

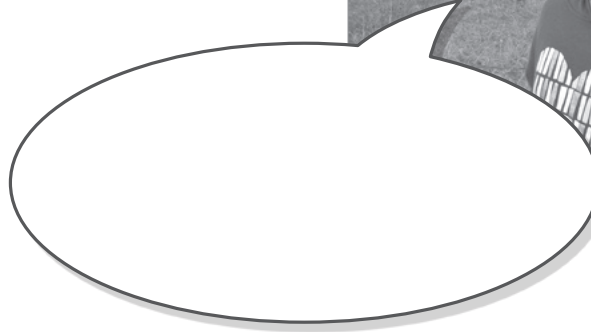
Year 5, Week 10 Learning Grid

Reading Read for at least 20 minutes each day. Once completed, colour in the square. <table><tr><td>Monday</td><td>Tuesday</td><td>Wednesday</td><td>Thursday</td><td>Friday</td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></table> •Log in to Literacy Pro and choose some books to read based on your Lexile level. •Search Literacy Pro and choose the site Scholastic Learning Zone. •Choose Australia as the country. •Org ID: 5CCG (all capitals) •Go to the library tab. •Read the book at least 3 times before you try the quiz.	Monday	Tuesday	Wednesday	Thursday	Friday						Writing Use the stimulus to persuade whether animals should be caged. Remember to plan using the block planner and edit your work. Grammar (SOTD) Revise the types of sentences: Simple sentence Compound sentence Complex sentence Vocabulary Dual code the following words: maggots, pickpocket, coves, droppings, ragged, huts, oysters, hymns, petticoat.	Mathematics ♦Practise multiplication and division by working on your level ♦Practise addition and subtraction by working on your level. ♦Problem solve the following questions: What is 6.627 x 10? What is 6.627 x 100? What is 6.627 x 1000? What number did Max multiply by 100? What is 52.46 ÷ 10 ? What is 524.7 ÷ 100? What is 524.7 ÷ 1000? What number did Max divide by 100?
Monday	Tuesday	Wednesday	Thursday	Friday								
												
HSIE Log in to Inquisitive and do the bookmarked lessons. The instructions are below: Log in to : http://inq.co/class/h4g Enter the code : 7241 Look through the lessons that are available.	Science Log in to Inquisitive and do the bookmarked lessons. The instructions are below: Log in to: http://inq.co/class/h4g Enter the code: 7241 Look through the lessons that are available.	Creative Arts / Physical Education Create an artwork using lines and patters to dot paint the aerial of your home. Go outside and play a game. Explain the rules of your favourite sport. Do 30 minutes of physical activity each day. Get skilled—get active : https://www.youtube.com/playlist?list=PLrOa7LNP0maWa6EPInkvHlk3VsBqhuMZq										

What was life like in the Australian Colonies?

1

- a**  Watch the Video: **Nel's story**. Nel is a nine-year-old girl living on a farm in the Snowy Mountains of New South Wales.
- b** What was Nel's request at the end of her video?



2

Which historical clues did Nel come across which led her to finding out about Reuben Rose, a member of the first family to settle on her farm? Sketch and label them below.

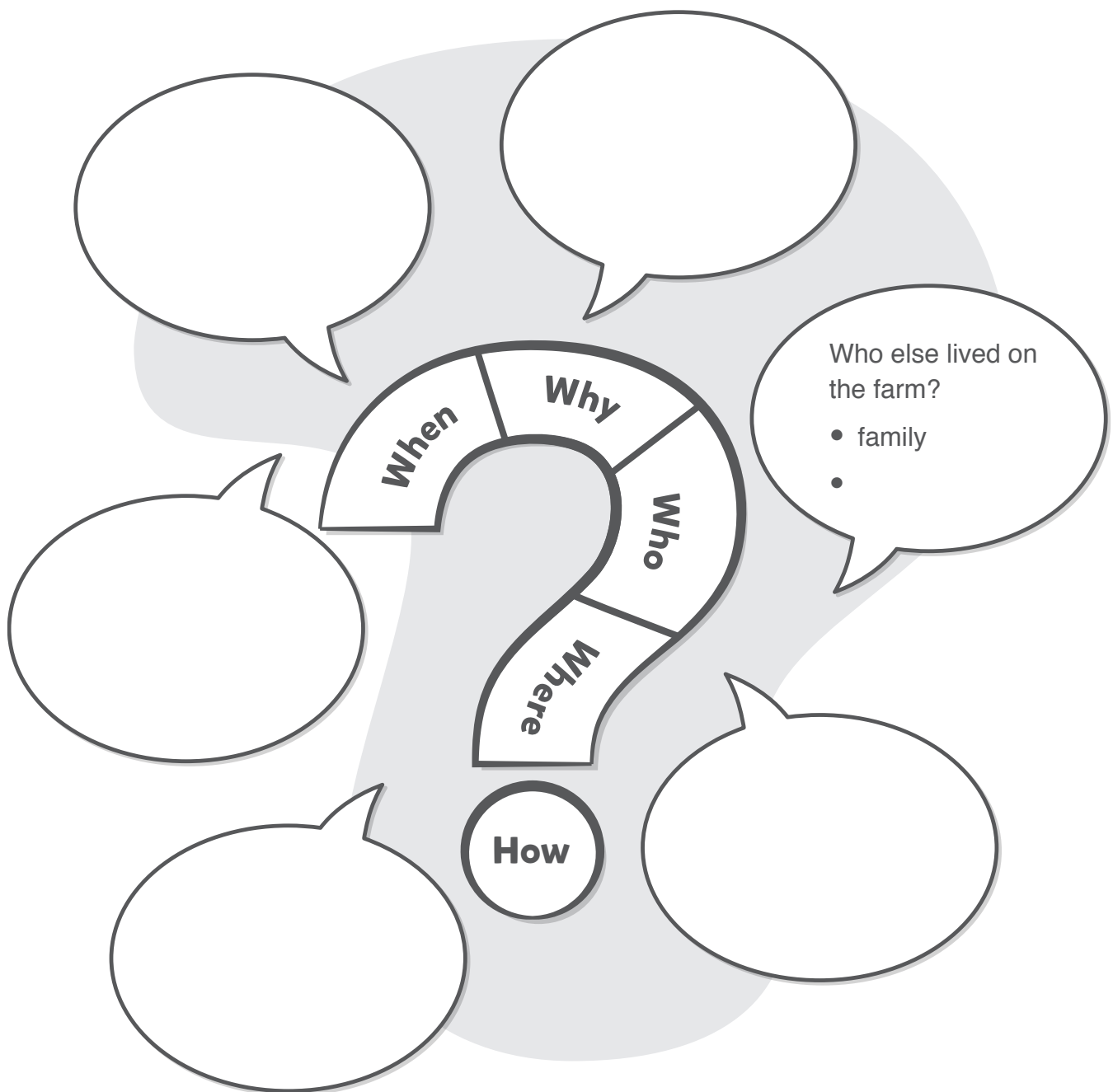
3

To complete Nel's request you must step into Reuben Rose's world, on to a farm in the 1840s.

On the next page, create, research and answer some inquiry questions about a child's life on a farm in colonial times. One question has been started for you.

Asking questions

Title: _____



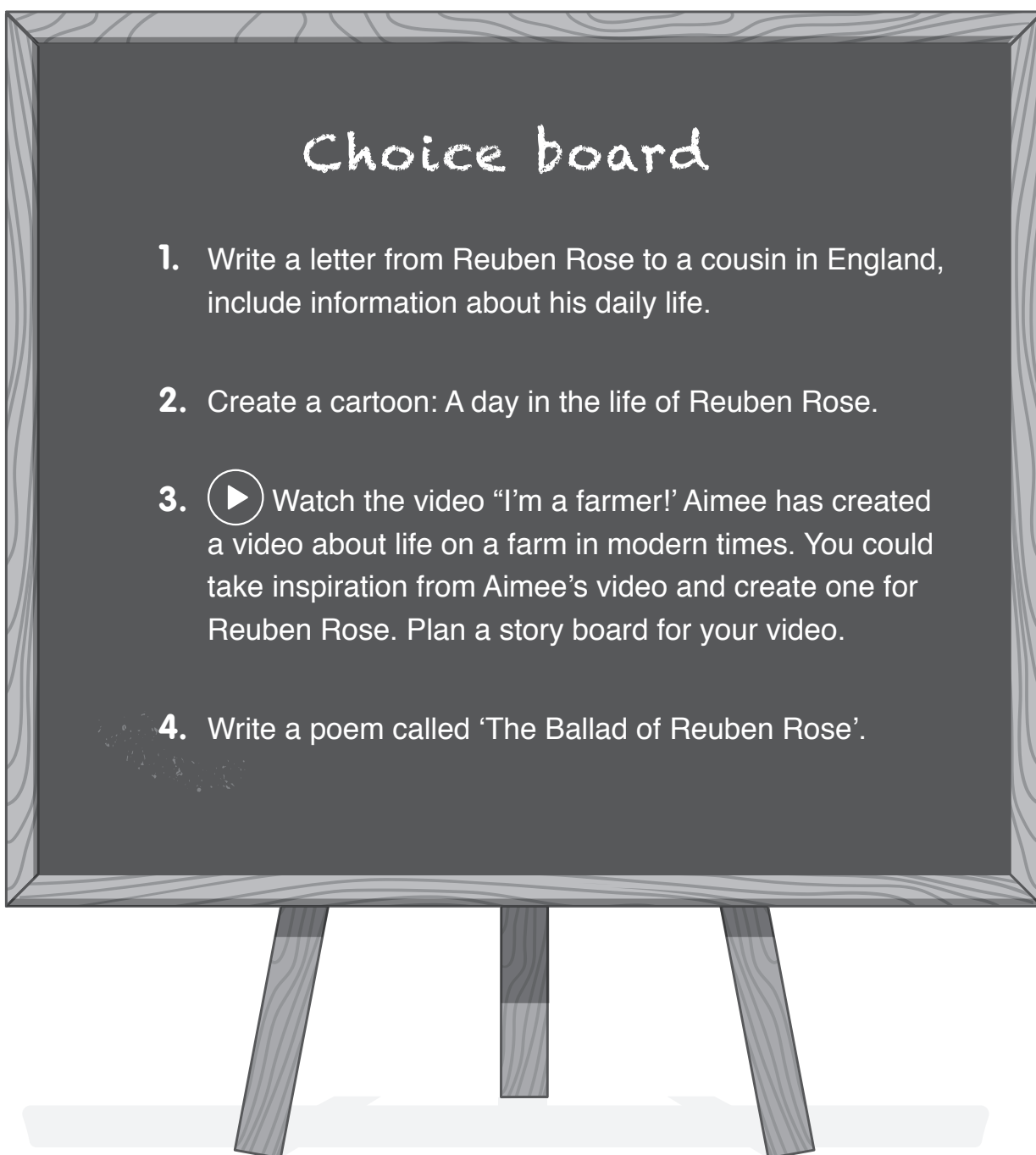
Some research tips.

-  Take a tour of the McCrae homestead and listen to George's description of colonial life.
-  View the old photographs and images to learn more about life on the land in colonial times.
- Revisit the sources you analysed in lesson three, such as the artefacts and Arthur's letter.

4

After gathering information to answer their inquiry questions, historians then combine their evidence to create a narrative about life in the past. To create an engaging narrative, historians often mix historical facts with their own imagination. It is impossible to know every detail about the past; you must therefore use a little creativity to communicate your information effectively.

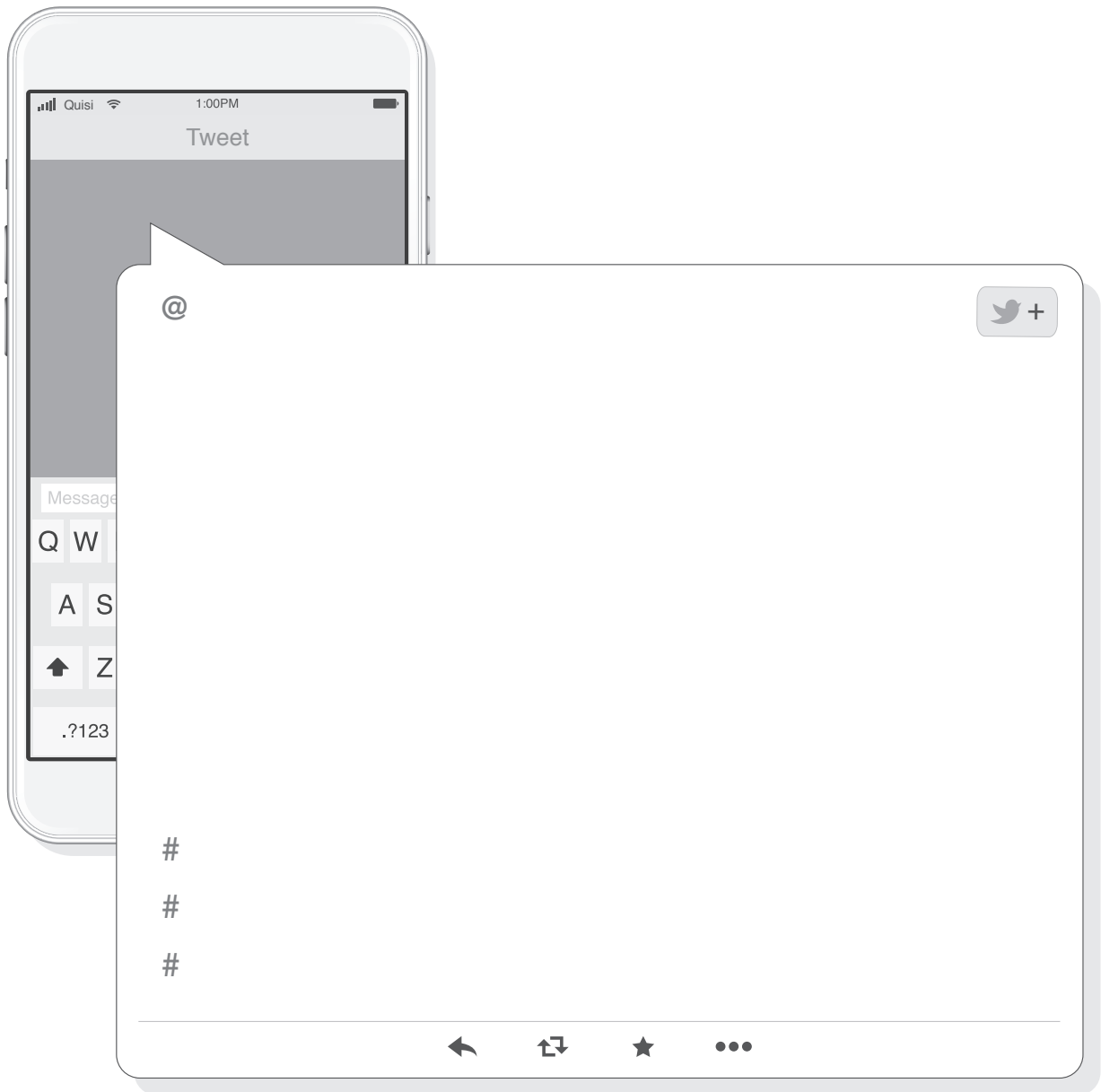
How would you like to communicate your information about Reuben Rose's daily life? Read the choice board menu below for some ideas.



My choice board activity is: _____

5

- a** Reflect on your work with an activity tweet. Tweet about your presentation and create some hash tags about things you've learned.



- b** Share your tweet with others.

6

The world record for shearing the most number of sheep was set in 1892! Why will this record never be broken?

2Watch the video *What makes a planet a planet?***a** What are the three rules for a planet to be classified as a planet?

1.

2.

3.

b How can you explain the third rule?
(Hint: What experiment did the scientists perform?)**c** Why is Pluto now classified as a dwarf planet?

3

- a**  Take a tour of the solar system by visiting these interactive websites.
- b** On your tour, find information to complete the table.



	Planet	Length of day (Rotation on its axis)	Equatorial diameter	Surface temperature	Orbit (Revolution around the Sun)	Fun fact
Inner planets (Terrestrial)	Mercury					
	Venus					
	Earth					
	Mars					
Asteroid Belt						
Outer planets (Gas)	Jupiter					
	Saturn					
	Uranus					
	Neptune					

4

- a** Now that you know about each of the planets, complete the CSI routine for three of them based on their properties.
- b** See if your friends can guess which planet your CSI is based on.



Planet	Colour	Symbol	Image

Planet	Colour	Symbol	Image

Planet	Colour	Symbol	Image

5 Investigate a dwarf planet in the solar system.

Pluto

Eris

Haumea

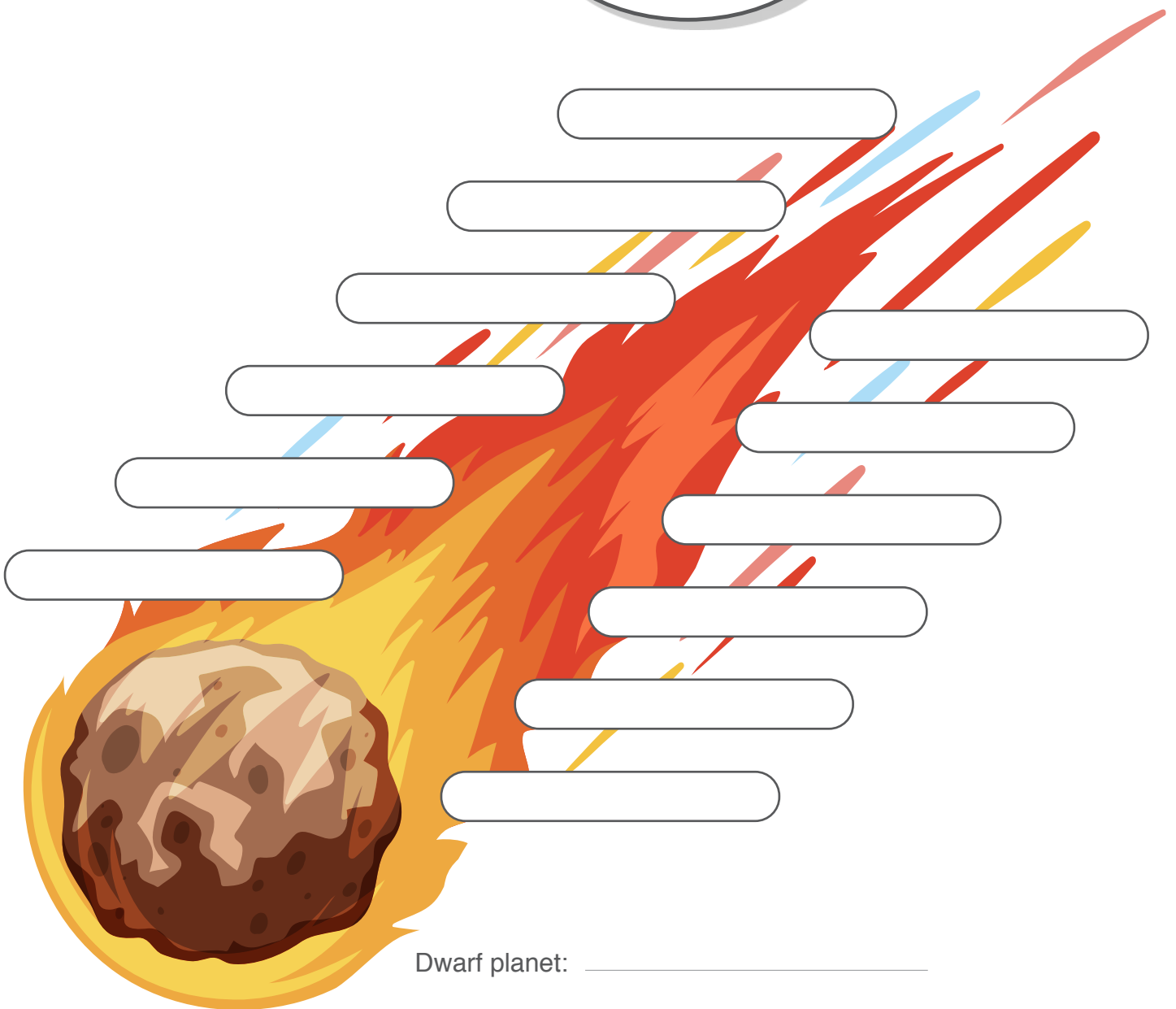
Luna

Makemake

Design an infographic about your dwarf planet.
(Check out the infographic at the start of the lesson for ideas.)

- a** Record your information
and facts on the graphic organiser.

Write your
supporting facts and
details along the
comet tail.



Dwarf planet: _____

b Design your infographic in the box below.

6 Imagine moving to another planet in our solar system.



a Choose your planet and describe its location and main features.

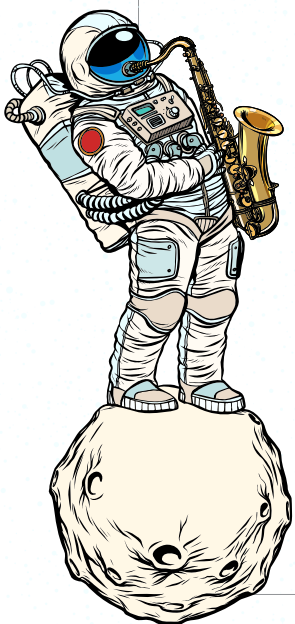
b Imagine what you would need to survive on this planet. Brainstorm a list of items and equipment you would need to take from Earth to live on this planet or celestial body.

Think about why you would need this item. Remember, the sky's the limit!

7

Can you hear sound in space?

Conduct your own investigation and explain your findings in a presentation or brainstorm map.



We are writing to persuade.

Caged or Free – Should animals be kept in zoos?

What do you think about this idea? Write to persuade a reader to agree with your point of view.

Think about:

- if you agree or disagree or if you can see both sides of the topic
- an introduction – clearly say what you think about the topic
- your opinions – give reasons or examples to explain them and be persuasive
- a conclusion – a summary of your main points and a final comment on your opinion

Remember to:

- plan your writing before you begin
- make your writing interesting to read
- write in sentences and stay on the topic
- check your spelling and punctuation
- use words that will persuade your reader
- start a new paragraph for each new idea
- check and edit your writing when you are finished



We are

Themes from the novel 'Birrung the Secret Friend'

include:

- ◆ Indigenous History and Culture
- ◆ Colonial Society
- ◆ Racism and Prejudice
- ◆ Women's Rights
- ◆ Agricultural Self Sufficiency
- ◆ Religion
- ◆ Friendship and Love

Identify and justify the following themes in the excerpts.

Day 1: I was away when Birrung and Mr Johnson went as hostages to stay with Bennelong's wife, Barangaroo, while Bennelong went to see Governor Phillip, who had been badly wounded by an Indian, to try to make peace between the colonists and the Indians. If I hadn't been working at the Kissing Point gardens, I could have been a hero like Mr Johnson, risking my life to try to make the colony safe.

I could have spent the whole day with Birrung. I was away working the next time she visited too. Sally said another Indian girl had come with Birrung, and Mrs Johnson said that Elsie had gone for a walk with them. I didn't know whether to be jealous that she was with them, not me, or worried that it was late afternoon, and she wasn't back.

Day 2: It was the summer of 1793 the last time I saw Birrung. It was hot, but the ants were building their castles, the ones Birrung had told me meant that it would rain, so I was up on the hillside above the harbour, cutting bark to roof the new church instead of lugging buckets of water to the vegetables: the rain would do the watering for me soon enough.

It wasn't much of a church, not like the stone ones back in England. But no one was going to order convicts to build one in Australia, even though Mr Johnson said the governor's instructions from England had been clear that one was to be built.

Mr Johnson was still preaching in the fields or the old storeroom with the rotting roof when it rained. I wasn't no builder, just like I hadn't been no farmer, but every man in the colony learned how to put up wattle and daub, unless their brains were too rotted with rum to care if they had a roof at all.

Day 3: The seagulls yelled and the waves danced. I piled up sheet after sheet of bark. Someone pointed down the road. They yelled, 'Sails ahoy!' And there was Birrung. She wore her white petticoat, her feet bare and dusty, her hair frizzy like all the Indians', not plaited straight like it had mostly been when she lived with us. She walked like she didn't hear the shouts of the men, the whistles. I grabbed my axe — you couldn't put a tool down in the colony without some lag pinching it and ran up to her.

Monday (Week 10)

LI: We are learning to produce fluent and legible handwriting.

TEXT CARD 1

The Establishment of Australian Penal Colonies

Captain Arthur Phillip and the First Fleet, comprising of 11 ships and around 1,350 people, arrived at Botany Bay between the 18th and 20th of January 1788. However, this area was deemed to be unsuitable for settlement and they moved north to Port Jackson on the 26th of January 1788. They landed at Camp Cove, known as 'cadi' to the Cadigal people. Governor Phillip carried instructions to establish the first British Colony in Australia.

Tuesday (Week 10)

LI: We are learning to produce fluent and legible cursive handwriting.

TEXT CARD 2

Convicts

New South Wales was settled as a penal colony – a place where Britain could send convicted criminals because her prisons were overcrowded. Many convicts had grown up in poverty and committed only minor offences, such as the theft of a loaf of bread. Conditions in the new colony were little better than at home. It took many years for British settlers to understand the different environment of the new colony, and disease and malnutrition were widespread during the first decades of settlement.

Wednesday (Week 10)

LI: We are learning to produce fluent and legible handwriting.

TEXT CARD 3

The Expansion of Australian Colonies

The first wave of migrants to Australia included men of capital who were attracted by the colony's agricultural prospects and the availability of convict labour. By the end of the 1850s there were six separate Australian colonies. These colonies included New South Wales, Tasmania, Western Australia, South Australia, Victoria and Queensland. The six Australian colonies were governed independently of each other, but during the second half of the 19th century there was a growing sense of Australian identity.

Thursday (Week 10)

LI: We are learning to produce fluent and legible cursive handwriting.

TEXT CARD 4

The Myth of Terra Nullius

In 1770 Captain James Cook landed in Botany Bay, home of the Eora people, and claimed possession of Australia for Britain under the doctrine of 'terra nullius'. 'Terra nullius' translated means 'land belonging to no one'. From the time of first arrival the British Government acted as if Australia was uninhabited. Instead of admitting they were invading land that belonged to Aboriginal people, Britain acted as if they were settling empty land. This is what is meant by the myth of terra nullius.

Friday (Week 10)

LI: We are learning to produce fluent and legible handwriting.

TEXT CARD 5

The Consequences of British Invasion

The colonisation of Australia had a devastating impact on the Indigenous people who had lived on the land for over 60,000 years. The most immediate consequence of colonisation was a wave of epidemic diseases including smallpox, measles and influenza. These diseases spread ahead of the settlement frontier and annihilated many Indigenous communities. Governor Phillip reported that smallpox had killed half of the Indigenous people in the Sydney region within fourteen months of the arrival of the First Fleet.

Example of how letters should be formed on the lines below:

aqua handle

Handwriting practice lines consisting of solid top and bottom lines with a dashed midline for letter height guidance. The page contains 15 sets of these three-line guides.

Example of how letters should be formed on the lines below:

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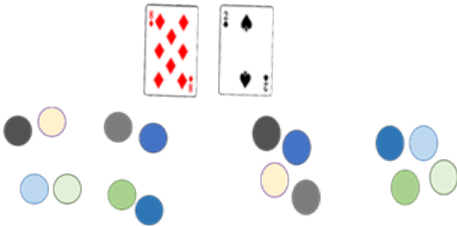
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MULTIPLICATION AND DIVISION DIFFERENTIATION LEVELS

MD 1, 2 Divide in 2 ways – into 'groups of 2' and '2 equal groups'



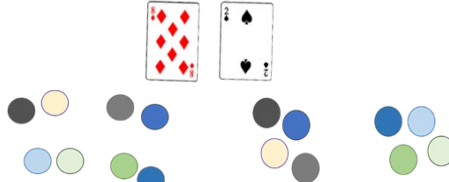
Groups of 2 2 equal groups

MD 5 Divide into equal rows (array) describe using 2 division and 2 multiplication number sentences



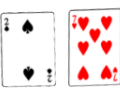
$12 \div 6 = 2$
 $12 \div 2 = 6$
 $2 \times 6 = 12$
 $6 \times 2 = 12$

MD 7, 8 Divide in 4 ways – into 'groups of 2' and '2 equal groups'



Groups of 2 2 equal groups
 $8 \div 2 = 4$ $8 \div 2 = 4$

MD 10 Multiply by 2
Distributive property



$2 \times 7 = 14$
 $5 + 2$
 $2 \times 5 = 10$
 $2 \times 2 = 4$
 $10 + 4 = 14$

MD 10 PA 17 Divide by 2
Related to halving



$15 \div 2 = 7 \text{ r}1$ $\frac{1}{2} \text{ of } 15 = 7 \text{ r}1$
 $10 + 5$
 $4 + 1$
 $10 \div 2 = 5$ $\frac{1}{2} \text{ of } 10 = 5$
 $4 \div 2 = 2$ $\frac{1}{2} \text{ of } 4 = 2$
 $5 + 2 = 7$

MD 11 Multiply by 4
Distributive property



$4 \times 7 = 28$
 $5 + 2$
 $4 \times 5 = 20$
 $4 \times 2 = 8$
 $20 + 8 = 28$

MD 10 Divide by 4
Related to quartering



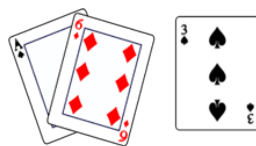
$37 \div 4 = 9 \text{ r}1$ $\frac{1}{4} \text{ of } 37 = 9 \text{ r}1$
 $20 + 17$
 $16 + 1$
 $20 \div 4 = 5$ $\frac{1}{4} \text{ of } 20 = 5$
 $16 \div 4 = 4$ $\frac{1}{4} \text{ of } 16 = 4$
 $5 + 4 = 9$

MD 12 Multiply by 3
Distributive property



$3 \times 7 = 21$
 $5 + 2$
 $3 \times 5 = 15$
 $3 \times 2 = 6$
 $15 + 6 = 21$

MD 12 Divide by 3
Related to thirding



$16 \div 3 = 5 \text{ r}1$ $\frac{1}{3} \text{ of } 16 = 5 \text{ r}1$
 $9 + 7$
 $6 + 1$
 $9 \div 3 = 3$ $\frac{1}{3} \text{ of } 9 = 3$
 $6 \div 3 = 2$ $\frac{1}{3} \text{ of } 6 = 2$
 $3 + 2 = 5$

MD 13 Multiply by 5
Distributive property

MD 13 Divide by 5
Related to fifthing

$$\begin{array}{r} 5 \times 7 = 35 \\ \swarrow \searrow \\ 5 + 2 \end{array}$$

$$\begin{array}{l} 5 \times 5 = 25 \\ 5 \times 2 = 10 \\ 25 + 10 = 35 \end{array}$$

$$\begin{array}{r} 37 \div 5 = 7r2 \\ \swarrow \searrow \\ 20 + 17 \\ \swarrow \searrow \\ 15 + 2 \\ 20 \div 5 = 4 \\ 15 \div 5 = 3 \\ 4 + 3 = 7 \end{array} \quad \begin{array}{r} \frac{1}{5} \text{ of } 37 = 7r2 \\ \swarrow \searrow \\ 20 + 17 \\ \swarrow \searrow \\ 15 + 2 \\ \frac{1}{5} \text{ of } 20 = 4 \\ \frac{1}{5} \text{ of } 15 = 3 \\ 4 + 3 = 7 \end{array}$$

MD 14 Multiply by 9
Distributive property

MD 14 Divide by 9
Related to ninthing

$$\begin{array}{r} 9 \times 7 = 63 \\ \swarrow \searrow \\ 5 + 2 \end{array}$$

$$\begin{array}{l} 9 \times 5 = 45 \\ 9 \times 2 = 18 \\ 45 + 18 = 63 \end{array}$$

$$\begin{array}{r} 71 \div 9 = 7r8 \\ \swarrow \searrow \\ 27 + 44 \\ \swarrow \searrow \\ 36 + 8 \\ 27 \div 9 = 3 \\ 36 \div 9 = 4 \\ 3 + 4 = 7 \end{array} \quad \begin{array}{r} \frac{1}{9} \text{ of } 71 = 7r8 \\ \swarrow \searrow \\ 27 + 45 \\ \swarrow \searrow \\ 36 + 8 \\ \frac{1}{9} \text{ of } 27 = 3 \\ \frac{1}{9} \text{ of } 36 = 4 \\ 3 + 4 = 7 \end{array}$$

MD 15 Multiply by 6
Distributive property

MD 15 Divide by 6
Related to sixthing

$$\begin{array}{r} 6 \times 7 = 42 \\ \swarrow \searrow \\ 5 + 2 \end{array}$$

$$\begin{array}{l} 6 \times 5 = 30 \\ 6 \times 2 = 12 \\ 30 + 12 = 42 \end{array}$$

$$\begin{array}{r} 23 \div 6 = 3r5 \\ \swarrow \searrow \\ 12 + 11 \\ \swarrow \searrow \\ 6 + 5 \\ 12 \div 6 = 2 \\ 6 \div 6 = 1 \\ 2 + 1 = 3 \end{array} \quad \begin{array}{r} \frac{1}{6} \text{ of } 23 = 3r5 \\ \swarrow \searrow \\ 12 + 11 \\ \swarrow \searrow \\ 6 + 5 \\ \frac{1}{6} \text{ of } 12 = 2 \\ \frac{1}{6} \text{ of } 6 = 1 \\ 2 + 1 = 3 \end{array}$$

MD 16 Multiply by 8
Distributive property

$$8 \times 7 = 56$$

$$5 + 2$$

$$8 \times 5 = 40$$

$$8 \times 2 = 16$$

$$40 + 16 = 56$$

MD 16 Divide by 8
Related to eighthing

$$55 \div 8 = 6r7$$

$$40 + 15$$

$$8 + 7$$

$$40 \div 8 = 5$$

$$8 \div 8 = 1$$

$$5 + 1 = 6$$

$$\frac{1}{8} \text{ of } 55 = 6r7$$

$$40 + 15$$

$$8 + 7$$

$$\frac{1}{8} \text{ of } 40 = 5$$

$$\frac{1}{8} \text{ of } 8 = 1$$

MD 17 Multiply by 7
Distributive property

$$7 \times 6 = 42$$

$$5 + 1$$

$$7 \times 5 = 35$$

$$7 \times 1 = 7$$

$$35 + 7 = 42$$

MD 17 Divide by 7
Related to seventhing

$$37 \div 7 = 5r2$$

$$21 + 16$$

$$14 + 2$$

$$21 \div 7 = 3$$

$$14 \div 7 = 2$$

$$3 + 2 = 5$$

$$\frac{1}{7} \text{ of } 37 = 5r2$$

$$21 + 16$$

$$14 + 2$$

$$\frac{1}{7} \text{ of } 21 = 3$$

$$\frac{1}{7} \text{ of } 14 = 2$$

MD 23 FD 21 Divide by single-digit numbers,
dividing remainders to create fractions

$$77 \div 6 = 12\frac{5}{6}$$

$$60 + 17$$

$$12 + 5$$

$$60 \div 6 = 10$$

$$12 \div 6 = 2$$

$$5 \div 6 = \frac{5}{6}$$

$$10 + 2 + \frac{5}{6} = 12\frac{5}{6}$$

$$\frac{1}{6} \text{ of } 77 = 12\frac{5}{6}$$

$$60 + 17$$

$$12 + 5$$

$$\frac{1}{6} \text{ of } 60 = 10$$

$$\frac{1}{6} \text{ of } 12 = 2$$

$$\frac{1}{6} \text{ of } 5 = \frac{5}{6}$$

MD 24 Multiply two-digit numbers
Distributive property

$$93 \times 74 = 6882$$

$$70 + 4$$

$$90$$

$$+ 3$$

$$6300$$

$$360$$

$$210$$

$$12$$

$$90 \times 70 = 9 \times 10 \times 7 \times 10 = 63 \times 100 = 6300$$

$$90 \times 4 = 9 \times 10 \times 4 = 36 \times 10 = 360$$

$$3 \times 70 = 7 \times 10 \times 3 = 70 \times 3 = 210$$

$$3 \times 4 = 12$$

$$6300 + 360 + 210 + 12 = 6882$$



MD 26 FD 27 Division is
Multiplication by a Fraction

$$\begin{array}{rcl}
 56 \div 4 = & & \frac{1}{4} \times 56 = \\
 \swarrow \quad \searrow & & \swarrow \quad \searrow \\
 40 + 16 & & 40 + 16 \\
 40 \div 4 = 10 & & \frac{1}{4} \times 40 = 10 \\
 16 \div 4 = 4 & & \frac{1}{4} \times 16 = 4 \\
 10 + 4 = 14 & &
 \end{array}$$

MD 25 Multiply decimals by whole
numers and powers of 10

$$9.3 \times 74 = 688.2$$

	70	+	4
9	630		36
+			
0.3	21		1.2

$$9 \times 70 = 9 \times 7 \times 10 = 63 \times 10 = 630$$

$$0.3 \times 70 = 0.3 \times 10 \times 7 = 3 \times 7 = 21$$

$$0.3 \times 4 = \frac{3}{10} \times 4 = \frac{12}{10} = 1.2$$

$$630 + 36 + 21 + 1.2 = 688.2$$

MD 25 Divide decimals by whole
numers and powers of 10

$$35.7 \div 4 = 8.925$$

$$\begin{array}{rcl}
 32 + 3.7 & & \\
 \swarrow \quad \searrow & & \\
 3.6 + 0.1 & &
 \end{array}$$

Change the
decimal to a
fraction, divide.

$$32 \div 4 = 8$$

$$3.6 \div 4 = 0.9$$

$$\frac{1}{4} \times 32 = 8$$

$$\frac{1}{4} \times 3.6 = 0.9$$

Multiply the
decimal by 10,
divide, then divide
the product by 10.

$$0.1 \div 4 =$$

$$\frac{1}{10} \div 4 =$$

$$\frac{10}{100} \div 4 =$$

$$\frac{100}{1000} \div 4 = \frac{25}{1000}$$

$$= 0.025$$

$$\frac{1}{4} \times 0.1 =$$

$$\frac{1}{4} \times \frac{1}{10} =$$

$$\frac{1}{4} \times \frac{10}{100} =$$

$$\frac{1}{4} \times \frac{100}{1000} = \frac{25}{1000}$$

$$= 0.025$$

$$0.1 \div 4 =$$

$$1 \div 4 \div 10 =$$

$$0.25 \div 10 =$$

$$0.25 \div 10 = 0.025 \quad 0.25 \div 10 = 0.025$$

$$\frac{1}{4} \times 0.1 =$$

$$\frac{1}{4} \times 1 \div 10 =$$

$$0.25 \div 10 =$$

$$8 + 0.9 + 0.025 = 8.925$$

$$\frac{1}{2} \text{ of } 12 = 6$$

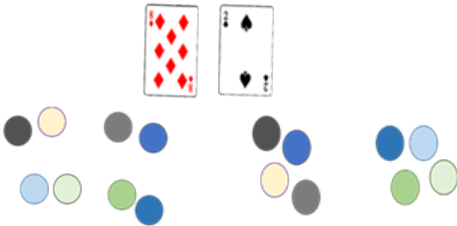


$$\frac{1}{2} \times 12 = 6$$

When we divide by 2, we are making the number a half times as big.
When we divide by 2, we are multiplying by a half.

MULTIPLICATION AND DIVISION DIFFERENTIATION LEVELS

MD 1, 2 Divide in 2 ways – into 'groups of 2' and '2 equal groups'



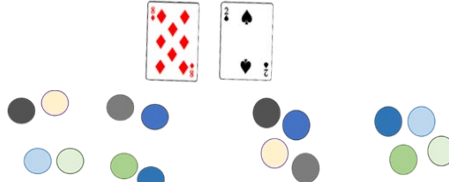
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MD 5 Divide into equal rows (array) describe using 2 division and 2 multiplication number sentences



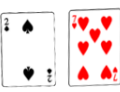
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 $2 \times 6 = 12$
 $6 \times 2 = 12$

MD 7, 8 Divide in 4 ways – into 'groups of 2' and '2 equal groups'



Groups of 2 2 equal groups
 $8 \div 2 = 4$ $8 \div 2 = 4$

MD 10 Multiply by 2
Distributive property



$2 \times 7 = 14$
 $5 + 2$
 $2 \times 5 = 10$
 $2 \times 2 = 4$
 $10 + 4 = 14$

MD 10 PA 17 Divide by 2
Related to halving



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 $10 + 5$ $10 + 5$
 $4 + 1$ $4 + 1$
 $10 \div 2 = 5$ $\frac{1}{2} \text{ of } 10 = 5$
 $4 \div 2 = 2$ $\frac{1}{2} \text{ of } 4 = 2$
 $5 + 2 = 7$

MD 11 Multiply by 4
Distributive property



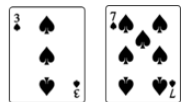
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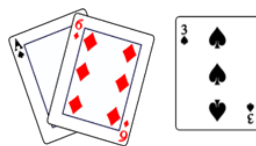
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 $16 \div 4 = 4$ $\frac{1}{4} \text{ of } 16 = 4$
 $5 + 4 = 9$

MD 12 Multiply by 3
Distributive property



$3 \times 7 = 21$
 $5 + 2$
 $3 \times 5 = 15$
 $3 \times 2 = 6$
 $15 + 6 = 21$

MD 12 Divide by 3
Related to thirding



$16 \div 3 = 5 \text{ r}1$ $\frac{1}{3} \text{ of } 16 = 5 \text{ r}1$
 $9 + 7$ $9 + 7$
 $6 + 1$ $6 + 1$
 $9 \div 3 = 3$ $\frac{1}{3} \text{ of } 9 = 3$
 $6 \div 3 = 2$ $\frac{1}{3} \text{ of } 6 = 2$
 $3 + 2 = 5$

MD 13 Multiply by 5
Distributive property

MD 13 Divide by 5
Related to fifthing

$$\begin{array}{r} 5 \times 7 = 35 \\ \swarrow \searrow \\ 5 + 2 \end{array}$$

$$\begin{array}{l} 5 \times 5 = 25 \\ 5 \times 2 = 10 \\ 25 + 10 = 35 \end{array}$$

$$\begin{array}{r} 37 \div 5 = 7r2 \\ \swarrow \searrow \\ 20 + 17 \\ \swarrow \searrow \\ 15 + 2 \\ 20 \div 5 = 4 \\ 15 \div 5 = 3 \\ 4 + 3 = 7 \end{array} \quad \begin{array}{r} \frac{1}{5} \text{ of } 37 = 7r2 \\ \swarrow \searrow \\ 20 + 17 \\ \swarrow \searrow \\ 15 + 2 \\ \frac{1}{5} \text{ of } 20 = 4 \\ \frac{1}{5} \text{ of } 15 = 3 \\ 4 + 3 = 7 \end{array}$$

MD 14 Multiply by 9
Distributive property

MD 14 Divide by 9
Related to ninthing

$$\begin{array}{r} 9 \times 7 = 63 \\ \swarrow \searrow \\ 5 + 2 \end{array}$$

$$\begin{array}{l} 9 \times 5 = 45 \\ 9 \times 2 = 18 \\ 45 + 18 = 63 \end{array}$$

$$\begin{array}{r} 71 \div 9 = 7r8 \\ \swarrow \searrow \\ 27 + 44 \\ \swarrow \searrow \\ 36 + 8 \\ 27 \div 9 = 3 \\ 36 \div 9 = 4 \\ 3 + 4 = 7 \end{array} \quad \begin{array}{r} \frac{1}{9} \text{ of } 71 = 7r8 \\ \swarrow \searrow \\ 27 + 45 \\ \swarrow \searrow \\ 36 + 8 \\ \frac{1}{9} \text{ of } 27 = 3 \\ \frac{1}{9} \text{ of } 36 = 4 \\ 3 + 4 = 7 \end{array}$$

MD 15 Multiply by 6
Distributive property

MD 15 Divide by 6
Related to sixthing

$$\begin{array}{r} 6 \times 7 = 42 \\ \swarrow \searrow \\ 5 + 2 \end{array}$$

$$\begin{array}{l} 6 \times 5 = 30 \\ 6 \times 2 = 12 \\ 30 + 12 = 42 \end{array}$$

$$\begin{array}{r} 23 \div 6 = 3r5 \\ \swarrow \searrow \\ 12 + 11 \\ \swarrow \searrow \\ 6 + 5 \\ 12 \div 6 = 2 \\ 6 \div 6 = 1 \\ 2 + 1 = 3 \end{array} \quad \begin{array}{r} \frac{1}{6} \text{ of } 23 = 3r5 \\ \swarrow \searrow \\ 12 + 11 \\ \swarrow \searrow \\ 6 + 5 \\ \frac{1}{6} \text{ of } 12 = 2 \\ \frac{1}{6} \text{ of } 6 = 1 \\ 2 + 1 = 3 \end{array}$$

MD 16 Multiply by 8
Distributive property

$$8 \times 7 = 56$$

$$5 + 2$$

$$8 \times 5 = 40$$

$$8 \times 2 = 16$$

$$40 + 16 = 56$$

MD 16 Divide by 8
Related to eighthing

$$55 \div 8 = 6r7$$

$$40 + 15$$

$$8 + 7$$

$$40 \div 8 = 5$$

$$8 \div 8 = 1$$

$$5 + 1 = 6$$

$$\frac{1}{8} \text{ of } 55 = 6r7$$

$$40 + 15$$

$$8 + 7$$

$$\frac{1}{8} \text{ of } 40 = 5$$

$$\frac{1}{8} \text{ of } 8 = 1$$

MD 17 Multiply by 7
Distributive property

$$7 \times 6 = 42$$

$$5 + 1$$

$$7 \times 5 = 35$$

$$7 \times 1 = 7$$

$$35 + 7 = 42$$

MD 17 Divide by 7
Related to seventhing

$$37 \div 7 = 5r2$$

$$21 + 16$$

$$14 + 2$$

$$21 \div 7 = 3$$

$$14 \div 7 = 2$$

$$3 + 2 = 5$$

$$\frac{1}{7} \text{ of } 37 = 5r2$$

$$21 + 16$$

$$14 + 2$$

$$\frac{1}{7} \text{ of } 21 = 3$$

$$\frac{1}{7} \text{ of } 14 = 2$$

MD 23 FD 21 Divide by single-digit numbers,
dividing remainders to create fractions

$$77 \div 6 = 12\frac{5}{6}$$

$$60 + 17$$

$$12 + 5$$

$$60 \div 6 = 10$$

$$12 \div 6 = 2$$

$$5 \div 6 = \frac{5}{6}$$

$$10 + 2 + \frac{5}{6} = 12\frac{5}{6}$$

$$\frac{1}{6} \text{ of } 77 = 12\frac{5}{6}$$

$$60 + 17$$

$$12 + 5$$

$$\frac{1}{6} \text{ of } 60 = 10$$

$$\frac{1}{6} \text{ of } 12 = 2$$

$$\frac{1}{6} \text{ of } 5 = \frac{5}{6}$$

MD 24 Multiply two-digit numbers
Distributive property

$$93 \times 74 = 6882$$

$$70 + 4$$

$$90$$

$$+$$

$$3$$

$$6300$$

$$360$$

$$210$$

$$12$$

$$90 \times 70 = 9 \times 10 \times 7 \times 10 = 63 \times 100 = 6300$$

$$90 \times 4 = 9 \times 10 \times 4 = 36 \times 10 = 360$$

$$3 \times 70 = 7 \times 10 \times 3 = 70 \times 3 = 210$$

$$3 \times 4 = 12$$

$$6300 + 360 + 210 + 12 = 6882$$



MD 26 FD 27 Division is
Multiplication by a Fraction

$56 \div 4 =$ $\begin{array}{r} 40 + 16 \\ 40 \div 4 = 10 \\ 16 \div 4 = 4 \\ 10 + 4 = 14 \end{array}$	$\frac{1}{4} \times 56 =$ $\begin{array}{r} 40 + 16 \\ \frac{1}{4} \times 40 = 10 \\ \frac{1}{4} \times 16 = 4 \end{array}$
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MD 25 Multiply decimals by whole
numers and powers of 10

$$9.3 \times 74 = 688.2$$

	70	+	4
9	630		36
+			
0.3	21		1.2

$$9 \times 70 = 9 \times 7 \times 10 = 63 \times 10 = 630$$

$$0.3 \times 70 = 0.3 \times 10 \times 7 = 3 \times 7 = 21$$

$$0.3 \times 4 = \frac{3}{10} \times 4 = \frac{12}{10} = 1.2$$

$$630 + 36 + 21 + 1.2 = 688.2$$

MD 25 Divide decimals by whole
numers and powers of 10

$$35.7 \div 4 = 8.925$$

$$\begin{array}{r} 32 + 3.7 \\ 3.6 + 0.1 \end{array}$$

Change the
decimal to a
fraction, divide.

$$32 \div 4 = 8$$

$$3.6 \div 4 = 0.9$$

$$\frac{1}{4} \times 32 = 8$$

$$\frac{1}{4} \times 3.6 = 0.9$$

Multiply the
decimal by 10,
divide, then divide
the product by 10.

$$0.1 \div 4 =$$

$$\frac{1}{10} \div 4 =$$

$$\frac{10}{100} \div 4 =$$

$$\frac{100}{1000} \div 4 = \frac{25}{1000}$$

$$= 0.025$$

$$\frac{1}{4} \times 0.1 =$$

$$\frac{1}{4} \times \frac{1}{10} =$$

$$\frac{1}{4} \times \frac{10}{100} =$$

$$\frac{1}{4} \times \frac{100}{1000} = \frac{25}{1000}$$

$$= 0.025$$

$$0.1 \div 4 =$$

$$1 \div 4 \div 10 =$$

$$0.25 \div 10 =$$

$$0.25 \div 10 = 0.025$$

$$\frac{1}{4} \times 0.1 =$$

$$\frac{1}{4} \times 1 \div 10 =$$

$$0.25 \div 10 =$$

$$0.25 \div 10 = 0.025$$

$$8 + 0.9 + 0.025 = 8.925$$

$$\frac{1}{2} \text{ of } 12 = 6$$



$$\frac{1}{2} \times 12 = 6$$

When we divide by 2, we are making the number a half times as big.
When we divide by 2, we are multiplying by a half.