Year 6 Learning from Home – Week 1

Tuesday	Wednesday	Thursday	Friday
Welcome back Year 6! Writing Choose from one of the stimulus images provided and write a quest tale to entertain the reader. Remember to plan your ideas before you begin. Literacy Pro Log onto your Literacy Pro account and go to your library. Choose a book to read.	Literacy - Editing We are learning to edit our writing. Complete the editing worksheet. - Reading Read the passage 'Formation of the Earth' and complete the questions. Literacy Pro Log onto your Literacy Pro account and go to your library. Continue reading your book from yesterday.	Writing Choose a different stimulus image from Tuesday's activity and write a quest tale to entertain the reader. Remember to plan your ideas before you begin. Literacy Pro Log onto your Literacy Pro account and go to your library. Once you have finished reading your book, please complete the quiz. Take your time and try your best to get 80% or above.	Literacy With parent/carer guidance, select an appropriate article or news item from TV. - Summarise: key points of the news item. - Respond: explain to someone the main points. Explain the purpose of the news item. - Compose: Using the news item, investigate the meaning of words you don't know and demonstrate the meaning of each word in a sentence.
Mathematics We are learning about multiplication and division. Complete the problem-solving questions.	Mathematics We are learning to add fractions with related denominators. Complete the investigations.	Mathematics We are learning to subtract fractions with related denominators. Complete the investigations.	Mathematics We are learning to conduct chance experiments. Complete the chance and data investigations.
NAIDOC Week – Heal Country Read the student information sheet about the NAIDOC 2021 theme: Heal Country. There are three NAIDOC themed activities for you to complete.	HSIE Complete the student knowledge organiser on Human Migration.	Science Lesson 4 - My Electric House Copy the following link and use the class code to complete the science activities. http://inq.co/class/2r61 Class code: 7628	HSIE Lesson 1 – Human Migration Copy the following link and use the class code to complete the activities. http://inq.co/class/2r61 Class code: 7628

Choose one of the stimulus images below and write a quest tale to entertain the reader.

Great Wall of China - Editing

Add editing marks to text. There are 20 errors.

The great wall of China is indoubtedly one of the most

signi cant man-made structures in the world built over 2000 years ago, it is an arcitectural feat that this structure is stil standing. The Great Wall of china spans an impresive 8851.8 km stretching east to west, winding up and down across grasslands mountains, desserts and plateaus. Unfortunately some of the original sections ar now in ruins or no longr exist.

work on construct the Great Wall of China started as early as the 5th century B.C. The main reason behind built the Great Wall was to protect china's boders from the nomadic warring

tribes, that came down from preent day manchuria

and Mongolia.

Editing Marks:	
Capital letter	≡
End punctuation	○. ○! ○?
Insert a word	∧
Change to lower case	/ l.c.
Take something out	⌀
Check spelling	SP ⬭
New paragraph	¶

Re-write the text correctly:

HEAL COUNTRY!

What is Country?

When you think of Country you probably think of a map of the world with different coloured areas or maybe you think of the countryside with lots of trees, and open space and farms that are distant from the city.

But First Nations people think of Country differently. Country is not only the place we are from; we are also part of Country.

Country is the land, water, animals, plants, spirits and people of an area. These are all elements of Country and play an equally important part in keeping Country healthy. We do this by working together.

Some examples of how things work together to keep Country healthy are:

- Animals provide food and materials to the people who in turn look after the plants, ensuring that animals have plants to eat and continue to be healthy and plentiful.
- We have a special relationship with the skies and stars because the sky shares the knowledge of rainfall and storms; the stars guide our travels and they are a library of stories, information and knowledge.
- Plants provide food, shelter and materials for animals and our people. They also provide signs about seasons changing.
- Our people help keep plants healthy. For example:
    - We use cultural burning to control plant growth and help certain plants to grow.
- Animals also help keep plants healthy:
    - Bats, birds, bees (and many other insects) spread pollen which helps plants to grow.
    - Birds and animals spread plant seeds. This helps plants to grow in more areas.
    - Manure from animals like wombats and kangaroo can help improve the soil where plants grow.
- Water is vital to the lives of our people, plants and animals. Looking after water - by not wasting it and keeping it clean – means looking after all who use it.

These examples show us that all the bits that make up Country are important to each other. For thousands of years, we worked with the land, the sky, the

water and the plants & animals and we have lived sustainable lives.

Why Country needs healing

When Europeans came to Australia, they did lots of things that caused problems for Country.

- We were moved off our Country. We weren't able to continue looking after it.
- The settlers weren't used to this kind of environment and the way they used it - for building, farming and mining - caused pollution, erosion and damage.
- We were forbidden from our usual practices of looking after Country. For example:
    - When cultural burning stopped, an area of Country became overgrown with the wrong plants leading to bigger bush fires.
- We were also forbidden from passing our cultural knowledge on to our children. Some of the knowledge of how to heal country has been lost.

After colonial invasion many Government policies about Country caused problems for our people.

- When we were forced off our Country - into missions or reserves - we lost our usual freedom of movement.
- When our children were forced to live with European families, they lost their Aboriginality.
- Our families were unable to return to Country because it had become farms or cities or mines. This caused some of our mobs to suffer from a loss of connection to Country.

Introduction of western lifestyle and education

When our people were expected to live and learn European people's ways, we suffered trauma from a loss of our old ways. We couldn't speak our language. We couldn't practice our culture. It was hard to pass on our knowledge like we had for thousands of years.

Aboriginal and Torres Strait Islander people still suffer many effects of these rules. We suffer:

- Poor health outcomes

- Poor education outcomes
- Poverty
- Discrimination, racism and bias
- Disadvantage because of our race

When we talk about healing Country, we are talking about healing each of these things to restore the balance and make Country healthy again. This would mean a healthier environment, better health and education for our people, reduced racism and discrimination and an Australia-wide appreciation for First Nations culture.

We can *all* contribute to healing.

We can *all* play a part in healing Country and making a difference to the lives of First Nations people.

Here are some of the ways you can Heal Country:

Heal Country: Sustainable Environment

- Plant native trees at your school
- Remove weeds
- Provide water for birds
- Grow flowers to feed bees

Heal Country: Understanding and sustaining culture

- Learn the name of the Country your school is on
- Meet some Elders from your Country
- Learn about some stories and cultural practices from your area
- Find some great things about Aboriginal culture that you can tell others

Heal Country: Recognising Aboriginal knowledge

- Find out where First Nations people lived near your school (rivers, caves, lookouts)
- Discover all the skills they had for survival
- Understand that Aboriginal knowledge was built up over thousands of years and based on close connection to Country and looking closely at nature
- Find out about an Aboriginal person who passes on traditional knowledge

Heal Country: Overcoming Bias

- Learn about stereotypes
- Question stories you hear in the media
- Challenge comments if they sound racist
- Run an anti-racism campaign in your school

Heal Country: Revitalising Language

- Include local language in your school day
- Explore your local area, or beyond, to see where Aboriginal names and words are used (for landmarks, street names, parks etc)
- Invite guests to teach some local language classes
- Learn a song in Aboriginal language

Heal Country: Acknowledge Australia's True History

- Learn history from a First Nations perspective
- Consider how colonisation affected First Nations people
- Think about how hard it would be to lose all the things that First Nations people have lost
- Learn how Reconciliation can bring about healing

HEAL COUNTRY!

Read and discuss the 2021 NAIDOC WEEK Student Printable with your class before assigning this activity sheet. Ask students to find the hidden words.

Q V X I G Y R T N U O C K S C O Q J B
H Z U S O N R E L B A N I A T S U S R
Q S T R A D I T I O N U K G R O W T H
R N Q R W H W L K I E S I N G O C E R
B Q F X Y X Z A A M N U R D O P Y E T
M C U L T U R A L E F U N S V M H E B
G Y S E H B Q O D H H Y T G E A T B G
M K N O W L E D G E A X O I R T L P I
G E U L U F I T N E L P W O C E A H V
B B I G J B A M U A R T W U O R E T U
M E W K R G D I X A A H Y M M I H W C
P N M O Y O H S T N E M E L E A L K E
Q I F Q O N E B T L Q I C X F L N G G
S T L I P B W H I D B E W O A S F E E

KNOWLEDGE HEALTHY COUNTRY MATERIALS PLENTIFUL

ELEMENTS SUSTAINABLE GROWTH FORBIDDEN CULTURAL

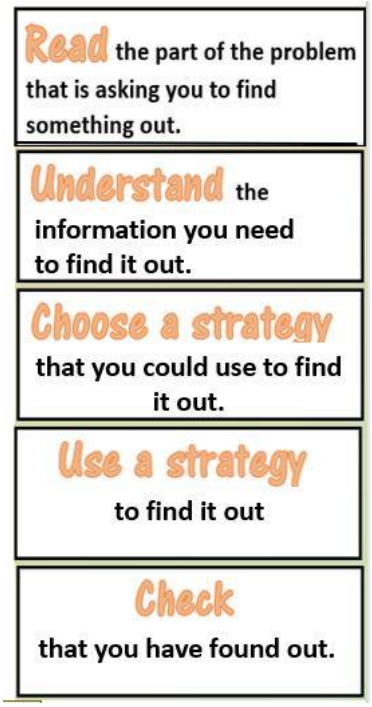
TRAUMA OVERCOME RECOGNISE TRADITION HEALING

NOW WRITE!

Choose three of the words and write a sentence about how they connect to the "Heal Country" theme.

MATHS – PROBLEM SOLVING

We are learning about multiplication and division.



1) A farmer has 624 eggs. He stores them in boxes of 12. How many boxes will he fill?

2) A pupil has collected 780 stamps. He has 15 pages in his stamp book. How many stamps will be on each page?

3) A toy factory produces 4536 toys a day. There are 21 machines making the toys. How many toys does each machine produce?

4) The perimeter of an equilateral triangle is 24.6 cm. What is the length of each side?

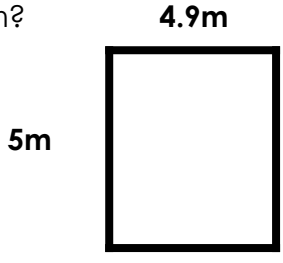
5) A flea can jump up to 200 times its body length. The body length of the flea is 2.54 mm. What is the furthest distance the flea can jump?

a) 5.08mm b) 50.8mm c) 508mm d) 5080mm

6) A grasshopper can jump up to 20 times its body length. The body length of the grasshopper is 4.375 cm. What is the furthest distance the grasshopper can jump?

a) 0.875m b) 875m c) 8.75cm d) 875cm

7) The diagram shows the dimensions of a room. What is the area of the room?



HEAL COUNTRY!

KNOW COUNTRY: UNDERSTANDING AND SUSTAINING CULTURE

Print, read and discuss the 2021 NAIDOC WEEK Student Printable before completing this worksheet.

I was born in _____
(town/suburb/city)

My birthplace is on _____ Country.

This is the traditional land of the _____ people.

Some Elders on this Country are _____

_____

A story about Country is _____

_____

A cultural practice from this Country is _____

_____

Some great things I have learned about my Country include: _____

_____

_____

_____

_____

_____

Ways that my Country needs healing include: _____

_____

_____

_____

_____

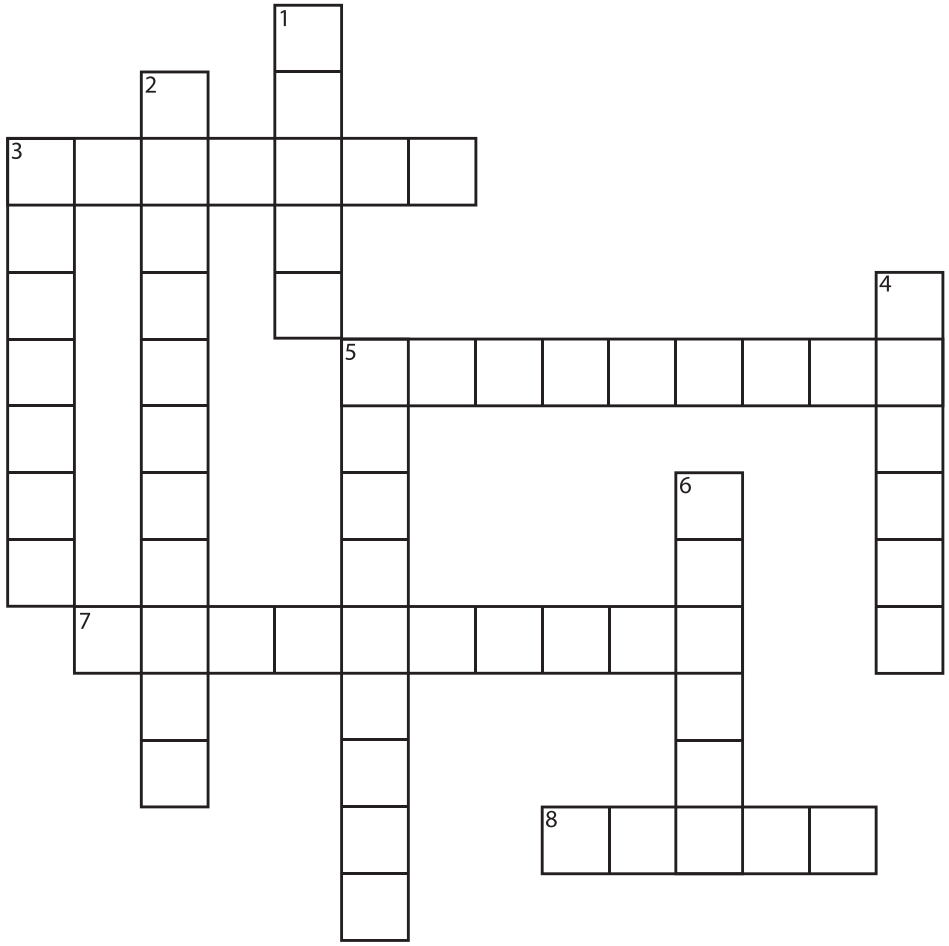
_____

_____

_____

CONNECTION TO COUNTRY
Crossword Puzzle

Print, read and discuss the 2020 NAIDOC WEEK blog post before completing this worksheet.



Clues

ACROSS

3. How First Nations people refer to the land they come from. (7)

5. First Nations people from the coast identify as _____ people. (9)

7. Complete the chant: "Always Was, Always Will Be, _____ Land". (10)

8. Land that has been occupied and maintained for over 65,000 years was never _____ by First Nations people. (5)

DOWN

1. An animal or plant assigned to a child at birth is known as their _____. (5)

2. Totems are assigned to ensure the _____ use of resources. (11)

3. Invasion and past policies prevented First Nations people from practicing _____. (7)

4. What was never negotiated between the traditional custodians and the British who invaded this land? (6)

5. First Nations people have a _____ connection to the land. (9)

6. Freshwater people come from _____ Australia. (6)

NEW WORD LOOK UP!

Ceded means _____

Treaty means _____

FORMATION OF THE EARTH

The origin of our home planet, Earth, is linked to the emergence of the sun. About 5 billion years ago, a nebula of gas and dust floating in space began to coalesce, contract and spin, forming a disc in the middle. It became so dense that it led to the creation of a star, our sun. The remaining disc of dust and gas kept revolving around the newly formed star.

These specks of dust were pulled towards each other as a result of their own gravity. The specks of dust grew bigger and became small rocks. Small rocks combined to make bigger rocks and so it went for another 500 million years.

4.5 billion years ago, Earth became the size and shape that we know today but it was a very different place. It was a boiling ball of molten rock. The temperature on this lava-like surface would have been about 1000°C. There was no air and only traces of water in the form of steam.

For the next 700 million years, Earth was hit with a bombardment of debris from the solar system. During this time, another planet about the size of Mars collided with the newly formed Earth. The collision sent dust and debris into space which, over the next 1000 years, settled to form a ring that orbited Earth. 100 million years later, this debris coalesced to form a large ball of rock that we now call the moon.

This bombardment also provided the new planet with different chemicals and minerals. The meteoroids and asteroids were made of different materials and also carried very small particles of something that would be a key feature of the future planet: water. Over hundreds of millions of years, these minerals and water particles accumulated to a point where liquid water became present on the surface.

The Earth's surface began to cool which allowed a crust to form. Gases also started to accumulate and an atmosphere began to develop. 3.8 billion years ago, the bombardment of the planet eased and Earth began to look something like we know today. Oceans of water were present, with volcanic islands scattered across them.

It would be another 2 billion years before large land masses and breathable air appeared and complex organisms were living in the oceans. The first humans didn't arrive for another 1.6 billion years after that.

It seems remarkable that this planet we know today, the planet we call home, came into existence as a result of some specks of dust floating in space.

Name _____ **Date** _____

Formation of Earth

1. What celestial body had to be formed first before Earth could come into existence?

_____

_____

_____

2. How long did it take for Earth to become roughly the size and shape it is today?

_____

_____

3. Research the definitions for the words below. Write the definition beside the word.

a) nebula _____

_____

b) debris _____

_____

c) bombardment _____

_____

4. Create a five step summary for the formation of Earth.

i) _____

ii) _____

iii) _____

iv) _____

v) _____

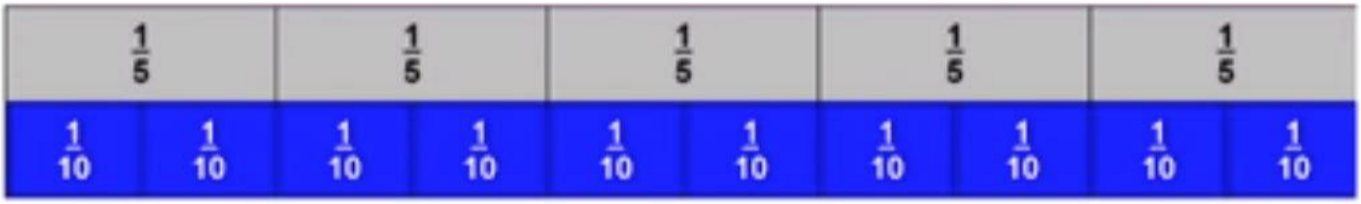
We are learning about adding fractions with related denominators.

Today you will be investigating adding fractions with the same denominator.
The denominator is the number at the bottom of the fraction.
We have found that when we add we can bridge to whole numbers.
When we do this, we are bridging to ones so we are using place value.

We are going to look at adding fractions with related denominators using place value.
Look at the number sentence →
This number sentence says three-fifths plus seven-tenths.
Are the denominators the same? No.
Are the denominators related? Yes.
The denominators are related 'multiplicatively' because 5 is a factor of 10 and 10 is a multiple of 5.
To add these fractions, we need to change one of the denominators to make the denominators the same.

$$\frac{3}{5} + \frac{7}{10} =$$

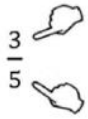
How could we change one of the denominators to make both denominators the same?
How could we change one of the denominators to create a fraction that is equivalent?
Look at this fraction wall.

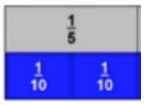


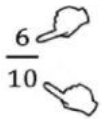
Could we change the fifths into tenths? Yes.
Using the fraction wall, how many tenths are equivalent to three-fifths?
Three-fifths are equivalent to six-tenths.

$$\frac{3}{5} = \frac{6}{10}$$

How could we check whether three-fifths and six-tenths are equivalent fractions using the relationship between the numerator and denominator?
What is the relationship between the numerator and denominator in **three-fifths**?
Is 1, one-fifth of 5? Yes.
Is 2, two-fifths of 5? Yes.
Is 3, three-fifths of 5? Yes.
What is the relationship between the numerator and denominator in six-tenths?
Is 2, one-fifth of 10? Yes.
Is 4, two-fifths of 10? Yes.
Is 6, three-fifths of 10? Yes.
Do the fractions have the same relationship between numerator and denominator?
If the fractions have the same relationship between numerator and denominator, are the fractions equivalent? Yes.







We've investigated creating equivalent fractions through calculation.
We've found that because the relationship between the numerator and denominator in equivalent fractions is multiplicative, we could use multiplication or division to convert one denominator to the other denominator.
When we multiply or divide the numerator and denominator by the same number, we create an equivalent fraction.
We found this because when we multiply or divide the numerator and denominator by the same number, we are multiplying or dividing by 1.
And we know when we multiply of divide by 1, the number remains the same.
So, we changed three-fifths into tenths by multiplying the numerator and denominator by 2.

$$\frac{3 \times 2}{5 \times 2} = \frac{6}{10}$$

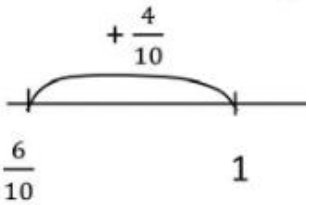
Could we have changed seven-tenths into fifths by dividing the numerator and denominator by 2?
Let's investigate!
I can't divide 7 equally by 2 as the answer is 3 and a half, therefore it makes it very difficult to work with the fraction three and a half, fifths. It's very complicated.
So, to make it easier for ourselves, we will stick to changing our fifths into tenths.

$$\frac{7 \div 2}{10 \div 2} = \frac{3\frac{1}{2}}{5}$$

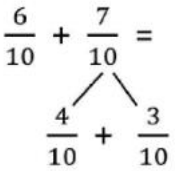
So we've changed our three-fifths into tenths to add them to our seven-tenths.
We will now add these fractions using a number line.
Let's start with six-tenths.
In which direction do numbers get larger on a number line?
If we're starting with six-tenths and adding seven-tenths, we will be getting a bigger fraction.
If we're getting bigger, we will start on the left side of the number line.
If we're getting bigger, six-tenths is our lowest number and will go on the left end of the number line and so we will have room to get larger and move to the right.

$$\frac{6}{10} + \frac{7}{10} =$$

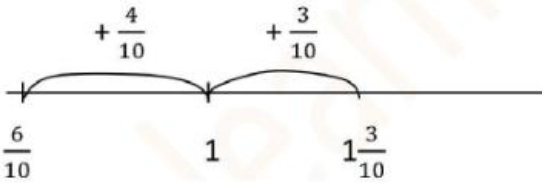
How many tenths will we need to add to make 1?
How many tenths in 1?
Do we have ten-tenths in 1? Yes.
We will need to remember our friends of 10 to make 1. If we add four-tenths will we have 1?



To do this, we partitioned seven-tenths to add it to six-tenths.
We partitioned seven-tenths into four-tenths and three-tenths to add it to the six-tenths to make 1.



Now we need to add the remaining three-tenths of our seven-tenths.
If we have 1 and add three-tenths, will we have 1 and three-tenths? Yes.



Let's record what six-tenths plus seven-tenths equals in a number sentence.

$$\frac{6}{10} + \frac{7}{10} = 1\frac{3}{10}$$

Now we will investigate adding fractions with related denominators without a number line.
We have three-fifths and we want to add six-tenths.
Are fifths and tenths related? Yes.
Let's change our three-fifths into tenths.
To do this, we need to use our knowledge of equivalent fractions.

$$\frac{3}{5} \times \frac{2}{2} = \frac{6}{10}$$

So, we changed three-fifths into tenths by multiplying the numerator and denominator by 2.
We have six-tenths and we want to add seven-tenths. How many tenths will we have?
When we add these two fractions together, because the denominators are the same, they will stay that way. We add the two numerators together to get our answer. The answer is thirteen-tenths.
If there are ten-tenths in 1, how many extra tenths to we have?
Do we have one plus an extra three-tenths?
Do we have 1 and three-tenths?

$$\frac{6}{10} + \frac{7}{10} =$$

$$\frac{6}{10} + \frac{7}{10} = \frac{13}{10}$$

$$\frac{6}{10} + \frac{7}{10} = 1\frac{3}{10}$$

Let's look at the fraction thirteen-tenths.
What do we know the vinculum means?
The vinculum means divided by.
So, does thirteen-tenths mean, thirteen divided by ten?
Thirteen divided by ten is 1 and three-tenths.

$$\frac{13}{10} = 13 \div 10 = 1\frac{3}{10}$$

Let's write our answer using the original number sentence.

$$\frac{3}{5} + \frac{7}{10} = 1\frac{3}{10}$$

How did we add fractions with related denominators?
We changed one-denominator so both denominators are the same.

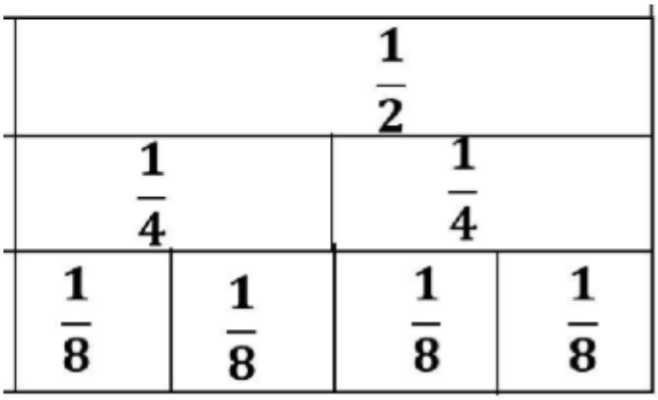
LET'S INVESTIGATE!

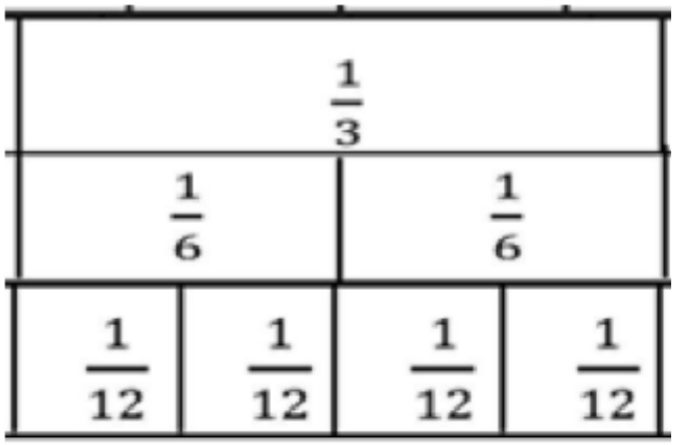
Select cards to make 2 fractions with related denominators (below are some fraction walls with related fractions to help you). Make sure you are choosing fractions that are neither too easy nor too challenging to add.

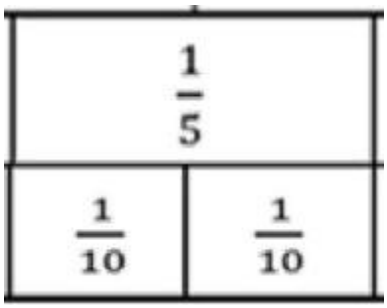
Record the fractions in an addition number sentence.

Add the fractions using place value.

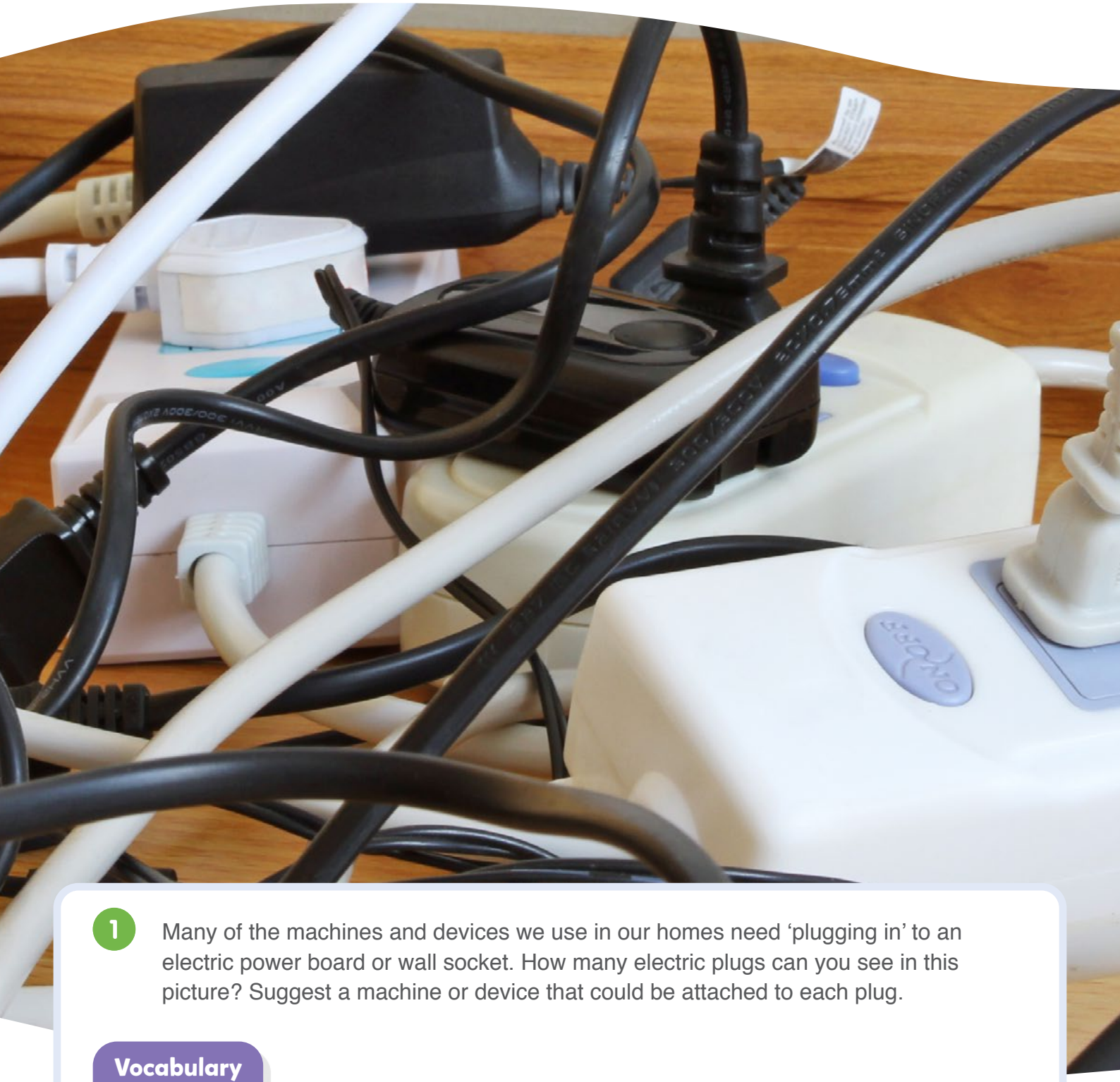
Reflection: How can we add fractions using place value?







How do we use energy in our homes?



1 Many of the machines and devices we use in our homes need 'plugging in' to an electric power board or wall socket. How many electric plugs can you see in this picture? Suggest a machine or device that could be attached to each plug.

Vocabulary

appliance	coolgardie safe	energy usage
technology	mangle	energy bill

2 Watch the video *The Magic Washing Machine*.

3 Pause the video at the photos of Hans' Grandma (at 3:50)

Imagine that you can step into this photo, and that you are Hans' Grandma.

Talk with a partner about how you might answer the following questions:

What is it like to hand wash clothes for seven children?

How does it feel to push the button and watch the washing machine in action?

How do washing machines give you books?

4 Apart from washing machines, what other electrical appliances do we use in our homes to help with daily chores?

Consider the following areas:

- Food storage and cooking
- House cleaning
- Personal hygiene/grooming

Make a list in the left-hand column, then, in the right-hand column, describe how the chore was done 100 years ago.

Appliance/device	What we did 100 years ago

5 Look at the following images of old household objects in museum collections. Use the websites provided to complete the museum's 'exhibit tag'.

OBJECT NAME

USED FOR

HOW IT WORKS

OBJECT NAME

USED FOR

HOW IT WORKS

The electricity we use to run the appliances in our homes is not free. Households are sent regular bills for the amount of energy used.

6 Calculate the annual running cost of some of your household appliances by following these steps:

Step 1 For the appliances listed in the table below, find out the brand and model number of the ones in your house or choose any brand and model number from the drop down menus in Step 2.

Step 2 In the 'Usage' column, write down how many times a week or how many hours a day the appliance is used. For air conditioners, also write down how many months it is used (for cooling and perhaps also heating).

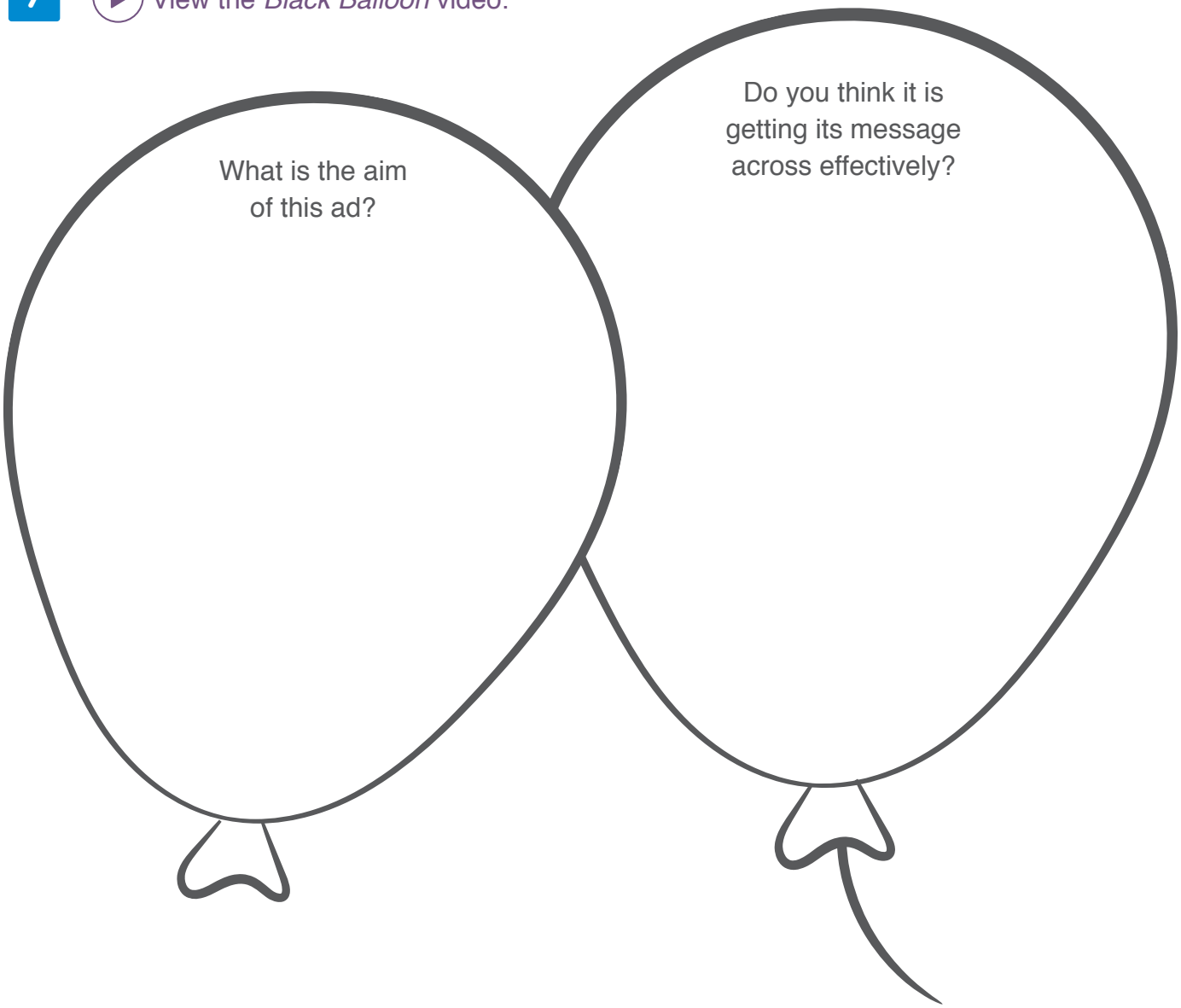
Step 3 Go to the online Energy Rating Calculator, click on the appliance and enter the brand and model number, plus any extra information, such as the number of hours or times the appliance is used every week. (You do not need to enter the purchase price).

Step 4 Write the annual running cost in the table below, and then find the total annual running cost of all six appliances.

Appliance	Brand and model number	Usage details	Annual running cost
Fridge			
TV/Computer monitor			
Dishwasher			
Dryer			
		Total annual running cost for these appliances	

What would be the best ways to cut the energy costs in your house?

7 View the *Black Balloon* video.



Create a storyboard for your own ad with a similar message.

8 In recent years, a lot of technology has been developed that enables robots to do household jobs. What household tasks do you think robots will be doing in the future?

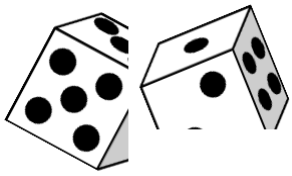
Design a robot that could perform a task that you dislike doing. Label the features of the robot that enable it to do the work.

Week 1 Friday
We are learning to conduct chance experiments.

Today brings an investigation about chance and data.

We've investigated chance and data and we've found that when we have data, we can work out the chance of outcomes of a particular event.

Today we are going to investigate how we can conduct repeated trials of a chance experiment, then use the data that we gain to predict the outcomes of future trials.

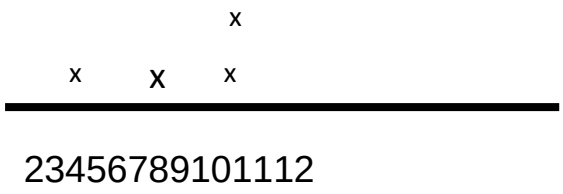


Here we have two dice.

What sum is most likely to occur if we roll two dice? Can we conduct a chance experiment to find out?

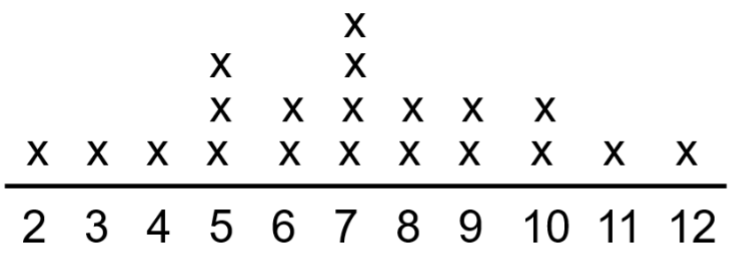
Could we get the sum of 1 when we roll 2 dice? Why not? That's right the lowest we can roll is 2, if both dice land on 1. The highest we can roll is 12 when both dice land on 6.

How many times could we roll the dice? Could we roll the dice 20 times? How could we record the results? Could we record the rolls with a dot plot?



Small Trial: 20 rolls

Let's roll the dice 20 times recording the sum of each roll above the corresponding number on the base line.

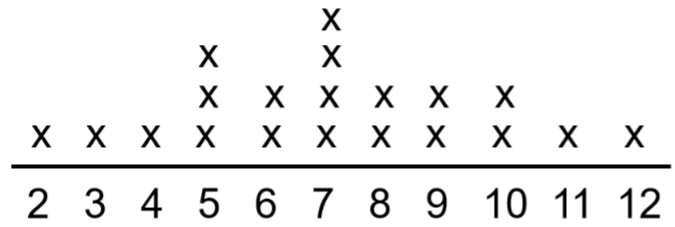


Small Trial: 20 rolls

The question that we wanted to answer by conducting this chance experiment was, “Which sum is most likely to occur if we roll two dice.

Using the data in this experiment, which sum is most likely to occur? Which sum occurred the most frequently in this experiment? Did 7 occur the most frequently? Could we say that using the data from one experiment 7 is the sum most likely to occur.

Frequency means how often does an outcome occur.
Which sums had a frequency of 1? Do 2, 3, 4, 11, 12 have frequencies of 1?
Which sums had a frequency of 2? Do 6, 8, 9, 10 have a frequency of 2?
Does 5 have a frequency of 3? This means, was the sum of 5 rolled 3 times?
Does 7 have a frequency of 4? This means, was the sum of 7 rolled 4 times?
Does 7 have the greatest frequency?



Frequency of 1: 2, 3, 4, 11, 12
Frequency of 2: 6, 8, 9, 10
Frequency of 3: 5
Frequency of 4: 7

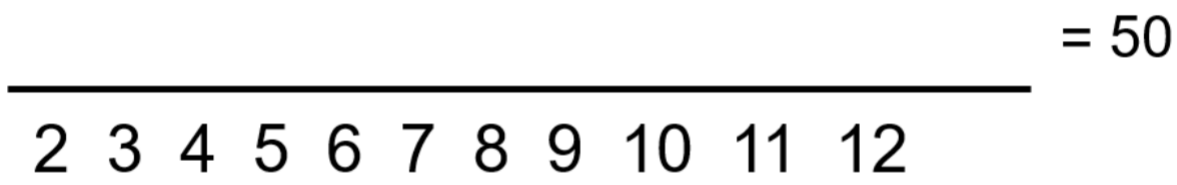
Small Trial: 20 rolls

The sum most likely to occur is 7

How could we use the frequencies in this data to predict the frequencies in larger trials?

Predict the frequency of each sum if we roll the dice 50 times.

Now, complete the experiment and roll the dice 50 times, recording the outcome of each event in a dot plot like this.



So, we have conducted our chance experiment with a small number of trials (20) and a large number of trials (50). Now compare the frequencies from the experiment using a small number of trials with the experiment using a large number of trials. Were the frequencies in both trials similar? Which sum had the greatest frequency? Did 7 still have the greatest frequency?

Have a look at your trials, did 7 have the greatest frequency in your trials? Did 7 have the greatest frequency in everyone's trial? Did you find any surprising frequencies?

Let's compare the frequencies we got from this experiment, to our predicted frequencies. Were the frequencies exactly the same as you predicted? Were the frequencies close to what you predicted? Were there any unpredicted frequencies? Were your predicted frequencies and actual frequencies the same? Why do you think your actual frequencies and predicted frequencies were different?

Were your predicted frequencies ***likely***, but not certain? Did the data we collected in the small trial help us make a reasonable prediction? Which sums occurred more often?

Did the sums in the middle (5, 6, 7, 8, 9) occur more often? Why do you think this happened?

Let's investigate how many different combinations of numbers on two dice give us each sum.

How many combinations of numbers on each dice add to make 2?
Do only 1 + 1 add to make 2? Is there only 1 combination to make 2?

How many combinations of numbers on each dice add to make 3?
does 1 + 2 and 2 + 1 make 3? Are there two combinations that give us the sum of 3?

How many combinations of numbers on each dice add to make 4?

does 1 + 3 make 4? Does 3 + 1 make four? Does 2 + 2 make four? Are there three combinations that give us the sum of four?

How many combinations of numbers on each dice add to make 5?

does 1 + 4, 2+3, 3+2 and 4 + 1 add to make 5? Are there four combinations that add together to make 5?

How many combinations of numbers on each dice add to make 6?

Does 1 + 5, 2 + 4, 3 + 3, 4 + 2, 5 + 1 add together to make 6? Are there 5 combinations that add together to make 6?

How many combinations of numbers on each dice add to make 7?

Does 1+6, 2+5, 4+3, 3+4, 5+2, 6+1 add together to make 7? Are there 6 combinations that can add up from tow dice to make 7?

How many combinations of numbers on each dice add to make 8?

Does 2+6, 3+5, 4+4, 5+3 and 6+2 add together to make 8? Are there 5 combinations that add together to make 8?

How many combinations of numbers on each dice add to make 9?

does 3+6, 4+5, 5+4 and 6+3 add together to make 9? Are there four combinations that can be used to make a sum of 9?

How many combinations of numbers on each dice add to make 10?

Does 4+6, 5+5 and 6+4 go together to make a sum of 10? Are there 3 combinations that can be rolled to give a sum of 10?

How many combinations of numbers on each dice add to make 11?

Does 5+6 and 6+5 give a sum of 11? Are there two combinations that can be rolled to give a sum of 11?

How many combinations of numbers on each dice add to make 12?

Does 6+6 give a total of 12? Is there only 1 combination that can be rolled with two dice to give a sum of 12?

2 = 1 + 1

3 = 1 + 2 = 2 + 1

4 = 1 + 3 = 3 + 1 = 2 + 2

5 = 4 + 1 = 3 + 2 = 2 + 3 = 1 + 4

6 = 5 + 1 = 4 + 2 = 3 + 3 = 2 + 4 = 1 + 5

7 = 6 + 1 = 5 + 2 = 4 + 3 = 3 + 4 = 2 + 5 = 1 + 6

8 = 6 + 2 = 5 + 3 = 4 + 4 = 3 + 5 = 2 + 6

9 = 6 + 3 = 5 + 4 = 4 + 5 = 3 + 6

10 = 4 + 6 = 5 + 5 = 6 + 4

11 = 5 + 6 = 6 + 5

12 = 6 + 6

How many combinations are there all together? Are there 36 possible combinations when we roll two dice?

How many of these possible combinations have a sum of 7? Do 6 of these possible combinations have a sum of 7?

Does 6 out of 36 combinations have a sum of 7? So, if we rolled the dice 36 times, would be predict that we would get a sum of 7 6 times? What if we roll the dice 6 times? Would we predict that we would get a sum of 7 once?

In 36 rolls, we would predict that we would get a sum of 7, 6 times.

In 6 rolls, we would predict that we'd get a sum of 7 once.

In 36 rolls, we would predict that we would get a sum of 2, 1 time.

For each time we roll the dice 6 times would we predict that we would get one sum of 7?

How many of these combinations has a sum of 2? Does 1 of these combinations have a sum of 2? Does 1 out of 36 combinations give out a sum of 2? For each time we roll the dice 36 times, would we predict that we would get a sum of 2 once?

How many times do you predict we would get the other sums if we rolled the dice 36 times?

Now we have some data. We know the frequencies of each number from our small number of trials and our large number of trials. We know which numbers have a greater chance of being rolled with two dice.

Now that we have the data, could we predict chance? Is data necessary to predict chance? Could we use this data to predict the frequencies in a much larger trial, without actually conducting the trial? What do you predict the frequencies would be with 100 trials? If conduct the experiment with 100 trials, would our frequencies be the exact same as we predicted? Would the frequencies be close to what we predicted? Might there be any unpredicted or unexpected frequencies? Why do you think our predicted frequencies ands actual frequencies might be different? Are our predictions likely but not certain? Does the data from smaller trials help us make a reasonable prediction?

Time to investigate!

Frequencies, Predict Larger Trials

Roll 2 dice.

Conduct a chance experiment using a small number of trials, recording the frequencies in a dot plot.

Use the frequencies to predict the frequencies in a larger trial.

Conduct the larger trial.

Compare the frequencies from the 2 trials.

Compare your predicted frequencies from your actual frequencies.

Identify differences, explaining that trials and predictions are likely but not certain.

Use the data from your trials to predict the frequencies in much larger trials of 50, 100, 200, 1000.

Reflection: How can we use data about frequencies in chance experiments to predict the frequencies in larger trials?

Frequencies, Predict Larger Trials

Make a spinner, or use one freely available on the Internet, where numbers / colours / symbols are recorded an equal number of times.

Conduct a chance experiment using a small number of trials, recording the frequencies in a dot plot.

Use the frequencies to predict the frequencies in a larger trial.

Conduct the larger trial.

Compare the frequencies from the 2 trials.

Compare your predicted frequencies from your actual frequencies.

Identify differences, explaining that trials and predictions are likely but not certain.

Use the data from your trials to predict the frequencies in much larger trials of 50, 100, 200, 1000.

Reflection: How can we use data about frequencies in chance experiments to predict the frequencies in larger trials?

Frequencies, Predict Larger Trials

Conduct a chance experiment tossing 1, 2, 3 or 4 coins, using a small number of trials, recording the results in a dot plot.

Use the frequencies to predict the frequencies in a larger trial.

Conduct the larger trial.

Compare the frequencies from the 2 trials.

Compare your predicted frequencies from your actual frequencies.

Identify differences, explaining that trials and predictions are likely but not certain.

Use the data from your trials to predict the frequencies in much larger trials of 50, 100, 200, 1000.

Reflection: How can we use data about frequencies in chance experiments to predict the frequencies in larger trials?

Frequencies, Predict Larger Trials

Conduct a survey with one class at the school, for example, favourite TV show.

Use the data to predict the frequencies in a trial of every class in the school.

Identify any issues with using the data to predict frequencies for all classes, for example, the grade of the trial class may give different results, for example, asking children in Year 1 may give different responses to asking children in Year 5.

Work out a better sample, to provide more reliable data, for example, 2 children from each class, a boy and a girl from each class, etc.

Reflection: How can we use the frequencies from a small number of trials to predict the frequencies in larger numbers of trials?

Why do people migrate?

Why do people migrate?

1. Watch the video on human migration.

2. Write one sentence that summarises the facts about human migration.

3. What do you understand about human migration?

4. From the information in the video, write a question about the future of human migration.

5. Share your thoughts with your partner or class.

Human migration is the movement of people from one place to another with the intention of settling permanently in the new location. The movement is often over long distances and from one country to another. It has been happening for many thousands of years.

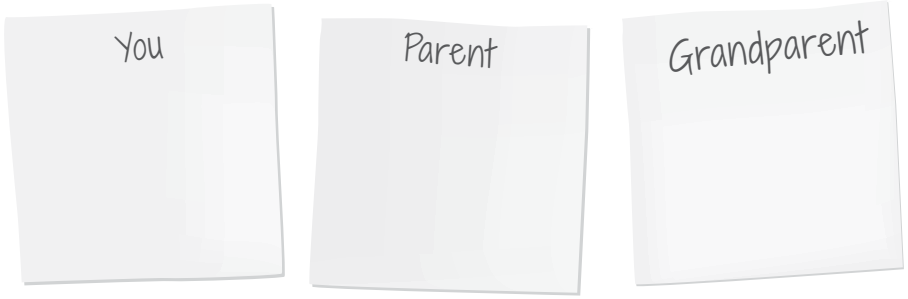
There are many reasons why people migrate. The main ones are **social**, **political**, **economic** and **environmental**.

6. Write the reasons for migration in the correct suitcases. Add some more of your own.

climate	religion	poverty	war	natural disasters
cost of living	oppression	pollution	racism	work
government instability				

7 Most people's families will have migrated at some point in time even if it is within your own country.

a Write the country of birth for yourself and one of your parents and one of your grandparents in the spaces below.



b You and your classmates will need three different coloured sticky notes. One colour for yourself, one colour for your parent and one colour for your grandparent.

Write the country of origin for each person on the correct coloured sticky note.

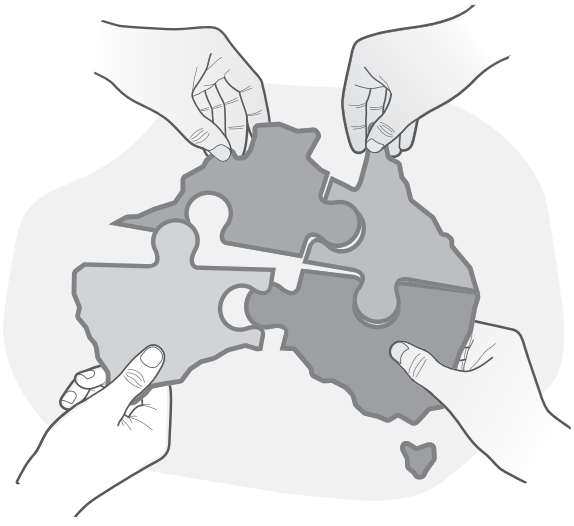
Stick the sticky notes in the correct countries on a large world map.

c When everyone has placed their sticky notes on the map fill out the table below.

What does the map tell you?	What makes you say that?

d The Australian census states that:

25% of Australians were born overseas
20% have at least one parent born overseas
50% have one or more grandparent born overseas

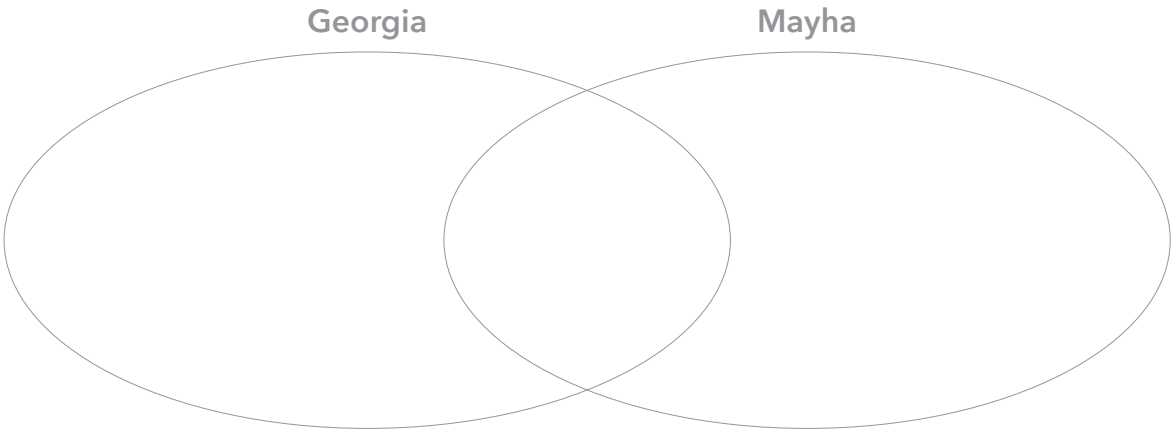


e How does this compare to your class?

8 Watch the video about Migrants and Refugees.

a What is the difference between a refugee and a migrant?

b Complete the Venn Diagram for Georgia and Mahya on the similarities and differences of their experience.



Migration stories are all very different as people move to other countries for many different reasons. Some people choose to leave their country and others are forced to leave. The reasons are classified as **push** and **pull** factors.

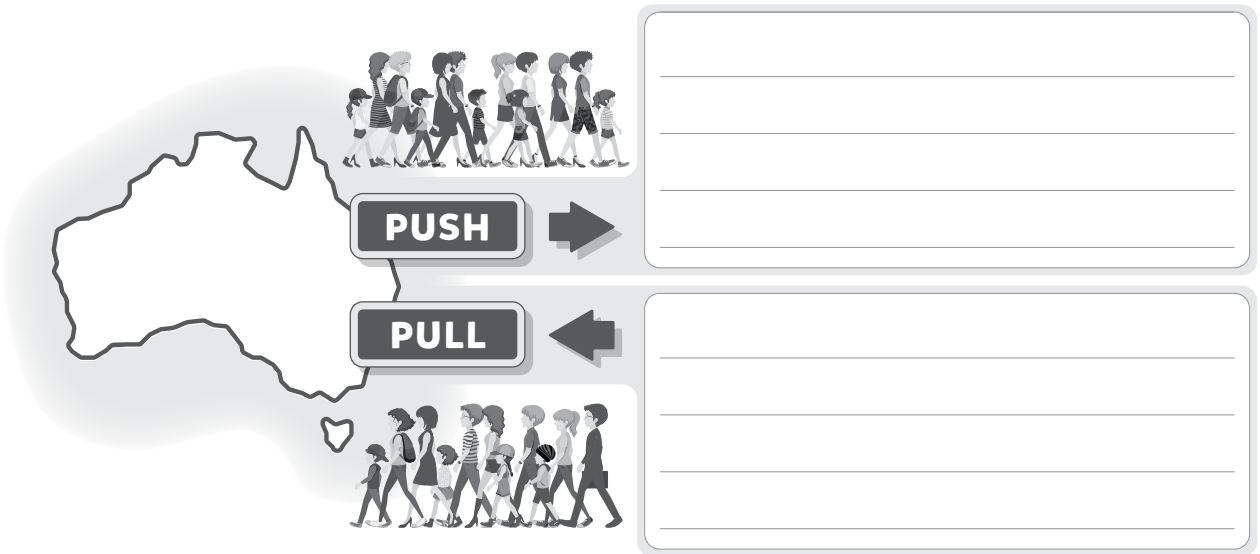
Push factors are those that make people want to **leave** a country.

Pull factors are those that **attract** people to a country.

9

a Write the reasons that you think could **push** a person to migrate to another country.

b Write the reasons that you think could **pull** a person to live in another country. (The information from question 6 may be helpful)



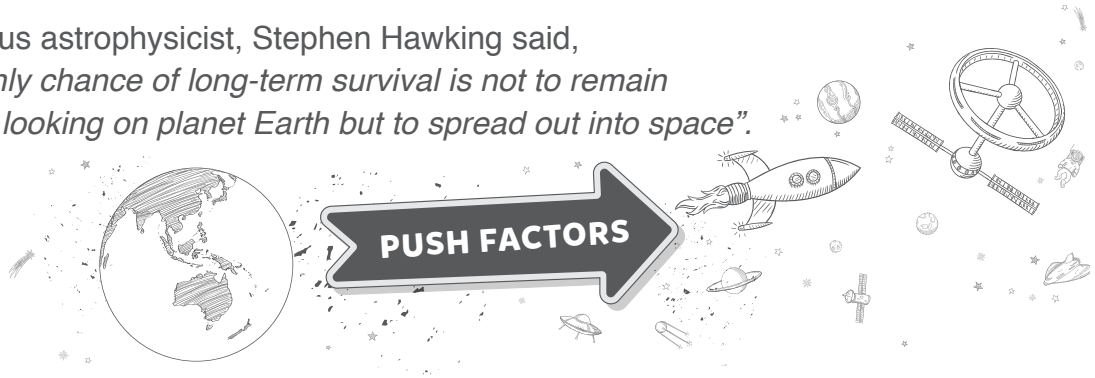
10 The next two questions require you to do an independent inquiry.

You could use the Think/Puzzle/Explore routine to help you with your research.

What do you **think** you know about the topic? What questions or **puzzles** do you have?

How can you **explore** this topic?

A famous astrophysicist, Stephen Hawking said,
"Our only chance of long-term survival is not to remain inward looking on planet Earth but to spread out into space".



Think _____

Puzzle _____

Explore _____

Research the **push** factors that Stephen Hawking says will push humans to migrate to another planet?

Push factors

_____

_____

_____

_____

11

a Find a planet that you think would be suitable for human habitation.

b Describe its positon and the features of the planet.

c What are the **pull** factors that the planet has to encourage humans to migrate to it?

Think _____

Puzzle _____

Explore _____

Planet _____

Pull factors

_____

_____

_____

Human Migration *Student* Knowledge Organiser

Vocabulary	
Word	**Definition**
refugees	
Soviets	
migrant	
immigrant	
emigrant	
refugee camps	
hunger	
persecution	
war	
security	
violence	
displaced	
shelter	

What is Human Migration?

Descriptive language (Use the picture prompt to brainstorm possible weather words to create atmosphere in a quest tale)

Kabul	
Why do people become refugees?	
What is the journey of a refugee like?	
How can we help refugees?	
What are some of the difficulties faced by refugees?	

Timeline — Record key events in Afghani history

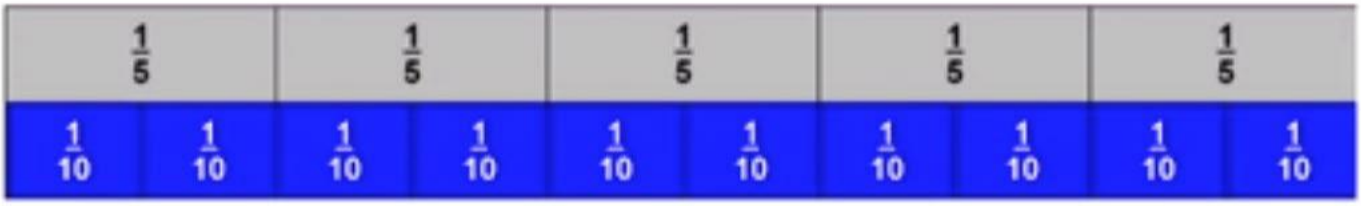
We are learning about subtracting fractions with related denominators.

Today you will be investigating subtracting fractions with the same denominator.
The denominator is the number at the bottom of the fraction.
We have found that when we add we can bridge to whole numbers.
When we do this, we are bridging to ones so we are using place value.

We are going to look at subtracting fractions with related denominators using place value. Look at the number sentence →
This number sentence says seven-tenths minus two-fifths.
Are the denominators the same? No.
Are the denominators related? Yes.
The denominators are related 'multiplicatively' because 5 is a factor of 10 and 10 is a multiple of 5.
To subtract these fractions, we need to change one of the denominators to make the denominators the same.

$$\frac{7}{10} - \frac{2}{5} =$$

How could we change one of the denominators to make both denominators the same?
How could we change one of the denominators to create a fraction that is equivalent?
Look at this fraction wall.



Could we change the fifths into tenths? Yes.
Using the fraction wall, how many tenths are equivalent to two-fifths?
Two-fifths are equivalent to four-tenths.

$$\frac{2}{5} = \frac{4}{10}$$

How could we check whether two-fifths and four-tenths are equivalent fractions using the relationship between the numerator and denominator?
What is the relationship between the numerator and denominator in **two-fifths**?
Is 1, one-fifth of 5? Yes.
Is 2, two-fifths of 5? Yes.
What is the relationship between the numerator and denominator in four-tenths?
Is 2, one-fifth of 10? Yes.
Is 4, two-fifths of 10? Yes.
If the fractions have the same relationship between numerator and denominator, are the fractions equivalent? Yes.

We've investigated creating equivalent fractions through calculation.
We've found that because the relationship between the numerator and denominator in equivalent fractions is multiplicative, we could use multiplication or division to convert one denominator to the other denominator.
When we multiply or divide the numerator and denominator by the same number, we create an equivalent fraction.

$$\frac{2}{5} \times \frac{2}{2} = \frac{4}{10}$$

We found this because when we multiply or divide the numerator and denominator by the same number, we are multiplying or dividing by 1.
And we know when we multiply of divide by 1, the number remains the same.
So, we changed two-fifths into tenths by multiplying the numerator and denominator by 2.

Could we have changed seven-tenths into fifths by dividing the numerator and denominator by 2?
Let's investigate!
I can't divide 7 equally by 2 as the answer is 3 and a half, therefore it makes it very difficult to work with the fraction three and a half, fifths. It's very complicated.

$$\frac{7}{10} \div \frac{2}{2} = \frac{3\frac{1}{2}}{5}$$

So, to make it easier for ourselves, we will stick to changing our fifths into tenths.
So we've changed our two-fifths into tenths to add them to our seven-tenths.
We will now subtract these fractions using a number line.

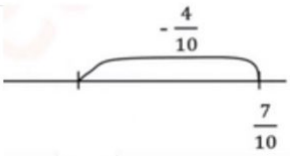
First, we will record our number line.

$$\frac{7}{10} - \frac{4}{10} =$$

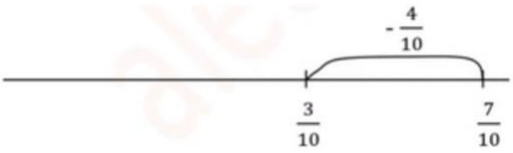
In which direction do numbers get smaller on a number line? If we're getting smaller, we will start on the right side of the number line.

Record seven-tenths on the right side of your number line.

Now we will record a jump backwards and show that we are subtracting four-tenths.



Seven-tenths minus four-tenths equals three-tenths



Now we will record it in our equation.

$$\frac{7}{10} - \frac{4}{10} = \frac{3}{10}$$

Now we will record our answer in the original equation.
Seven-tenths minus two-fifths equals three-tenths.

$$\frac{7}{10} - \frac{2}{5} = \frac{3}{10}$$

Now we will do this without a number line.
First, we record the equation.
We have seven-tenths and want to subtract two-fifths.
Let's change two-fifths into tenths.
Now we have seven-tenths and want to subtract four-tenths.

$$\frac{7}{10} - \frac{2}{5} = \frac{7}{10} - \frac{4}{10} =$$

We now subtract seven-tenths from four-tenths. Seven-tenths minus four-tenths is three-tenths.

$$\frac{7}{10} - \frac{4}{10} = \frac{3}{10}$$

LET'S INVESTIGATE!

Select cards to make 2 fractions with related denominators (below are some fraction walls with related fractions to help you). Make sure you are choosing fractions that are neither too easy nor too challenging to add.

Record the fractions in a subtraction number sentence.

Subtract the fractions using place value.

Reflection: How can we subtract fractions using place value?