MATHS

Year 5

Topic: Fractions and decimals

Converting between fractions and decimals

Today you will:

► recognise and model decimals using a variety of representations

► convert fractions to decimals

► convert decimals to fractions.

Resources

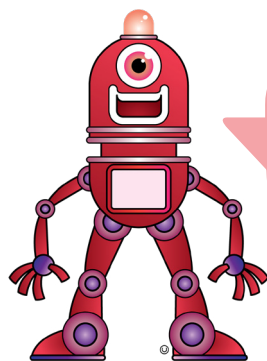**Find and prepare**

Calculator

Ruler

Key terms

decimal, decimal number system, place value

For definitions and explanations of terms, please see the **Glossary**.

Lesson

Introduce the lesson

In the previous lesson, you explored **decimals**. Let's see what you can remember.

1. Write short answers to the following questions:

   a. What are decimals?

b. How can we use the place value system to show decimals?

c. What is the purpose of the decimal point?
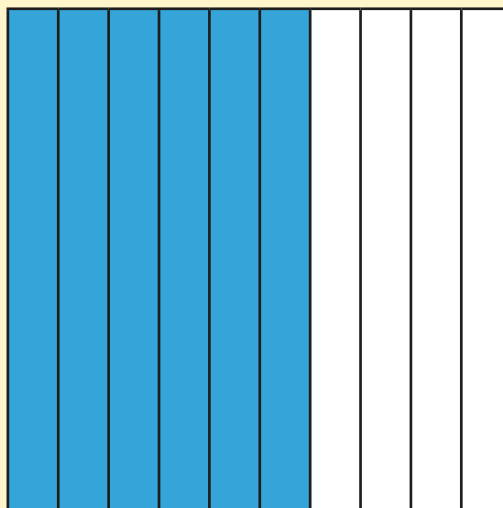
Represent and identify decimals

0.6

This decimal is written in word form as **six-tenths**.

This decimal can be read as **six-tenths** or **zero point six**.

The equivalent fraction for this decimal is $\dfrac{6}{10}$

This decimal can be represented as a diagram:

2. A strip of paper has been divided into 10 equal parts, to represent **tenths**.

a. Continue counting along in tenths until you reach ten-tenths.

Department of Education and Training
C2C Independent Learning Materials

Queensland Government

b. Write the equivalent fractions and decimals.

one-tenth	two-tenths								
$\frac{1}{10}$	$\frac{2}{10}$	___	___	___	___	___	___	___	___
0.1	0.2								

3. Look at the decimal **0.7**

   a. Say the decimal aloud.

   b. Shade in the parts to represent **0.7**

   c. Write the decimal on the place value chart.

Ones				Parts of one	
H	**T**	**O**	**.**	**t**	**h**

   d. Fill in the blank.

Decimal	Word form	Fraction
0.7		$\frac{7}{10}$

4. Look at the decimal **0.4**

   a. Say the decimal aloud.
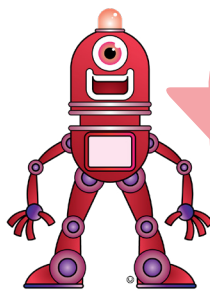
   b. Shade in the parts to represent **0.4**

c. Write the decimal on the place value chart.

Ones				Parts of one	
H	T	O	·	t	h

d. Fill in the blanks.

Decimal	Word form	Fraction
0.4		——

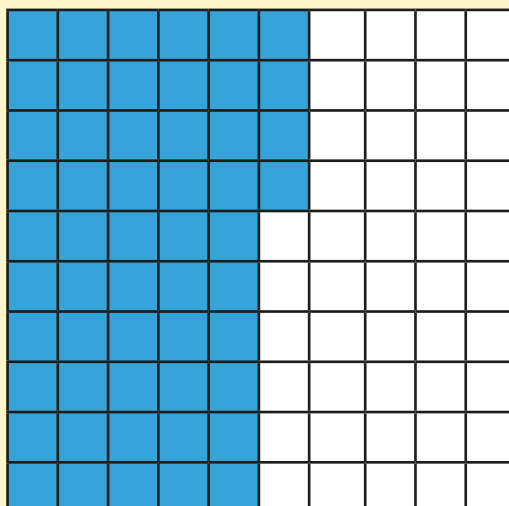Now let's look at **hundredths**.

**0.54**

This decimal is written in word form as **fifty-four-hundredths**.

This decimal can be read as **fifty-four-hundredths** or **zero point five four**.

The equivalent fraction for this decimal is $\frac{54}{100}$.

This decimal can be represented as a diagram:

Department of Education and Training
C2C Independent Learning Materials
Queensland Government

5. Look at the decimal **0.04**

   a. Say the decimal aloud.

   b. A board has been divided into 100 equal parts to represent **hundredths**.
      Shade or fill in the parts to represent **0.04**
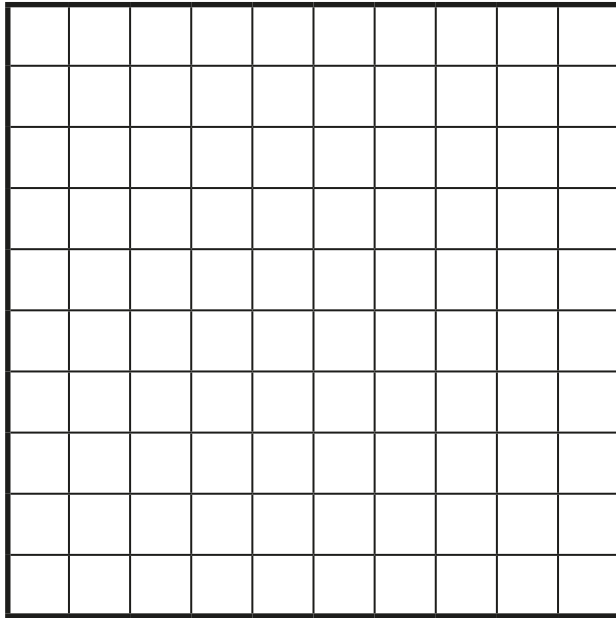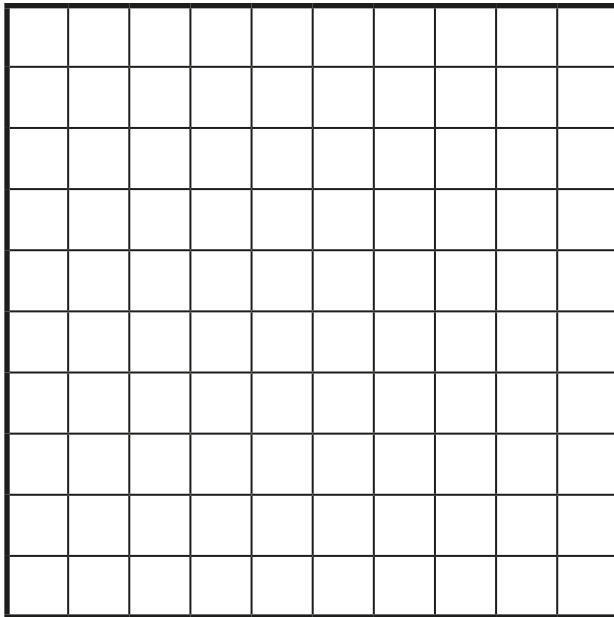
   c. Write the decimal on the place value chart.

Ones			.	Parts of one	
H	T	O	.	t	h

   d. Fill in the blanks.

Decimal	Word form	Fraction
0.04		——

6. Look at the decimal **0.37**

   a. Say the number aloud.

b. Shade or fill in **0.37**

c. Write the decimal on the place value chart.

Ones			.	Parts of one	
H	T	O	.	t	h

d. Fill in the blanks.

Decimal	Word form	Fraction
0.37		——

Queensland Government

2.52
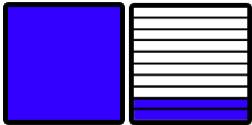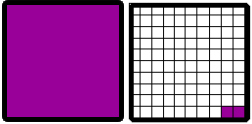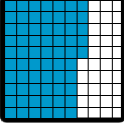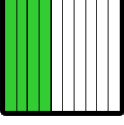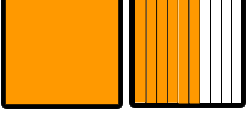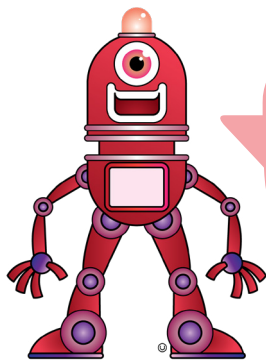
This number is written in word form as two and fifty-two-hundredths.

The number can be read as two and fifty-two-hundredths or two point five two.

This number can be represented as a diagram:

7. Write the fraction or the decimal to match the following diagrams. The first one has been done for you.
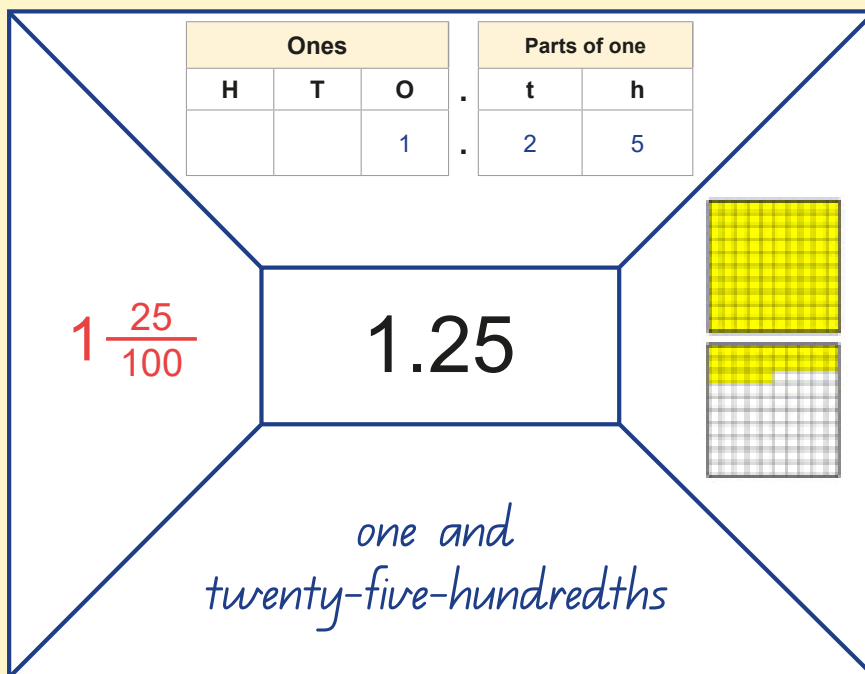
	Image	Decimal	Fraction
a.		1.2	$1\frac{2}{10}$
b.			$1\frac{2}{100}$
c.		0.65	——
d.			$\frac{4}{10}$
e.		1.6	——

You are now going to complete a **thinkboard** for some decimals. What is a thinkboard?

A **thinkboard** is a tool used to represent information.

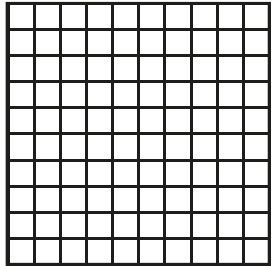This thinkboard shows the different ways **1.25** can be represented.

Ones				Parts of one	
H	T	O	.	t	h
		1	.	2	5

$1\frac{25}{100}$

1.25

one and twenty-five-hundredths

Queensland Government

Fill in the missing sections for each **thinkboard**.

8. a.

Ones				Parts of one	
H	T	O	.	t	h
			.		

____

$$0.71$$
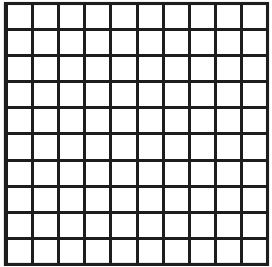
seventy-one-hundredths

b.

Ones				Parts of one	
H	T	O	.	t	h
			.		
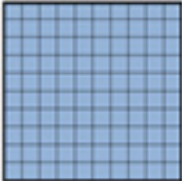
$$\frac{3}{10}$$
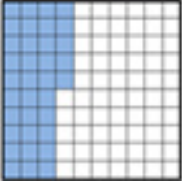
$$0.3$$

c.

Ones			.	Parts of one	
H	T	O	.	t	h
			.		

_____
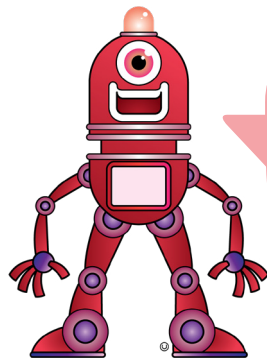
In the next lesson, you will count by tenths and hundredths.

Queensland Government