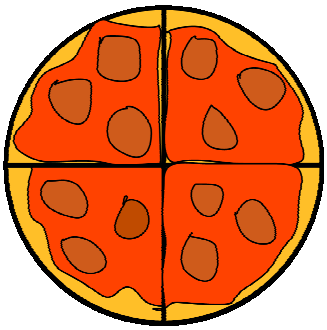
# Understanding Fractions

## What is a Fraction?

When one WHOLE is divided into equal parts, we say that the WHOLE has been divided into **FRACTIONS**.

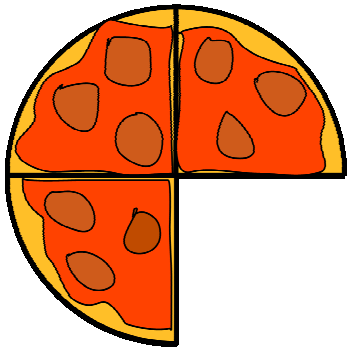
## How do we write Fractions?

Look at the following example of a pizza:



This is a **WHOLE** pizza that is divided into **4 EQUAL** slices.

If **one slice** is taken away, there will be **3 slices** left.



The **fraction of the number of slices left** is:

$\frac{3}{4}$ 3 slices are left

the pizza (or WHOLE) was cut into 4 slices (parts)

## What is the Numerator and Denominator?

$\frac{\text{Numerator}}{\text{Denominator}}$

**Numerator** is the **Number** of parts of the whole, asked **NOW.**

**Denominator Determines** the number **Down** at the bottom.

Always first determine the **Denominator**. That is the number of equal **slices/parts/ sections** that any **whole** has been divided into and will be the number **under the line** of the fraction.

The **Numerator** is the **part of the whole that is questioned**, e.g. How many parts are **shaded**? How many **slices have been eaten**? How many blocks **have been coloured**? How **many pieces are left**?

## Can a WHOLE be written as a Fraction?

**YES!** Look at the example of the pizza.

The pizza was cut into **4 slices**. Let's say that none of the slices has been eaten. The answer will be;

$\frac{4}{4}$ = 1 whole!

$\frac{4}{4}$ **4 slices** are left over **NOW**
The **WHOLE** has been **divided** into **4 slices**

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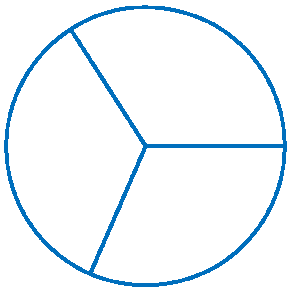
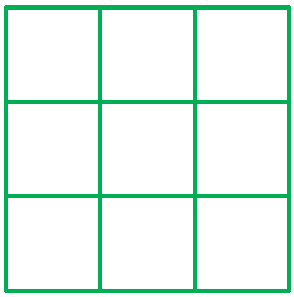
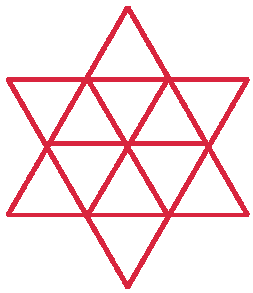
**Can you determine the Denominator in the following examples?**

1. 

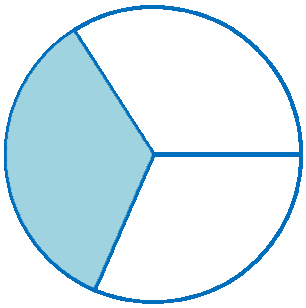
2. 

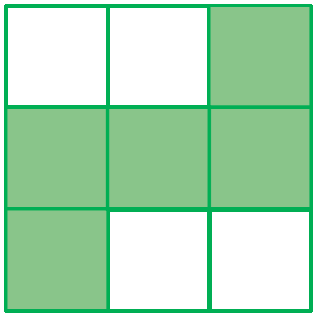
3. 

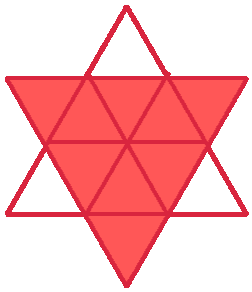
$\frac{\square}{\square}$ $\frac{\square}{\square}$ $\frac{\square}{\square}$

**Remember: Determine the number of parts the WHOLE has been divided into!**

**Can you determine the Numerator in the following examples? (Look at the shaded parts)**

1. 

2. 

3. 

$\frac{\square}{\square}$ $\frac{\square}{\square}$ $\frac{\square}{\square}$

**Remember: The Numerator is the number of parts you are asked about NOW!**

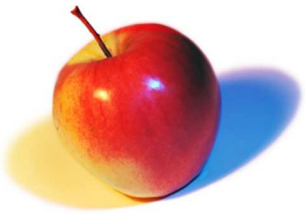
Now write down the full Fractions of the shaded parts as a part of the whole for each picture:

1. $\square$ 2. $\square$ 3. $\square$

# Understanding Fractions

## Dividing a WHOLE into smaller FRACTIONS

What happens if an apple is divided in two exactly equal pieces?



One WHOLE divided into two, gives you two $\frac{1}{2}$'s (halves)

If the both halves are again divided into two exactly equal pieces?

One **HALF** divided into two, gives you two $\frac{1}{4}$'s (quarters)

**Can you guess what Fractions you will get if the Quarters are divided into 2 exact pieces?**

Can you see the pattern?

**1** divided into two = $\frac{1}{2}$

$\frac{1}{2}$ divided into two = $\frac{1}{4}$

$\frac{1}{4}$ divided into two = $\frac{1}{8}$

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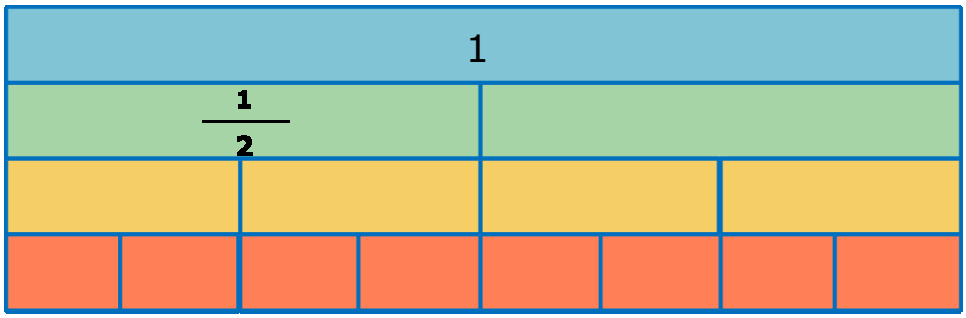
## Fraction Walls

Complete the following Fraction wall:




Now draw your own Fraction wall, but this time divide the whole into thirds ( $\frac{1}{3}$ )

## Relationship between Fractions and Division

From the examples above, it can be seen that:

$\frac{1}{2}$ is the same as 1 whole divided into 2 equal parts

$\frac{1}{3}$ is the same as 1 whole divided into 3 equal parts

$\frac{1}{4}$ is the same as 1 whole divided into 4 equal parts

Divide each of the blocks above, into the correct parts to illustrate the fraction.