



RICH MATHEMATICAL TASK BOOKLET

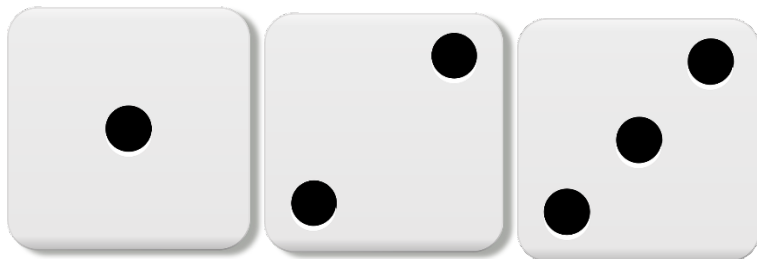
NUMBER & ALGEBRA

YEAR 0

Task Copy Masters

*Phase 1: Year 0: Number and Algebra***Task 1**

Sam and Jade are making dice to play snakes and ladders. This is the pattern they used for the first three numbers:



What is the same and different about the patterns?

Which pattern is easiest to recognise?

Can you create the dot patterns for 4, then 5, then 6?

Phase 1: Year 0: Number and Algebra

Task 1 (independent)

Mere and Ana are playing with acorns and using them to make dice patterns for the numbers 1 to 8.

What are some of the patterns they make?

Can you draw the pattern and write the numbers to match?

Can you write a number sentence to represent it?

Phase 1: Year 0: Number and Algebra

Task 2

Fau and Mepa are inventing a game to play at home. They want to make a dice that has dot patterns for the numbers 7 to 10 on it.

Can you create the dot patterns for dice for 7, 8, 9, 10? How many different patterns can you create?

Phase 1: Year 0: Number and Algebra

Task 2 (independent)

Mary and Sima are playing with pinecones and using them to make dice patterns for the numbers 4 to 12.

What are some of the patterns they make?

Can you draw the pattern and write the numbers to match?

Can you write a number sentence to represent it?

Phase 1: Year 0: Number and Algebra

Task 3

John has a set of marbles. He wants to know how many marbles he has. Can you help him find out how many marbles he has?

What is the quickest way John can count the marbles?

Levi has a set of marbles, and he wants to know how many marbles he has. Can you help him find out how many marbles he has?

What is the quickest way Levi can count the marbles?

Phase 1: Year 0: Number and Algebra

Task 3 (independent)

Liana has some stickers. She wants to know how many stickers she has. Can you help her count the stickers?

Can you arrange the stickers into an easy way to count them? Now make sure that you draw your pattern and write the numbers to match.

*Phase 1: Year 0: Number and Algebra***Task 4**

Hala has collected some leaves. She wants to know how many leaves she has. Can you help her work out how many leaves she has?

What is the quickest way Hala can count the leaves?

Can you find a different way to count the leaves using groups?

Phase 1: Year 0: Number and Algebra

Task 4 (independent)

Liana has been collecting cicada shells. She wants to know how many cicada shells she has. Can you help her count them?

Can you arrange the cicada shells in different ways to find out how many of them she has?

Make sure that you show the groups that you used and write the numbers to match them.

Phase 1: Year 0: Number and Algebra

Task 5

Tupou has 10 tipani for two baskets. What are the different ways that she could put the tipani into the baskets?

Can you record your ideas using drawings and number sentences?

*Phase 1: Year 0: Number and Algebra***Task 5 (independent)**

Jenna has 12 grapes and two bowls.

What are all the different ways that she could put the grapes into the bowls?

Record your ideas using drawings and number sentences.

*Phase 1: Year 0: Number and Algebra***Task 6**

Seini was collecting some flowers. She picked 3 red flowers and 3 yellow flowers. How many flowers did she pick altogether?

Sepi was collecting some flowers. She picked 4 orange flowers and 3 white flowers. How many flowers did she pick altogether?

Tiana was collecting some flowers. She picked 4 blue flowers and 5 yellow flowers. How many flowers did she pick altogether?

*Phase 1: Year 0: Number and Algebra***Task 6 (independent)**

Seini was collecting some flowers. She picked 4 red flowers and 4 yellow flowers. How many flowers did she pick altogether?

Sepi was collecting some flowers. She picked 5 orange flowers and 4 white flowers. How many flowers did she pick altogether?

Tiana was collecting some flowers. She picked 5 blue flowers and 5 yellow flowers. How many flowers did she pick altogether?

Lia was collecting some flowers. She picked 6 red flowers and 5 white flowers. How many flowers did she pick altogether?

$$4 + 3 =$$

$$3 + 4 =$$

$$7 + 6 =$$

$$6 + 7 =$$

*Phase 1: Year 0: Number and Algebra***Task 7**

Vimi's soccer team scored 3 goals in one game and 6 goals in another game. How many goals did her team score altogether?

Nate's soccer team scored 7 goals in one game and 4 goals in another game. How many goals did his team score altogether?

Leti's soccer team scored 5 goals in one game and 9 goals in another game. How many goals did her team score altogether?

*Phase 1: Year 0: Number and Algebra***Task 7 (independent)**

Vimi's soccer team scored 6 goals in one game and 2 goals in another game. How many goals did her team score altogether?

Nate's soccer team scored 8 goals in one game and 6 goals in another game. How many goals did his team score altogether?

Leti's soccer team scored 9 goals in one game and 4 goals in another game. How many goals did her team score altogether?

$$7 + 5 =$$

$$6 + 8 =$$

$$5 + 9 =$$

*Phase 1: Year 0: Number and Algebra***Task 8**

Mele had 6 colouring pencils and her friend Sarah borrowed 3 colouring pencils. How many colouring pencils does Mele have now?

Rita had 9 colouring pencils and her friend Leesa borrowed 5 colouring pencils. How many colouring pencils does Rita have now?

Sangeeta had 12 colouring pencils and her friend Mata borrowed 3 colouring pencils.. How many colouring pencils does Sangeeta have now?

*Phase 1: Year 0: Number and Algebra***Task 8 (independent)**

Sima caught 7 fish and gave his friend 4 fish. How many fish does Sima have left?

Timo caught 9 fish and gave his friend 4 fish. How many fish does Timo have left?

Max caught 11 fish and gave his friend 2 fish. How many fish does Max have left?

$$8 - 3 =$$

$$6 - 4 =$$

$$5 - 3 =$$

$$4 - 4 =$$

*Phase 1: Year 0: Number and Algebra***Task 9**

Work with your partner to work out which number sentences are true or false.

$$8 = 8$$

$$4 + 3 = 7 + 4$$

$$9 = 5 + 4$$

$$8 + 6 = 9 + 5$$

$$10 - 8 = 9 - 7$$

$$14 - 6 = 14 - 6$$

$$7 = 10$$

Explain why you think the number sentences are true or false.

*Phase 1: Year 0: Number and Algebra***Task 9 (independent)**

Solve these problems:

$$3 + 9 =$$

$$4 + 8 =$$

$$5 + 7 =$$

$$6 + 6 =$$

$$7 + 5 =$$

$$8 + 4 =$$

$$9 + 3 =$$

What patterns do you notice in the equations? Could you write more equations that match the pattern?

*Phase 1: Year 0: Number and Algebra***Task 10**

Here are some number sentences. What are the answers?

$$5 + 3 = 8$$

$$3 + 5 =$$

$$9 + 6 = 15$$

$$6 + 9 =$$

$$13 + 7 = 20$$

$$7 + 13 =$$

What patterns do you notice? Did you find an easy way to find the answer?

*Phase 1: Year 0: Number and Algebra***Task 10 (independent)**

Complete the following problems:

$$11 - 1 =$$

$$12 - 1 =$$

$$13 - 1 =$$

$$11 - 2 =$$

$$12 - 2 =$$

$$13 - 2 =$$

$$11 - 3 =$$

$$12 - 3 =$$

$$13 - 3 =$$

$$11 - 4 =$$

$$12 - 4 =$$

$$13 - 4 =$$

$$11 - 5 =$$

$$12 - 5 =$$

$$13 - 5 =$$

What patterns do you notice? Did you find an easy way to find the answer?

*Phase 1: Year 0: Number and Algebra***Task 11**

Tina had 8 beads and gave her friend Mellie 4 beads. How many beads does Tina have now?

Daisy had 10 beads and gave her friend Ana 6 beads. How many beads does Daisy have now?

Kelly had 12 beads and gave her friend Alisi 7 beads. How many beads does Kelly have now?

*Phase 1: Year 0: Number and Algebra***Task 11 (independent)**

Complete the following problems:

$11 - 1 =$

$12 - 1 =$

$13 - 1 =$

$11 - 2 =$

$12 - 2 =$

$13 - 2 =$

$11 - 3 =$

$12 - 3 =$

$13 - 3 =$

$11 - 4 =$

$12 - 4 =$

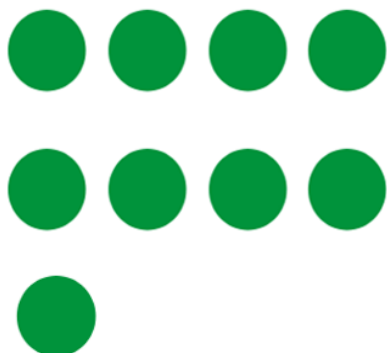
$13 - 4 =$

$11 - 5 =$

$12 - 5 =$

$13 - 5 =$

What patterns do you notice? Did you find an easy way to find the answer?

*Phase 1: Year 0: Number and Algebra***Task 12**

Use number sentences to represent this pattern in as many ways as you can.