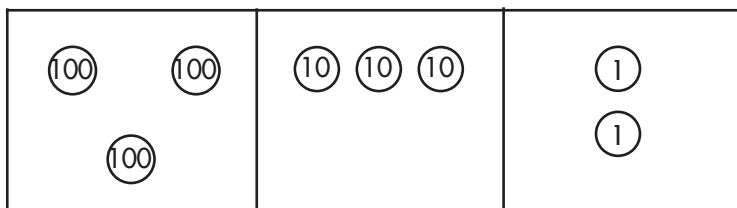
Add the ones.  
 $6 \text{ ones} + 6 \text{ ones}$   
 $= 12 \text{ ones}$   
 $= 1 \text{ ten } 2 \text{ ones}$

$$\begin{array}{r} 1 \ 5 \ 6 \\ + 1 \ 7 \ 6 \\ \hline \phantom{1} \phantom{5} \ 2 \end{array}$$



Add the tens.  
 $5 \text{ tens} + 7 \text{ tens} + 1 \text{ ten}$   
 $= 13 \text{ tens}$   
 $= 1 \text{ hundred } 3 \text{ tens}$

$$\begin{array}{r} 1 \ 5 \ 6 \\ + 1 \ 7 \ 6 \\ \hline 3 \ 2 \end{array}$$



Add the hundreds.

$$\begin{array}{r} 1 \ 5 \ 6 \\ + 1 \ 7 \ 6 \\ \hline 3 \ 3 \ 2 \end{array}$$

$$156 + 176 = 332$$

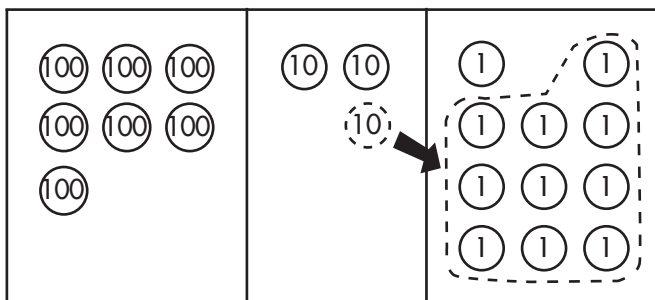
# Subtraction With Renaming

When there are not enough ones to take away from, change 1 ten for 10 ones.

1. Subtract 543 from 731.



We cannot take away 3 ones from 1 one.

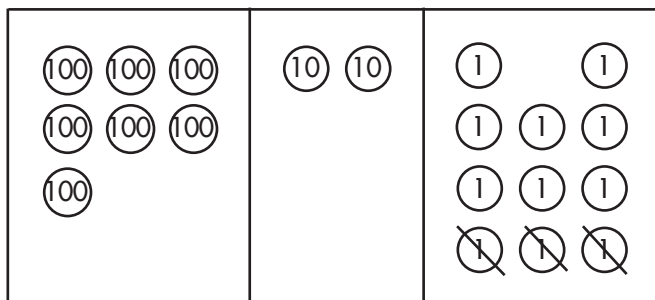


Change 1 ten for 10 ones.

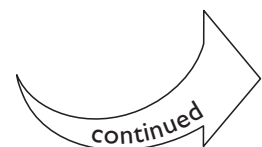
$$\begin{array}{r} 7 \overset{2}{\cancel{3}} \overset{11}{\cancel{1}} \\ - 5 \ 4 \ 3 \\ \hline \end{array}$$



Subtract the ones.



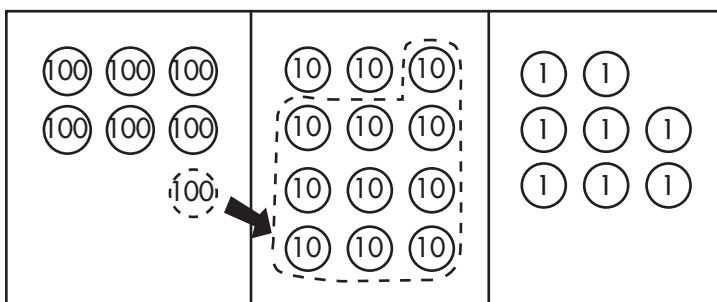
$$\begin{array}{r} 7 \overset{2}{\cancel{3}} \overset{11}{\cancel{1}} \\ - 5 \ 4 \ 3 \\ \hline \quad \quad 8 \end{array}$$



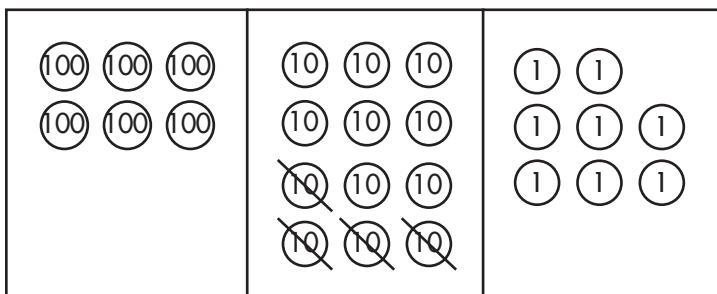
When there are not enough tens to take away from, change 1 hundred to 10 tens.



We cannot take away 4 tens from 2 tens.

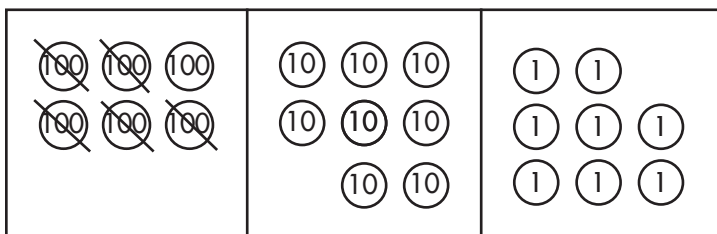


Change 1 hundred for 10 tens.



Subtract the tens.

$$\begin{array}{r} \overset{6}{\cancel{7}} \overset{12}{\cancel{3}} \overset{11}{\cancel{1}} \\ - 5 \ 4 \ 3 \\ \hline \phantom{0} 8 \ 8 \\ \hline \end{array}$$



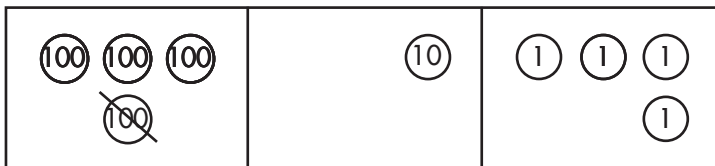
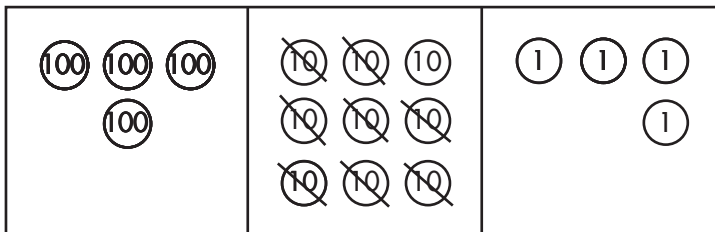
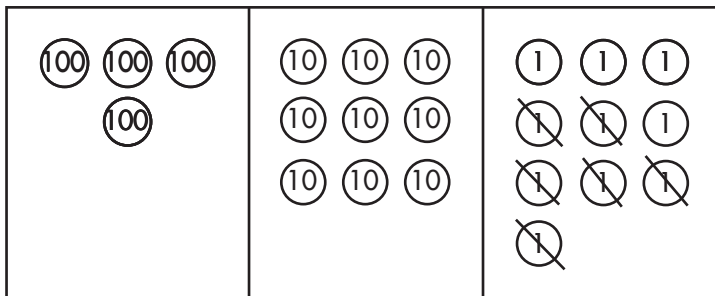
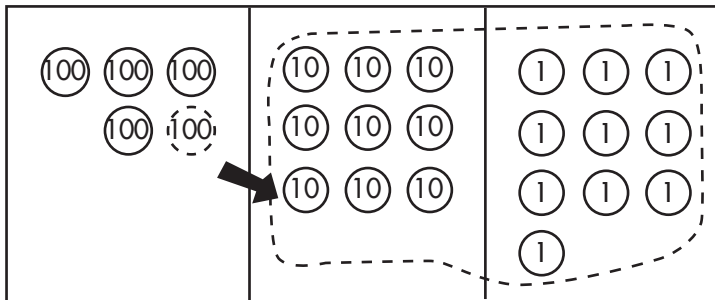
Subtract the hundreds.

$$\begin{array}{r} \overset{6}{\cancel{7}} \overset{12}{\cancel{3}} \overset{11}{\cancel{1}} \\ - 5 \ 4 \ 3 \\ \hline \phantom{0} 1 \ 8 \ 8 \\ \hline \end{array}$$

$$731 - 543 = 188$$

When there are 0 tens and ones, change 1 hundred for 9 tens and 10 ones.

2. Subtract 186 from 500.



$$500 - 186 = 314$$

$$\begin{array}{r} \overset{4}{5} \overset{9}{0} \overset{10}{0} \\ - 186 \\ \hline \end{array}$$



Subtract the ones.

$$\begin{array}{r} \overset{4}{5} \overset{9}{0} \overset{10}{0} \\ - 186 \\ \hline \quad \quad 4 \\ \hline \end{array}$$



Subtract the tens.

$$\begin{array}{r} \overset{4}{5} \overset{9}{0} \overset{10}{0} \\ - 186 \\ \hline \quad 14 \\ \hline \end{array}$$



Subtract the hundreds.

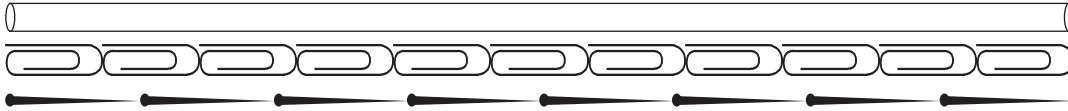
$$\begin{array}{r} \overset{4}{5} \overset{9}{0} \overset{10}{0} \\ - 186 \\ \hline 314 \\ \hline \end{array}$$

# Unit 3 : Length

## Friendly Notes

We can use things like paper clips and footprints to measure length.

Measure the rod.



The rod is about 11  long.

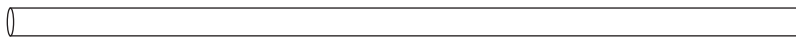
The rod is about 8  long.

We can also measure length in centimeters and inches.  
We write **cm** for centimeter and **in.** for inch.  
We usually use **cm** and **in.** for measuring short lengths.

1 inch > 1 cm



Measure the pencil.



We usually measure things starting with the mark under '0' on the ruler.



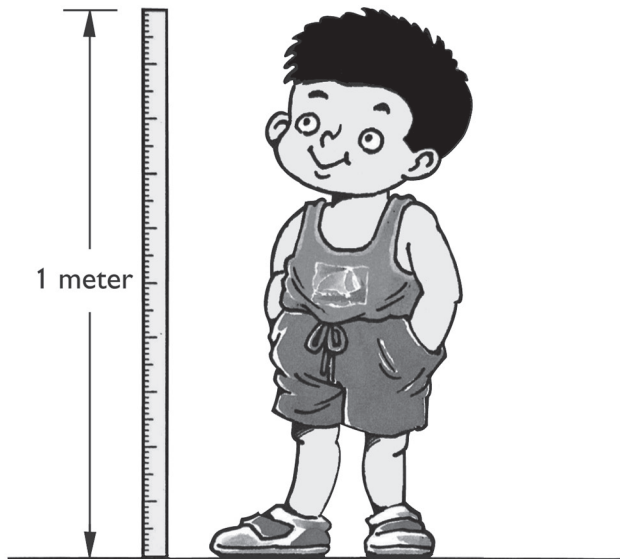
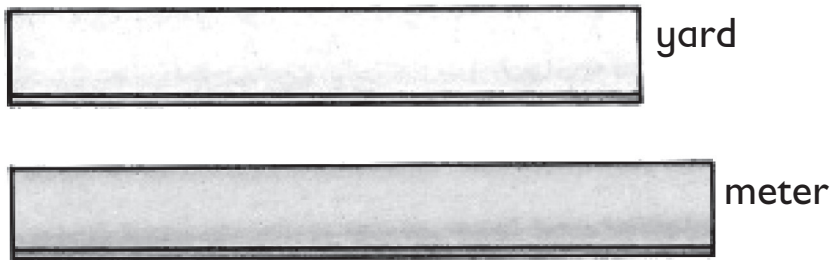
Let's estimate the length of the pencil and the rod first before we measure them.  
The estimate of the length of the pencil is 5 cm.  
The estimate of the length of the rod is 12 cm.

The pencil is 5 cm long or about 2 inches long.

The rod is 12 cm long or about 5 inches long.


The meter, feet, and yard are other units for measuring length. They are used for measuring longer lengths. We write **m** for meter, **ft** for foot or feet, and **yd** for yard.

1 yard is a little shorter than 1 meter.



The boy is 1 m tall.

1 meter = 100 centimeters  
1 yard = 3 feet  
1 foot = 12 inches

- 
3. The length of a table is 2 yd.
- (a) Is the length more than, less than, or the same as 2 ft?
  - (b) Is the length more than, less than, or the same as 2 m?

- (a) 1 yd = 3 ft  
2 yd is more than 3 ft.

The length is more than 2 ft.

- (b) 1 yd is a little shorter than 1 m.  
2 yd is shorter than 2 m.

The length is less than 2 m.



# Unit 4 : Multiplication and Division

## Friendly Notes

### Multiplication

We multiply to find the total when equal groups are put together.

There are 5 tomatoes on 1 plate.

There are 3 plates.

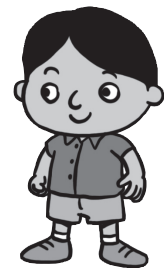


$$\begin{aligned} 3 \text{ groups of } 5 &= 3 \text{ fives} \\ &= 5 + 5 + 5 = 15 \end{aligned}$$

We write the multiplication equation:

$$3 \times 5 = 15$$

There are 3 groups of 5 tomatoes.



We can also write:

$$5 \times 3 = 15$$

There are 5 tomatoes on each of the 3 plates.



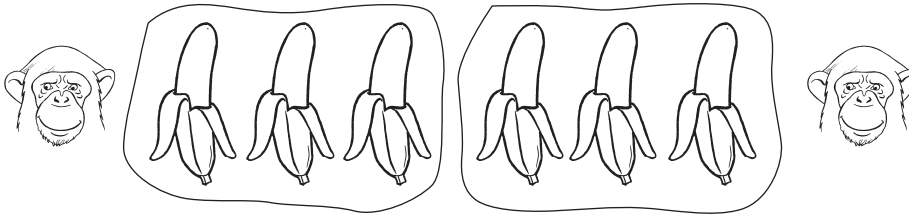
There are **15** tomatoes altogether.

## Division

We share equally or put things into equal groups when we divide.

We divide to find the number in each equal group.

1. Share 6 bananas equally between 2 monkeys.  
How many bananas does each monkey get?



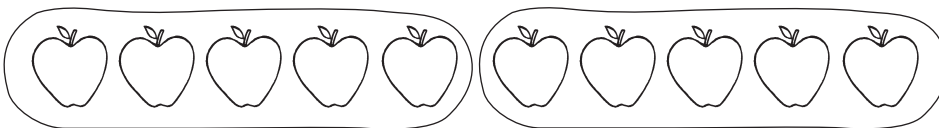
We write the division equation:

$$6 \div 2 = 3$$

Each monkey gets 3 bananas.

We also divide to find the number of equal groups.

2. Divide 10 apples into groups of 5.  
How many equal groups are there?



We write the division equation:

$$10 \div 5 = 2$$











There are 2 equal groups.

# Unit 5 : Multiplication Tables of 2 and 3

## Friendly Notes


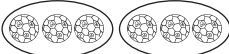

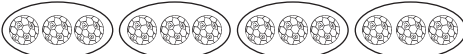

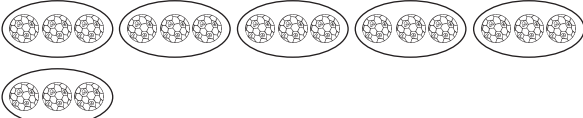
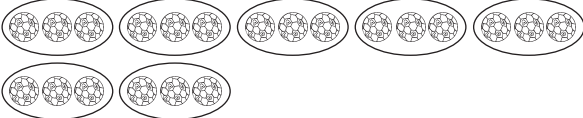
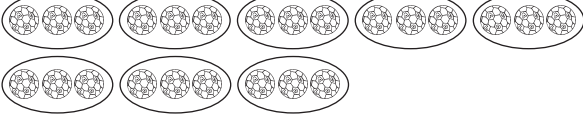
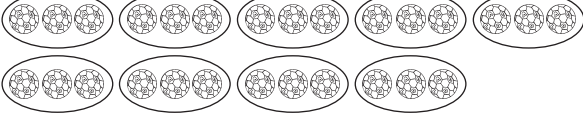
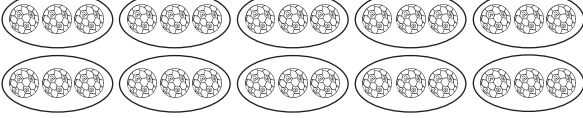
### Multiplication Table of 2

We can count by 2's to help us remember the multiplication table of 2.

$1 \times 2 = 2$	
$2 \times 2 = 4$	
$3 \times 2 = 6$	
$4 \times 2 = 8$	
$5 \times 2 = 10$	
$6 \times 2 = 12$	
$7 \times 2 = 14$	
$8 \times 2 = 16$	
$9 \times 2 = 18$	
$10 \times 2 = 20$	

## Multiplication Table of 3

We can count by 3's to help us remember the multiplication table of 3.

$1 \times 3 = 3$	
$2 \times 3 = 6$	
$3 \times 3 = 9$	
$4 \times 3 = 12$	
$5 \times 3 = 15$	
$6 \times 3 = 18$	
$7 \times 3 = 21$	
$8 \times 3 = 24$	
$9 \times 3 = 27$	
$10 \times 3 = 30$	

## Dividing by 2

We can divide by 2 using multiplication facts.

$1 \times 2 = 2$

$2 \div 2 = 1$

$2 \times 2 = 4$

$4 \div 2 = 2$

$3 \times 2 = 6$

$6 \div 2 = 3$

$4 \times 2 = 8$

$8 \div 2 = 4$

$5 \times 2 = 10$

$10 \div 2 = 5$

$6 \times 2 = 12$

$12 \div 2 = 6$

$7 \times 2 = 14$

$14 \div 2 = 7$

$8 \times 2 = 16$

$16 \div 2 = 8$

$9 \times 2 = 18$

$18 \div 2 = 9$

$10 \times 2 = 20$

$20 \div 2 = 10$

## Dividing by 3

We can divide by 3 using multiplication facts.

$1 \times 3 = 3$

$3 \div 3 = 1$

$2 \times 3 = 6$

$6 \div 3 = 2$

$3 \times 3 = 9$

$9 \div 3 = 3$

$4 \times 3 = 12$

$12 \div 3 = 4$

$5 \times 3 = 15$

$15 \div 3 = 5$

$6 \times 3 = 18$

$18 \div 3 = 6$

$7 \times 3 = 21$

$21 \div 3 = 7$

$8 \times 3 = 24$

$24 \div 3 = 8$

$9 \times 3 = 27$

$27 \div 3 = 9$

$10 \times 3 = 30$

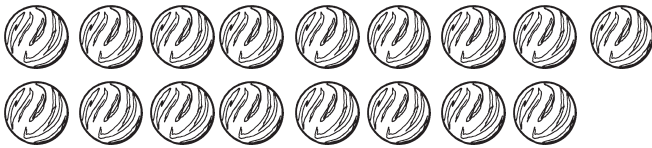
$30 \div 3 = 10$

## Division with Remainder

We get a remainder when we cannot divide a number exactly.

Divide 17 marbles between 2 children.

- (a) How many marbles does each child get?
- (b) How many marbles are left over?



$$2 \times 8 = 16$$

$$2 \times 9 = 18$$

There are only 17 marbles.  
So each child gets 8 marbles.

$$17 - 16 = 1$$

$$17 \div 2 = 8 \text{ with } 1 \text{ left over}$$

- (a) Each child gets 8 marbles.
- (b) 1 marble is left over.



# Unit 6 : Addition and Subtraction

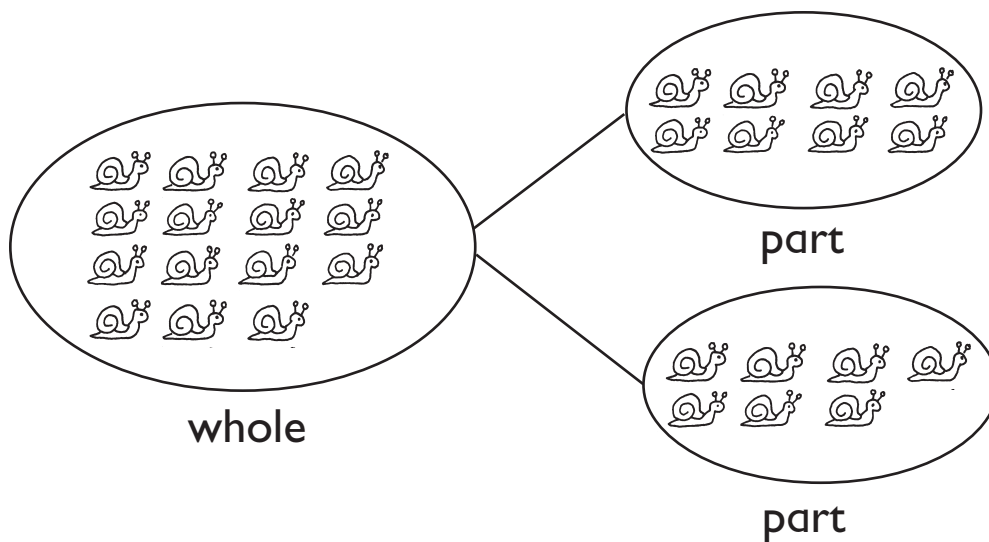
## Friendly Notes

### Finding the Missing Number

We add to find the whole.

We subtract to find one part.

- Find the missing number.



$$\begin{array}{ccccccc}
 7 & + & 8 & = & 15 \\
 / & & | & & \backslash \\
 \text{part} & & \text{part} & & \text{whole}
 \end{array}$$

$$15 - \boxed{8} = 7$$

To find one part,  
we subtract.

$$15 - 7 = 8$$

$$15 - \boxed{8} = 7$$



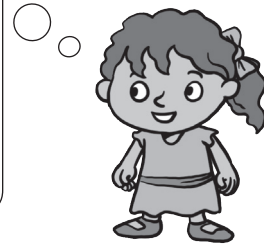
2. Find the missing number.

$$\boxed{14} - 9 = 5$$

To find the whole,  
we add.

$$5 + 9 = 14$$

$$14 - \boxed{9} = 5$$



3. Find the missing number.

$$64 + \boxed{36} = 100$$

$$100 - 64 = \boxed{36}$$

6 tens 4 ones

$\boxed{3}$  tens  $\boxed{6}$  ones

---

9 tens 10 ones

## Methods for Mental Addition

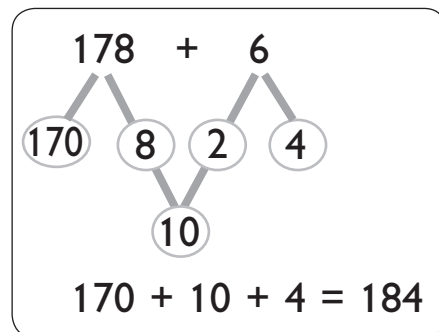
To add two numbers mentally, we can add the tens first and then add the ones.

1. What number is 56 more than 128?

$$128 + 56 = 184$$

$$128 \xrightarrow{+50} 178 \xrightarrow{+6} 184$$

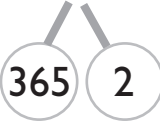
184 is 56 more than 128.



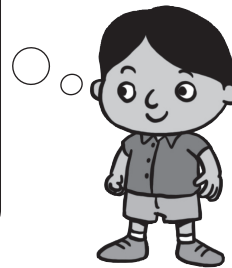


To add a number close to 100 mentally, we can make a 100 first and then add.

2. Add 367 and 98.

$$367 + 98 = 365 + 100$$


98 and 2 make 100.



$$367 + 98 = 465$$

## Methods for Mental Subtraction

To subtract mentally, we can subtract the tens and then subtract the ones.

1. Subtract 74 from 587.

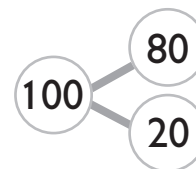
$$587 \xrightarrow{-70} 517 \xrightarrow{-4} 513$$

$$587 - 74 = 513$$

2. Subtract 81 from 100.

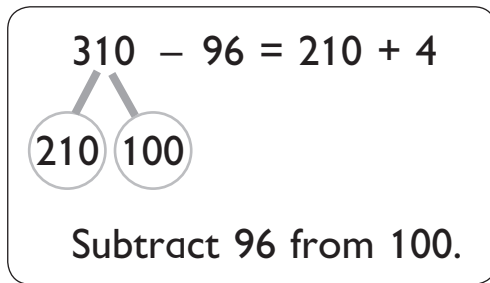
$$100 \xrightarrow{-80} 20 \xrightarrow{-1} 19$$

$$100 - 81 = 19$$



To subtract a number close to 100 mentally, we can subtract from 100 first and then add.

2. Subtract 96 from 310.




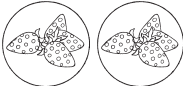

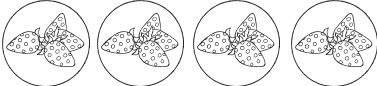






$$310 - 96 = 214$$

# Unit 7 : Multiplication and Division

## Friendly Notes


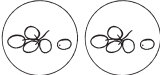
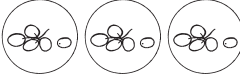







### Multiplying and Dividing by 4

We can count by 4's to help us remember the multiplication table of 4.

$1 \times 4 = 4$ $4 \div 4 = 1$	
$2 \times 4 = 8$ $8 \div 4 = 2$	
$3 \times 4 = 12$ $12 \div 4 = 3$	
$4 \times 4 = 16$ $16 \div 4 = 4$	
$5 \times 4 = 20$ $20 \div 4 = 5$	
$6 \times 4 = 24$ $24 \div 4 = 6$	
$7 \times 4 = 28$ $28 \div 4 = 7$	
$8 \times 4 = 32$ $32 \div 4 = 8$	
$9 \times 4 = 36$ $36 \div 4 = 9$	
$10 \times 4 = 40$ $40 \div 4 = 10$	


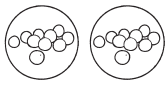
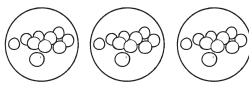
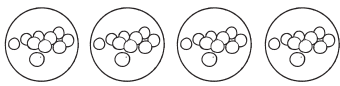
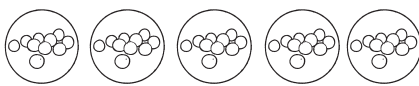
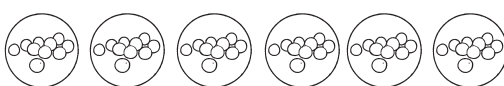

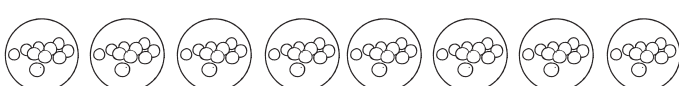

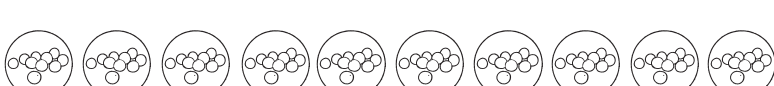
## Multiplying and Dividing by 5

We can count by 5's to help us remember the multiplication table of 5.

$1 \times 5 = 5$ $5 \div 5 = 1$	
$2 \times 5 = 10$ $10 \div 5 = 2$	
$3 \times 5 = 15$ $15 \div 5 = 3$	
$4 \times 5 = 20$ $20 \div 5 = 4$	
$5 \times 5 = 25$ $25 \div 5 = 5$	
$6 \times 5 = 30$ $30 \div 5 = 6$	
$7 \times 5 = 35$ $35 \div 5 = 7$	
$8 \times 5 = 40$ $40 \div 5 = 8$	
$9 \times 5 = 45$ $45 \div 5 = 9$	
$10 \times 5 = 50$ $50 \div 5 = 10$	

## Multiplying and Dividing by 10

We can count by 10's to help us remember the multiplication table of 10.

$1 \times 10 = 10$ $10 \div 10 = 1$	
$2 \times 10 = 20$ $20 \div 10 = 2$	
$3 \times 10 = 30$ $30 \div 10 = 3$	
$4 \times 10 = 40$ $40 \div 10 = 4$	
$5 \times 10 = 50$ $50 \div 10 = 5$	
$6 \times 10 = 60$ $60 \div 10 = 6$	
$7 \times 10 = 70$ $70 \div 10 = 7$	
$8 \times 10 = 80$ $80 \div 10 = 8$	
$9 \times 10 = 90$ $90 \div 10 = 9$	
$10 \times 10 = 100$ $100 \div 10 = 10$	

# Unit 8 : Money

## Friendly Notes

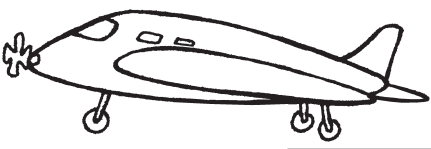

### Dollars and Cents

When we write money in dollars and cents, the dot (.) separates the cents from the dollars.



We write 6 dollars 20 cents as \$6.20.

Write the prices of these items in dollars and cents.

 $\$15.90$	 $\$28.70$
$\$15.90 = 15$ dollars 90 cents Fifteen dollars ninety cents	$\$28.70 = 28$ dollars 70 cents Twenty-eight dollars seventy cents

## Adding Money

When we add money, we add the dollars together and add the cents together.

1.  $\$9.30 + \$6.45 = \$$  \_\_\_\_\_  
Add the dollars :  $\$9 + \$6 = \$15$   
Add the cents :  $30\text{¢} + 45\text{¢} = 75\text{¢}$

$$\begin{aligned} \text{Total: } \$9.30 + \$6.45 &= \$15 + 75\text{¢} \\ &= \$15.75 \end{aligned}$$

We can also add  $\$9.30$  and  $\$6.45$  in this way:

$$\$9.30 \xrightarrow{+\$6} \$15.30 \xrightarrow{+45\text{¢}} \$15.75$$

2.  $\$8.25 + \$1.35 = \$$  \_\_\_\_\_

We can add  $\$8.25$  and  $\$1.35$  like this:

$$\begin{array}{r} \$8.25 \\ + \$1.35 \\ \hline \$9.60 \end{array}$$

$$\begin{array}{r} 8 \overset{1}{2} 5 \\ + 1 3 5 \\ \hline 9 6 0 \end{array}$$



## Subtracting Money

When there are not enough cents to take away from, change \$1 into 100 cents.

1.  $\$6.55 - \$2.30 = \$$  \_\_\_\_\_

$$\$6.55 \xrightarrow{-\$2} \$4.55 \xrightarrow{-30\text{¢}} \$4.25$$

$$\$6.55 - \$2.30 = \$4.25$$

2.  $\$7.30 - \$4.65 = \$$  \_\_\_\_\_

We cannot take away 65 cents from 30 cents.  
We change \$1 into 100 cents.



$$\$7.30 = \$6 + 130\text{¢}$$

Subtract the dollars:  $\$6 - \$4 = \$2$

Subtract the cents:  $130\text{¢} - 65\text{¢} = 65\text{¢}$

$$\$7.30 - \$4.65 = \$2.65$$

3.  $\$4.85 - \$2.95 = \$$  \_\_\_\_\_

We can subtract \$2.95 from \$4.85 like this:

$$\begin{array}{r} \$4.85 \\ - \$2.95 \\ \hline \$1.90 \\ \hline \end{array}$$

$$\begin{array}{r} \phantom{3} \phantom{18} \\ \cancel{4} \cancel{8} 5 \\ - 295 \\ \hline 190 \\ \hline \end{array}$$



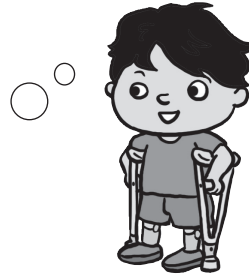


4. Jackson bought a wallet for \$16.35.  
He also bought a pair of shorts.  
The pair of shorts cost \$5.50 less than the wallet.

- (a) How much did Jackson pay for the pair of shorts?  
(b) How much did he spend altogether?

(a)

$$\begin{aligned} \$16.35 &= \$15 + 135\text{¢} \\ \$15 - \$5 &= \$10 \\ 135 \text{ cents} - 50\text{¢} &= 85\text{¢} \end{aligned}$$



$$\$16.35 - \$5.50 = \$10.85$$

Jackson paid \$10.85 for the pair of shorts.

(b)  $\$16.35 \xrightarrow{+\$10} \$26.35 \xrightarrow{+85\text{¢}} \$27.20$

$$\begin{aligned} 35\text{¢} + 85\text{¢} &= 120\text{¢} \\ 120\text{¢} &= \$1 + 20\text{¢} \end{aligned}$$



$$\begin{aligned} \$16.35 + \$10.85 &= \$27.20 \\ \text{He spent } \$27.20 &\text{ altogether.} \end{aligned}$$

# Unit 9 : Fractions

## Friendly Notes

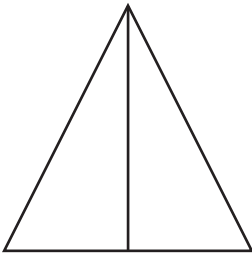
### Halves, Fourths, and Thirds

When we divide a whole into 2 equal parts, each part is one-half.

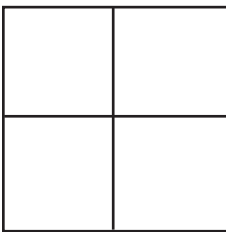
When we divide a whole into 4 equal parts, each part is one-quarter.

One-quarter is the same as one-fourth.

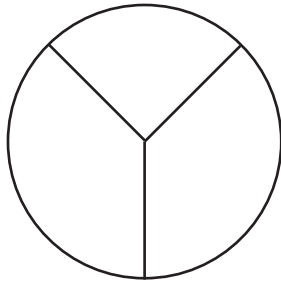
When we divide a whole into 3 equal parts, each part is one-third.



The triangle is divided into 2 equal parts.  
Each part is a half.  
2 halves make 1 whole.

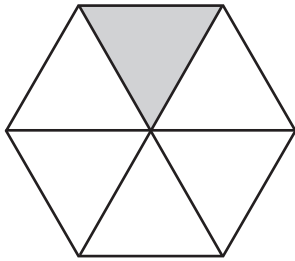


The square is divided into 4 equal parts.  
Each part is a fourth.  
4 fourths make 1 whole.



The circle is divided into 3 equal parts.  
Each part is a third.  
3 thirds make 1 whole.

## Writing Fractions



1 out of 6 equal parts is shaded.

$\frac{1}{6}$  of the shape is shaded.

5 out of 6 equal parts is not shaded.

$\frac{5}{6}$  of the shape is not shaded.

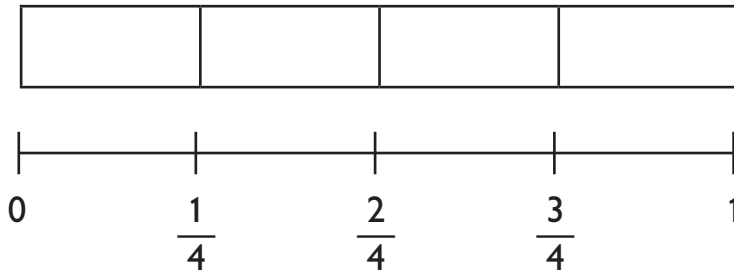
$\frac{1}{6}$  and  $\frac{5}{6}$  make one whole.

We can use number lines to show fractions.

0 to 1 on a number line represents 1 whole.

The number line is divided into four equal parts.

Each part is  $\frac{1}{4}$ .



The fraction of each equal part of a whole gets smaller as the number of equal parts in a whole increases.

1. Which is greater,  $\frac{1}{2}$  or  $\frac{1}{8}$ ?



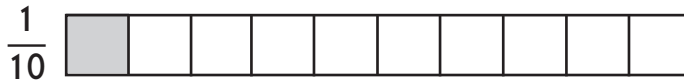
Compare the size of the shaded parts.

$\frac{1}{2}$  is greater.



2. Arrange the fractions in order.  
Begin with the greatest.

$$\frac{1}{9}, \frac{1}{6}, \frac{1}{10}$$



Compare the  
size of the  
shaded parts.



$\frac{1}{6}$  is the greatest.

$\frac{1}{10}$  is the smallest.

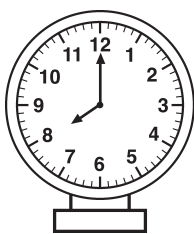
Arranging the fractions in order beginning with

the greatest, we have  $\frac{1}{6}, \frac{1}{9}, \frac{1}{10}$ .

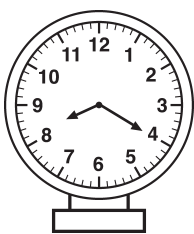
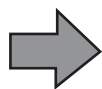
# Unit 10 : Time

## Friendly Notes

### Telling Time After the Hour



8:00

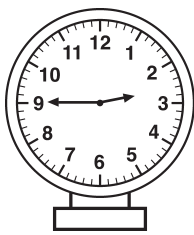


8:20

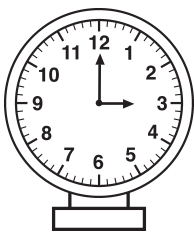
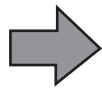
We read 8:20 as eight twenty.  
It is 20 minutes **after** 8 o'clock.  
We can also say it is 20 minutes **past** 8.



### Telling Time Before the Hour



2:45



3:00

We read 2:45 as two forty-five.  
It is 15 minutes **before** 3 o'clock.  
We can also say it is 15 minutes **to** 3.



We use A.M. to indicate time before 12 noon.

We use P.M. to indicate time after 12 noon.



It is morning.

Maria wakes up at 6:30 A.M.



It is noon.

Ricky has lunch at 12 P.M.



It is evening.

Jacob has piano lessons at 7:45 P.M.



It is night.

Tricia goes to bed at 9:15 P.M.

# Unit 11 : Tables and Graphs

## Friendly Notes

### Picture Graphs, Bar Graphs, and Line Plots

We can present data using picture graphs, bar graphs, or line plots.

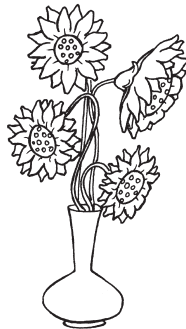
Pictures are used to show data in picture graphs.

Bars are used to show data in bar graphs.

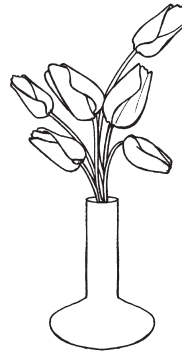
Count each type of flower shown.



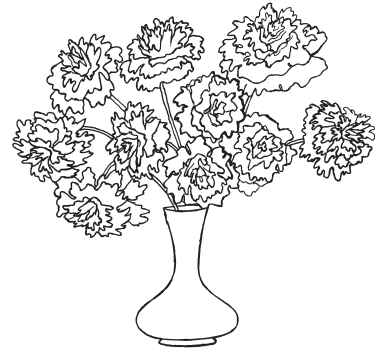
Roses



Sunflowers



Tulips



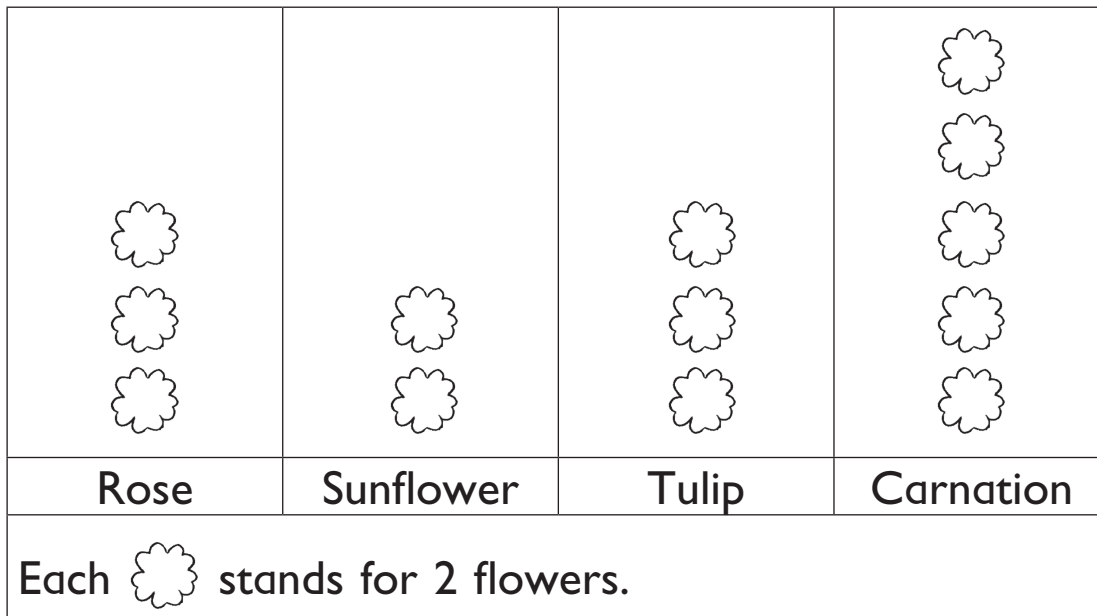
Carnations

We can tally as we count, and write the tally marks in a chart.


Flower	
Rose	### /
Sunflower	////
Tulip	### /
Carnation	### ###



The picture graph below shows the number of each type of flower.

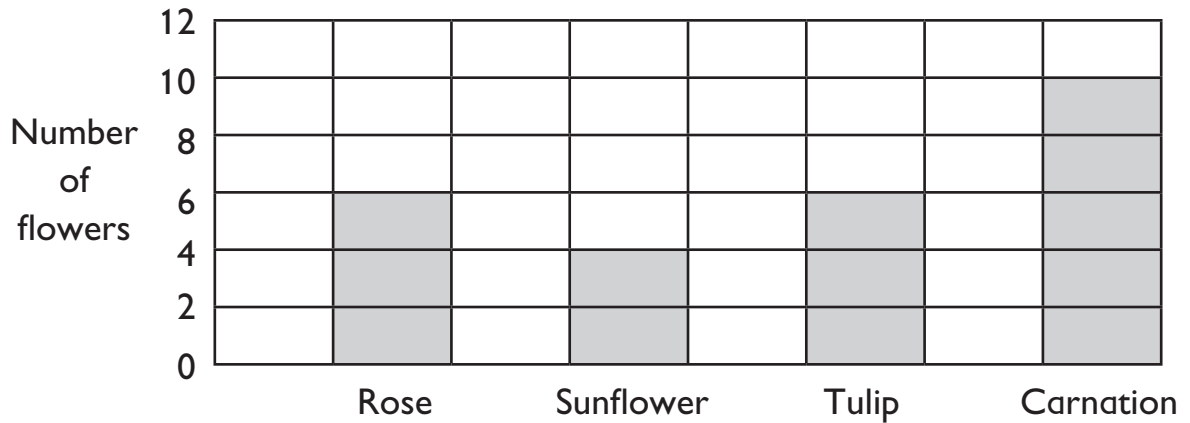


From the graph we can get the following information.

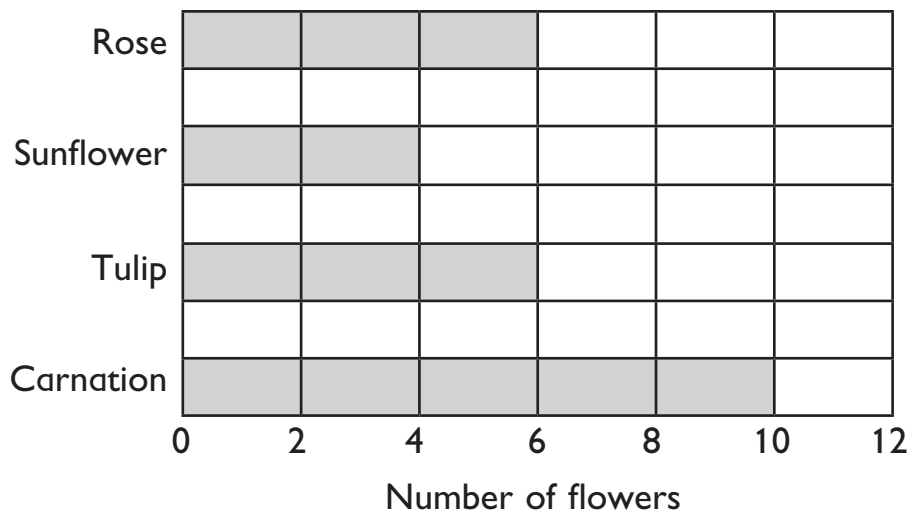
- (a) Each  stands for 2 flowers.
- (b) There are 6 roses.
- (c) There are 4 sunflowers.
- (d) There are 6 tulips.
- (e) There are 10 carnations.
- (f) There are 2 fewer sunflowers than roses.
- (g) There are 4 more carnations than tulips.
- (h) There are as many roses as tulips.
- (i) There are 26 flowers altogether.

The bar graphs below show the number of each type of flower.

(a) Vertical bar graph



(b) Horizontal bar graph

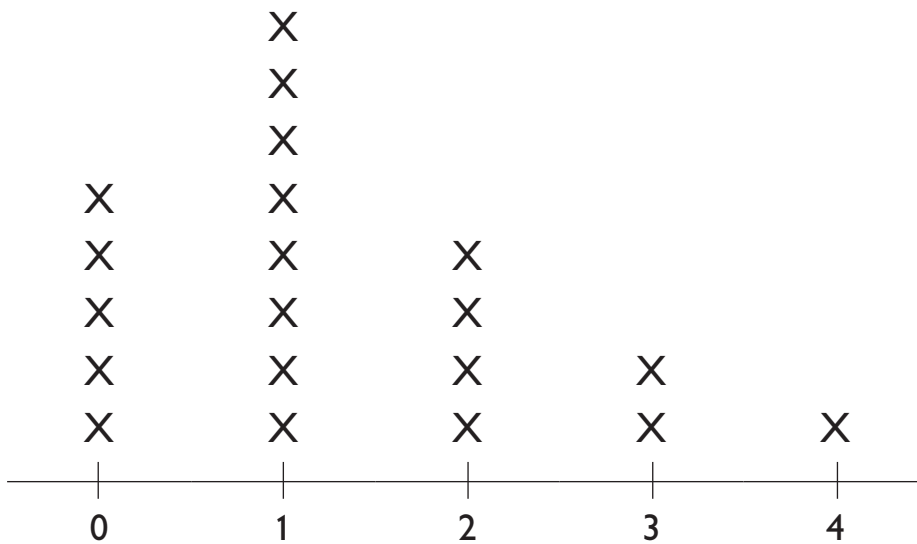


The table below shows the number of each type of flower.

Flower	Rose	Sunflower	Tulip	Carnation
Number of flowers	6	4	6	10

We can also use a line plot to record data.

The line plot below shows the number of siblings a group of children have.



From the line plot, we can get the following information.

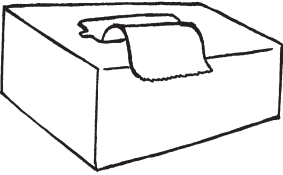





- Most children have 1 sibling.
- The least number of children have 4 siblings.
- There are a total of 20 children in the survey.

# Unit 12 : Geometry

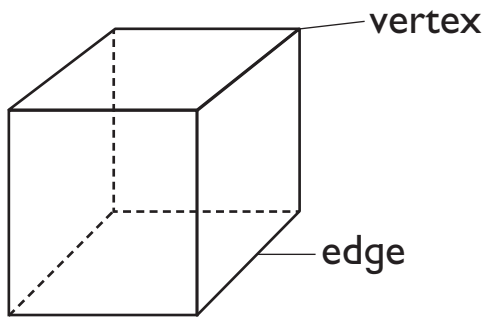
## Friendly Notes

### Flat and Curved Surfaces

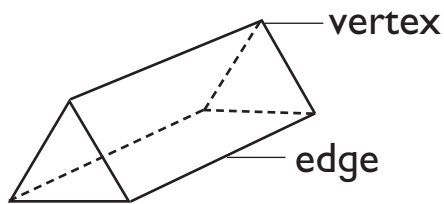
Objects come in different shapes and sizes.  
They can have flat or curved surfaces.

Objects with flat surfaces	Objects with curved surfaces	Objects with flat and curved surfaces
 	 	 

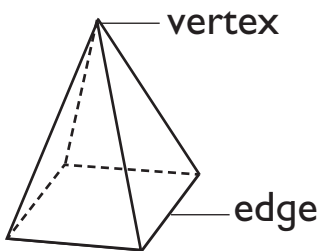
These objects have flat and curved faces too.



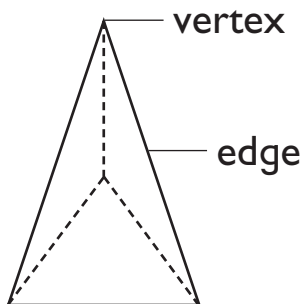
This solid has 6 flat faces, 8 vertices, and 12 edges.



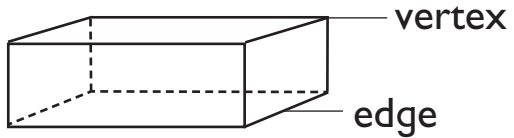
This solid has 5 flat faces, 6 vertices, and 9 edges.



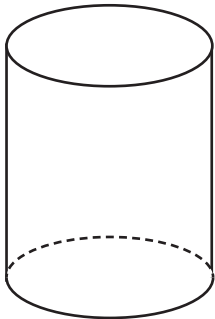
This solid has 5 flat faces, 5 vertices, and 8 edges.



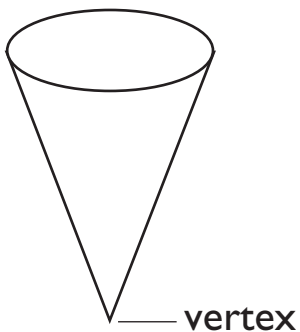
This solid has 4 flat faces, 4 vertices, and 6 edges.



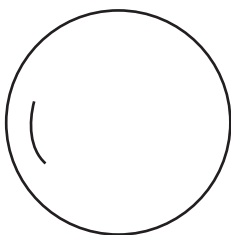
This solid has 6 flat faces, 8 vertices and 12 edges.



This solid has 1 curved face and 2 flat faces.



This solid has 1 flat face, 1 curved face, and 1 vertex.



This solid has 1 curved face. It has no vertices and no edges.

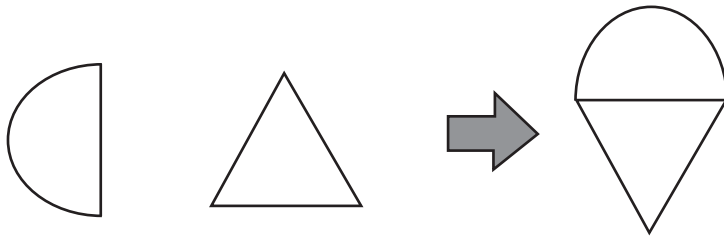


## Composite Figures

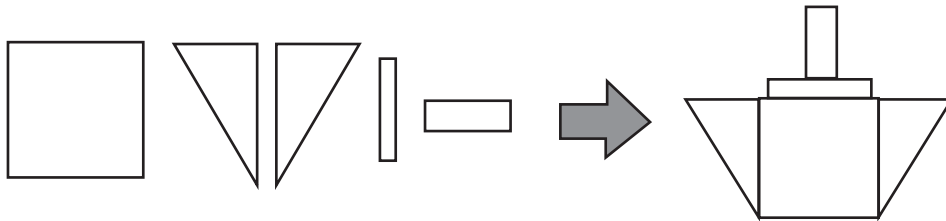
We can put shapes such as squares, triangles, rectangles, and circles together to form other shapes.

We can make the shape below with a triangle and a half circle.

The shape is made up of 3 straight lines and a curve.



We can make the shape below using 2 triangles, 2 rectangles, and a square.



This is a regular pattern of shapes.

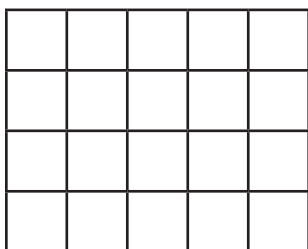
What shape comes next?



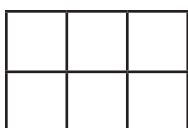
The next shape is .

Some squares are fitted together to form a rectangle.

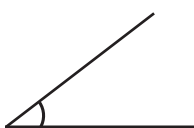
This rectangle is made up of 20 squares.



This rectangle is made up of 6 squares.



## Angles and Shapes



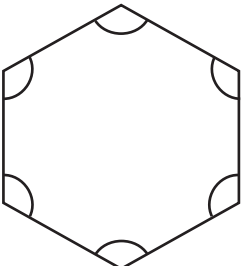
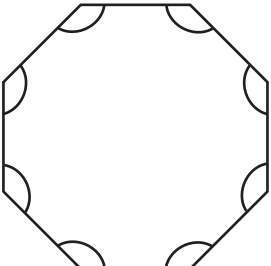
Any two sides joined makes an angle.

	<p>A triangle has 3 sides and 3 angles.</p>
	<p>A quadrilateral has 4 sides and 4 angles.</p>
	<p>A pentagon has 5 sides and 5 angles.</p>





A polygon is a closed figure with straight sides.

	<p>A hexagon has 6 sides and 6 angles.</p>
	<p>An octagon has 8 sides and 8 angles.</p>

