Edgeworth Heights Public School

Respect, Responsibility, Strive - Everyone, Everywhere, Every Time

Stage 3

Numeracy Learning Pack

Term 4
Weeks 2 & 3

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Work across the grid to have a variety of lessons, or down the grid to complete activities on the same topic e.g., all the activities that focus on number facts.

This fortnight we will be learning to:

- Represent mathematical situations in a variety of ways using mathematical language.
- Solve problems involving multiplication and division using efficient mental and written strategies.
- Identify decimal place value and round decimal numbers.
- Collect data and construct column graphs.
- List outcomes of chance experiments.
- Select and apply appropriate problem-solving strategies.

- The expectation is that you attempt **two activities each day.**
- Extension tasks are **optional tasks** for you to complete to challenge yourself.
- **Activities with a ✓ are compulsory.** These are to be submitted for feedback from teachers. **Upload your ✓ task on Seesaw.**
- **Additional blank lined pages have been added to the learning pack.** You can use these pages instead of your workbook. This learning pack needs to be returned to school when we resume face-to-face learning.

Activities

1. Mental Maths - Addition Squares (Resources Included)

Below is an example of addition squares.

You will need to use the numbers in the grey boxes in each row and column to find the missing number to solve the sum. See worked example below.

e.g., 1 + 5 = 6, 1 + 8 = 9

	5	6
		13
9	10	

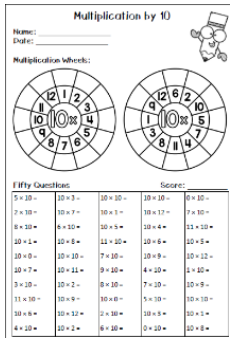
1	5	6
8	5	13
9	10	

Task: Complete the addition squares worksheet with 3 rows and 3 columns in your resource pack.

Extension Task: Complete the addition squares with 4 rows and 4 columns in your resource pack.

2. Number Facts – Multiplication Recall (Resource Included)

Task 1: Practice your multiplication facts (x10) to complete the multiplication wheel and questions worksheet.



Task 2: See if you can beat the clock for your x10 multiplication facts. Record how many seconds were left. Try this 5 times and record your best time.
https://www.timestables.com/1-minute-test/

If you cannot access the website practice writing your x10 multiplication facts in your workbook. Time yourself and record your best time.

3. Decimals – Rounding Decimals (Resource Included)

Over the last few weeks, we have learnt all about decimals. This fortnight we will learn how to round decimals to the nearest whole number, tenth, hundredth or thousandth.

Task 1: Watch the link below and learn how to round decimals to the nearest whole number, tenth, hundredth or thousandth.
https://vimeo.com/425603173

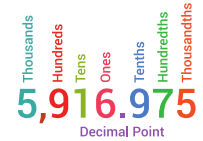
Task 2: Complete the 'Rounding Decimals' worksheet in your resource pack.

Extension Task: How many different equations can you make using these numbers: 0.5, 1.2, 1.0, 0.2, 0.6, 0.7 and 0.4?

4. Word Problems – Rounding Decimals

We have looked at the 5 steps to follow for solving word problems in previous grids. Answer the following questions on the spare pages in your resource pack.

Place Value reminder →



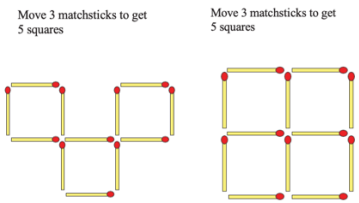
1.Christopher and Logan use a stopwatch to record the amount of time it takes a marble to roll down a ramp. Christopher's marble takes 4.745 seconds, while Logan's marble takes 4.735 seconds.

Are the below statements **true** or **false**?
a. Rounded to the nearest tenth, both times are the same.
b. Rounded to the nearest hundredth, both times are the same.
c. Both times are closer to 4.7 than 4.8.
d. Both times are more than halfway between 4.74 and 4.75.
e. Logan's marble was faster.

5. Mental Maths - Matchstick Puzzle (Resource Included)

Read the clues and remove matchsticks to create new shapes. See worked example below.

Answer:



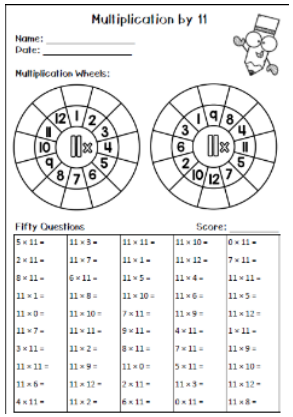
Don't forget to include the outside shape e.g., 4 squares are inside 1 large square.

Task: Complete the matchstick puzzle worksheet in your resource pack. Use the space at the bottom of your worksheet to draw your answer.

Extension Task: I am thinking of some decimal numbers between 1 and 2. What might they be? Give at least 15 answers.

6. Number Facts – Multiplication Recall (Resource Included)

Task 1: Practice your multiplication facts (x11) to complete the multiplication wheel and questions worksheet.



Task 2: See if you can beat the clock for your x11 multiplication facts. Record how many seconds were left. Try this 5 times and record your best time.
https://www.timestables.com/1-minute-test/

If you cannot access the website practice writing your x11 multiplication facts in your workbook. Time yourself and record your best time.

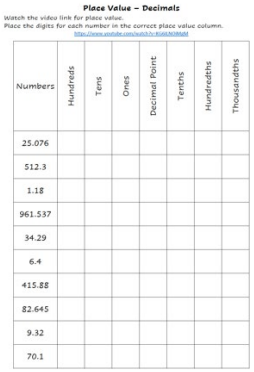
✓ (must do activity)

7. Decimals – Place Value Grid (Resource Included)

Task 1: Watch the link below and learn how to place the digits for each number in the correct place value column.

https://www.youtube.com/embed/KG6ILNOiMgM

Task 2: Complete the 'Place Value Decimals' worksheet in your resource pack.



Extension Task: Using only these buttons on your calculator [5], [.], [4], [+] and [=] what numbers can you make the calculator show?

✓ (must do activity)

8. Word Problems – Rounding Decimals

Task: Solve the following problems by rounding to the nearest tenth, hundredth or thousandth decimal place. Record the answers on the spare pages in your resource pack.

1. Vanessa received 135.64 pieces of chocolate for Halloween. How many pieces of chocolate does she have to the nearest tenth?

2. Ms. Williams has $459.14. How much money does she have to the nearest tenth?

3. Ronell ran for 134.778 seconds. Will ran for 134.794 seconds. Round both of their times to the nearest hundredth.

4. Alexander rode his bike for 5.9456 kilometres. Tiffany rode for 5.9923 kilometres. How far did each of them ride to the nearest thousandth and who rode the furthest?

Extension Task: I added three decimal numbers together to make exactly 4. What might the three numbers be?

9. Mental Maths – Sudoku (Resources Included)

Fill in the grid with the numbers 1 to 4. Each number can only be used once in each row, column, and region (marked by dark lines).

For example,

4	3		
1	2	3	
		2	
2	1		

4	3	1	2
1	2	3	4
3	4	2	1
2	1	4	3

You may need to trial and error to see if your answer is correct. It is suggested that you use a led pencil.

Task.
Task: Complete the Sudoku squares worksheet with 4 rows and 4 columns in your resource pack.

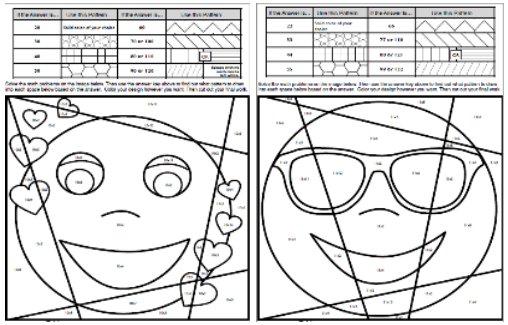
Extension Task: Complete the Sudoku squares worksheet with 6 rows and 6 columns in your resource pack. This time you will need to use the numbers 1 to 6.

10. Number Facts - Emoji Multiplication (Resources Included)

Use your knowledge of multiplication facts (x10 and x11) to create an Emoji artwork.

Task: Solve the multiplication problems on the image and draw the pattern associated with each answer in the space. You may choose to do the x10 one, the x11 one or both.

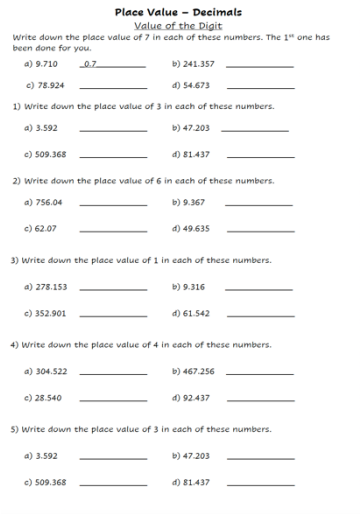
Step 1: Solve the multiplication problems in the picture.
Step 2: Refer to the table to see what pattern to use.
Step 3: Fill the picture with the patterns in the correct spot.



11. Decimals – Value of the Digit (Resource Included)

Task: Complete the 'Value of the Digit' worksheet in your resource pack.

Write down the place value of the number written in each question, in the decimal numbers listed.



Place Value – Decimals

Value of the Digit

Write down the place value of 7 in each of these numbers. The 1st one has been done for you.

a) 9.710 0.7 b) 241.357 _____

c) 78.924 _____ d) 54.673 _____

1) Write down the place value of 3 in each of these numbers.

a) 3.592 _____ b) 47.203 _____

c) 509.368 _____ d) 81.437 _____

2) Write down the place value of 6 in each of these numbers.

a) 756.04 _____ b) 9.367 _____

c) 62.07 _____ d) 49.635 _____

3) Write down the place value of 1 in each of these numbers.

a) 278.153 _____ b) 9.316 _____

c) 352.901 _____ d) 61.542 _____

4) Write down the place value of 4 in each of these numbers.

a) 304.522 _____ b) 467.256 _____

c) 28.540 _____ d) 92.437 _____

5) Write down the place value of 3 in each of these numbers.

a) 3.592 _____ b) 47.203 _____

c) 509.368 _____ d) 81.437 _____

Extension Task: Two numbers each with four digits are added and the result is rounded off to 2.7. What might those numbers be?

12. Word Problems - Probabilty

Probability: Probability is the chance that something will happen, or how likely it is that an event will occur.

Task: Read and solve the following probability word problems. Use the spare pages in your resource pack to record your answers. You can answer as a fraction, decimal or percentage.

1. Jill is playing cards with her friend. She draws a random card from a pack of 20 cards numbered from 1 to 20. What is the probability of Jill drawing a number that is:

a) Odd
b) Between 1-5
c) Higher than 14

2. A bag contains ten black marbles, twenty white marbles, and five grey marbles. You pick one marble without looking. What is the probability that the marble will be:

a) White
b) Black
c) Grey OR Black

Extension Task: In a race the times are measured to hundredths of a second. The winner's time is 12.52 seconds. What might the times of the other eight runners be?

13. Mental Maths – Numbricks Puzzle (Resources Included)

Task: Complete the 'Numbricks Puzzle' worksheet in your resource pack.

Fill the grid with the numbers 1 to 36 to make a non-stop connecting path. You may connect the numbers horizontally and vertically (not diagonally). You must connect all 36 numbers.

e.g.

	15	10	9	8	
17					6
18		12	3		1
19		25	26		30
20					31
	22	35	34	33	

16	15	10	9	8	7
17	14	11	4	5	6
18	13	12	3	2	1
19	24	25	26	29	30
20	23	36	27	28	31
21	22	35	34	33	32

Extension Task: Complete the extension 'Numbricks Puzzle' worksheet in your resource pack. You will need to work backwards to complete this puzzle.

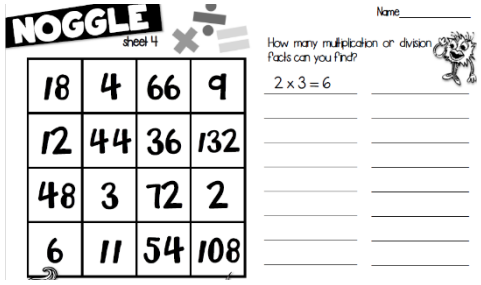
✓ (must do activity)

14. Number Facts- Noggle Challenge (Resource Included)

Task: Complete the 'Noggle' worksheet in your resource pack.

In a Noggle number challenge, you must use the numbers within the 4x4 grid to create as many multiplication and division number sentences as you can. You may only use numbers you find in the grid.

For example, here you can see 2 x 3 = 6. All numbers were taken from the grid. You could also do 6 ÷ 2 = 3



Extension Task: What numbers could be rounded off to 5.8?

15. Chance and Data - Dice Experiment (Resource Included)

Task: Complete the 'Dice Experiment' worksheet in your resource pack.

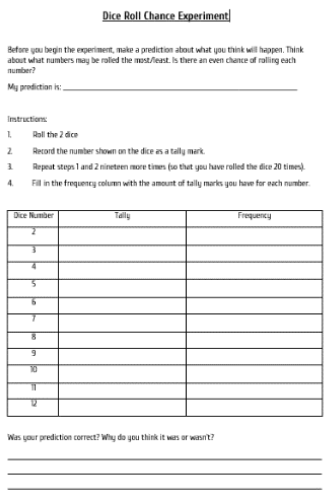
Roll two dice and add the numbers together. Record each roll as a tally mark. Repeat 20 times. Then fill in the frequency column (total of tally marks) after you have rolled 20 times.

You will need:

- 2 x dice
- Pencil
- Activity sheet

Online Dice roller:

https://virtualdiceroll.com/2/en/two-dice



Dice Roll Chance Experiment

Before you begin the experiment, make a prediction about what you think will happen. Think about what numbers may be rolled the most/least. Is there an even chance of rolling each number?

My prediction is: _____

Instructions:

1. Roll the 2 dice
2. Record the number shown on the dice as a tally mark.
3. Repeat steps 1 and 2 nineteen more times (so that you have rolled the dice 20 times).
4. Fill in the frequency column with the amount of tally marks you have for each number.

Dice Number	Tally	Frequency
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		

Was your prediction correct? Why do you think it was or wasn't?

_____

_____

_____

16. Word Problems - Probability

Probability: Probability is the chance that something will happen, or how likely it is that an event will occur.

Task: Read and solve the following probability word problems. Use the spare pages in your resource pack to record your answers. You can answer as a fraction, decimal or percentage.

1. Each of the letters in the word APPLES is on separate cards, face down on the table. If you pick a card at random, what is the probability that its letter will be:

a) A
b) A or L
c) P or S

2. You roll a SIX-sided die. What is the probability that the roll will be:

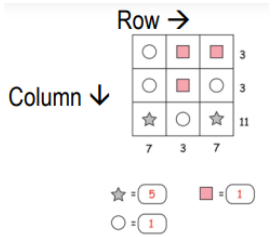
a) An odd number
b) Number 1
c) Number 1, 4, 5 or 6

Extension Task: I divided a whole number by a decimal fraction and got the answer of 24. What might the number sentence look like?

17. Mental Maths – Algebra Shape Box (Resources Included)

Over the last few weeks, we have tested our knowledge of numbers by using Algebra Shape Boxes.

Remember that every shape in an Algebra Shape Box represents a number e.g., circle = 1, star = 5 and square = 1.



To identify the value of each shape, you will need to use the sum of each row and column.

Task: Complete the shape box worksheet with 3 rows and 3 columns in your resource pack.

Extension Task: Complete the shape box worksheet with 4 rows and 4 columns in your resource pack.

18. Number Facts – Times Table Flower

Task: In your resource pack, create a times tables flower (like the one below) for both the x10 and x11 multiplication facts. Follow the steps to complete the task.

Step 1: With a pencil, draw the middle circle and write the number 10 in it.
Step 2: Draw 12 small petals coming from the circle. Write the numbers 1-12 on them.
Step 3: Draw the larger petals around the small petals. Don't write anything in them yet.
Step 4: Multiply the number in the circle (10) by each of the small petals and write the answer in the large petal.

Repeat Steps 1-4 for your x11 as well.

See example of x7 times table flower below.

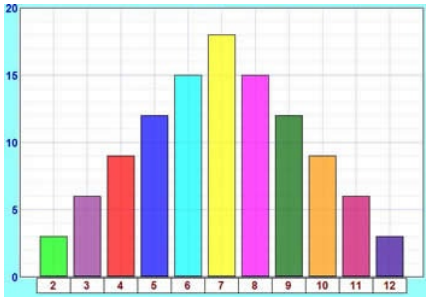
✓ (must do activity)

19. Chance and Data - Column Graph (Resource Included)

Task: Using your data from the experiment conducted in Activity 15, follow the instructions below to create a column graph. Record your graph on the worksheet provided in your resource pack, representing the numbers you have tallied.

1. Label the vertical axis **Frequency of Number Rolled.**
2. Label the horizontal axis **Dice Number.**
3. Look at your table completed from the experiment in Activity 15.
4. Using a different colour pencil or texta, create a column graph showing your experiment results.

Example Column Graph:



20. Word Problems - Probabilty

We use the words **certain, likely, possible unlikely** and **impossible** to describe events and the chance of them occurring.

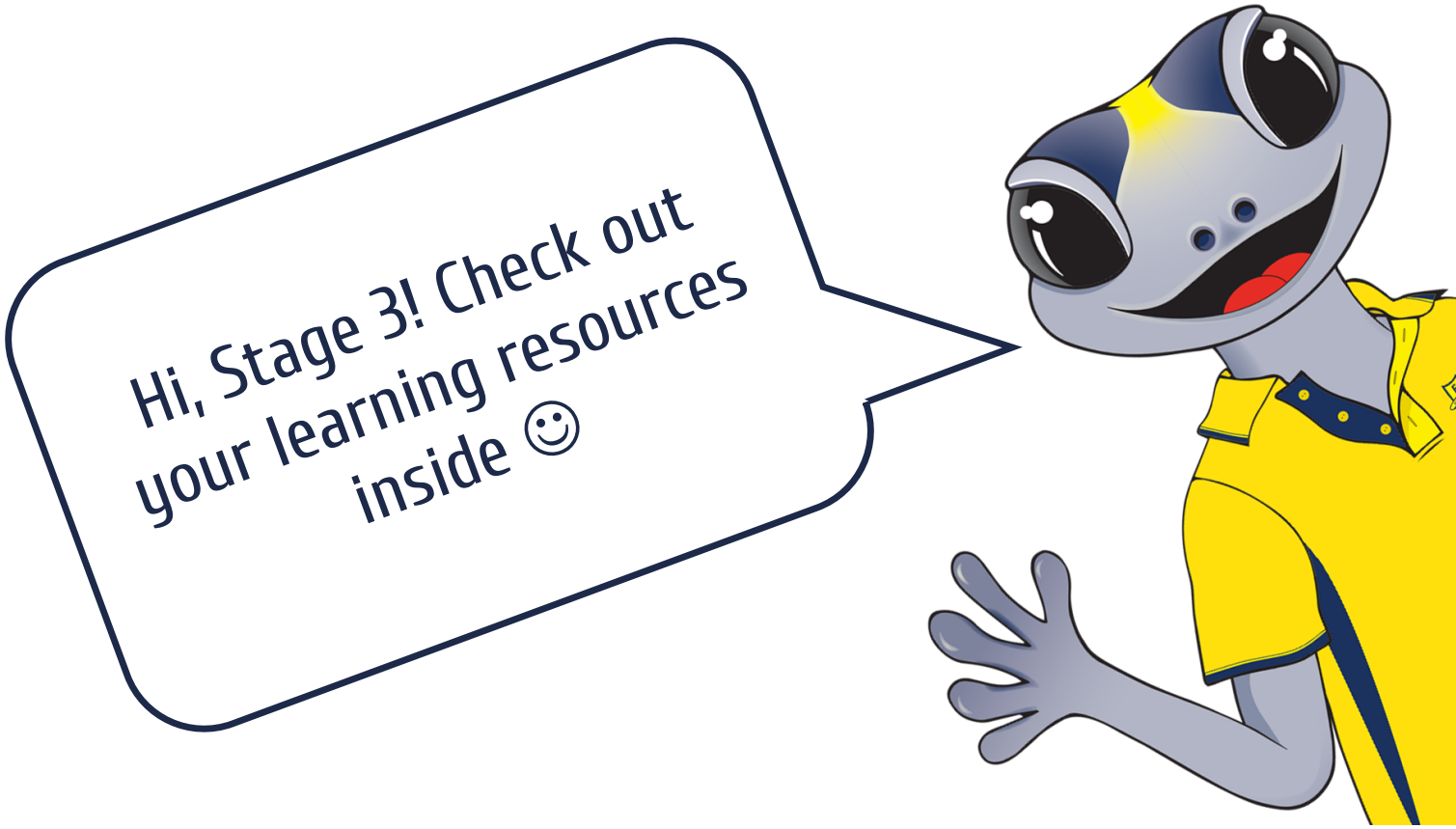
Task: Read the following sentences and fill in the most appropriate word from the ones listed above to fit in the gap. Use the spare pages in your resource pack to record your answers.

e.g., It is **<u>unlikely</u>** to rain today

1. It is _____ to rain between now and the end of the month.
2. It is_____ that we will be learning from home tomorrow.
3. It is _____ I will be sick next week.
4. It is _____ that I will fly to the moon today.
5. It is _____ someone in my family will watch TV tonight.

Extension Task: Can you work out a way to get the answer for 3.5÷4 without pressing the [5] button on your calculator?

Numeracy Resources



Activity 1

Addition Squares

Name: _____ Score: _____

Fill in the squares so that the numbers in each row and column add up to the printed sums on the right and bottom.

		35
22		47
39	43	

	38	51
		59
58	52	

		73
	58	77
50	100	

35		50
		86
75	61	

		47
16		58
40	65	

	33	49
		86
60	75	

		36
18		41
39	38	

		89
	26	36
53	72	

17		55
		68
43	80	

	19	35
		65
44	56	

		46
39		84
61	69	

	34	47
		53
40	60	

Activity 1 - Extension

Addition Squares

Name: _____ Score: _____

Fill in the squares so that the numbers in each row and column add up to the printed sums on the right and bottom.

	32	53	103
32			59
48	14		114
98	61	117	

	42		82
	17	19	49
14			75
51	82	73	

	40		88
	17	28	76
42			70
86	73	75	

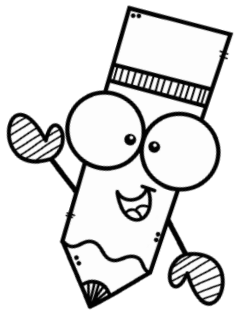
	37	33	90
32			77
42	24		84
94	92	65	

	33	35	93
60			109
51	12		93
136	84	75	

	22		102
	15	36	91
11			67
84	64	112	

Activity 2

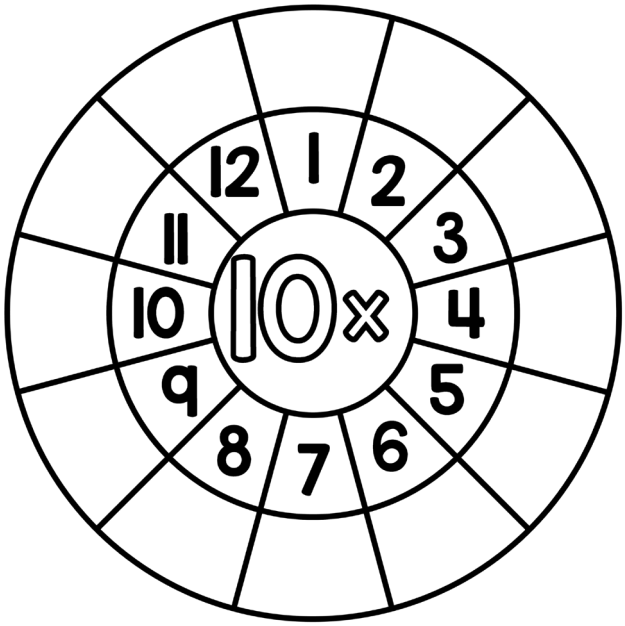
Multiplication by 10

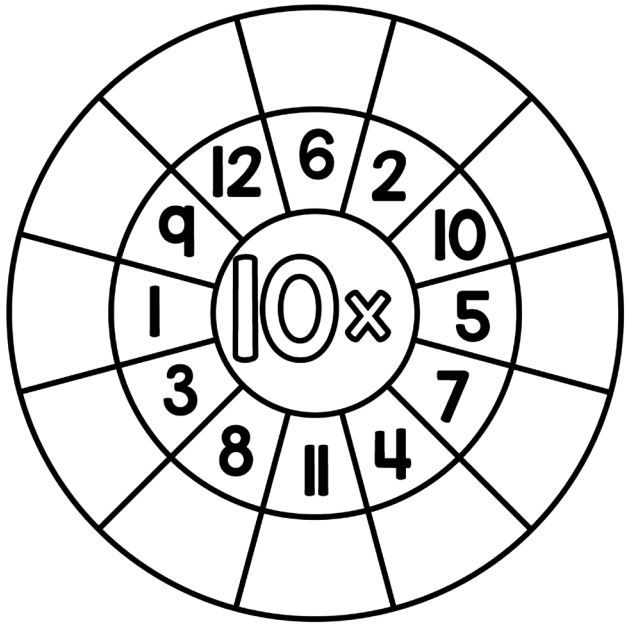


Name: _____

Date: _____

Multiplication Wheels:





Fifty Questions

Score: _____

5 × 10 =	10 × 3 =	10 × 10 =	10 × 10 =	0 × 10 =
2 × 10 =	10 × 7 =	10 × 1 =	10 × 12 =	7 × 10 =
8 × 10 =	6 × 10 =	10 × 5 =	10 × 4 =	11 × 10 =
10 × 1 =	10 × 8 =	11 × 10 =	10 × 6 =	10 × 5 =
10 × 0 =	10 × 10 =	7 × 10 =	10 × 9 =	10 × 12 =
10 × 7 =	10 × 11 =	9 × 10 =	4 × 10 =	1 × 10 =
3 × 10 =	10 × 2 =	8 × 10 =	7 × 10 =	10 × 9 =
11 × 10 =	10 × 9 =	10 × 0 =	5 × 10 =	10 × 10 =
10 × 6 =	10 × 12 =	2 × 10 =	10 × 3 =	10 × 1 =
4 × 10 =	10 × 2 =	6 × 10 =	0 × 10 =	10 × 8 =

Activity 3

Rounding Decimals Worksheet

MATH MONKS

ROUND EACH NUMBER TO THE NEAREST TENTH.

1) 8.326 =
2) 6.998 =
3) 9.83 =
4) 51.711 =
5) 687.817 =
6) 19.07 =
7) 432.080 =
8) 483.37 =
9) 59.42 =

ROUND EACH NUMBER TO THE NEAREST HUNDREDTH.

1) 84.744 =
2) 6.883 =
3) 308.817 =
4) 66.663 =
5) 399.839 =
6) 409.723 =
7) 7.450 =
8) 117.855 =
9) 66.935 =

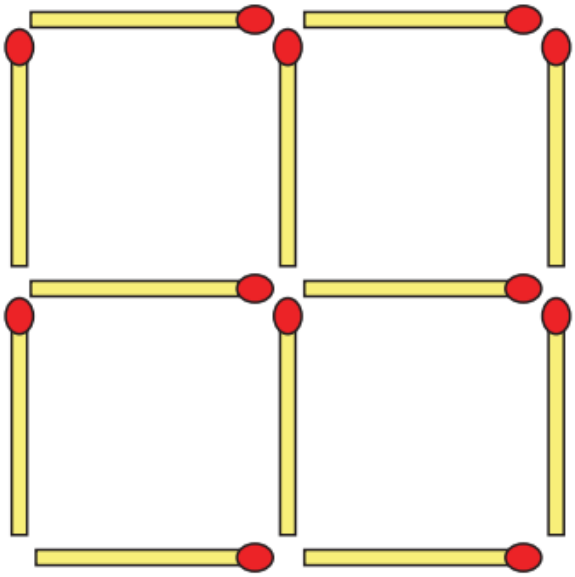
ROUND EACH NUMBER TO THE NEAREST THOUSANDTH.

1) 5.0016 =
2) 6.1087 =
3) 56.3008 =
4) 106.7128 =
5) 4.6687 =
6) 49.9376 =
7) 856.3981 =
8) 69.6009 =
9) 73.7896 =

Matchstick Puzzles

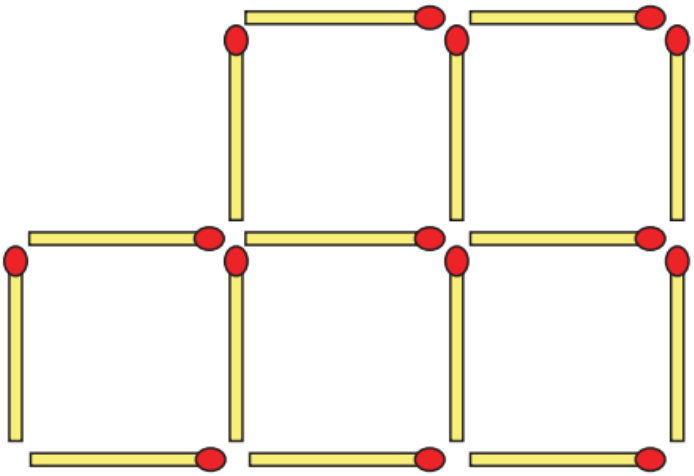
Read the clues and rearrange the matchsticks to solve the puzzles.

Remove 2 matchsticks to leave 2 squares



Solution:

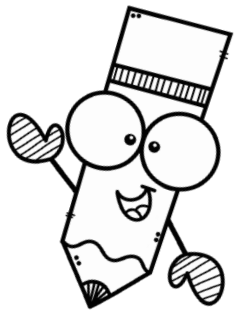
Remove 3 matchsticks to get 3 squares



Solution:

Activity 6

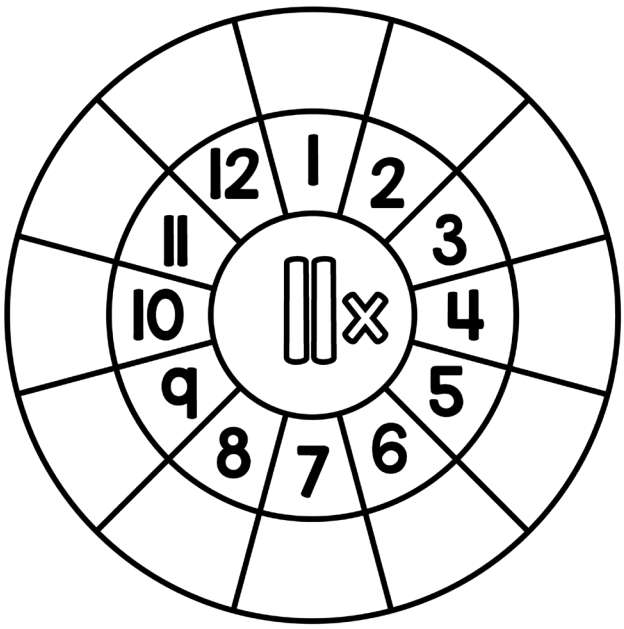
Multiplication by 11

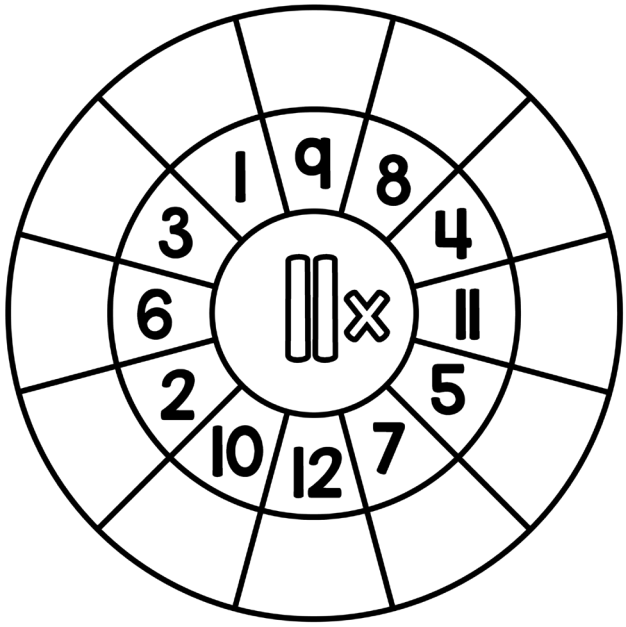


Name: _____

Date: _____

Multiplication Wheels:





Fifty Questions

Score: _____

5 × 11 =	11 × 3 =	11 × 11 =	11 × 10 =	0 × 11 =
2 × 11 =	11 × 7 =	11 × 1 =	11 × 12 =	7 × 11 =
8 × 11 =	6 × 11 =	11 × 5 =	11 × 4 =	11 × 11 =
11 × 1 =	11 × 8 =	11 × 10 =	11 × 6 =	11 × 5 =
11 × 0 =	11 × 10 =	7 × 11 =	11 × 9 =	11 × 12 =
11 × 7 =	11 × 11 =	9 × 11 =	4 × 11 =	1 × 11 =
3 × 11 =	11 × 2 =	8 × 11 =	7 × 11 =	11 × 9 =
11 × 11 =	11 × 9 =	11 × 0 =	5 × 11 =	11 × 10 =
11 × 6 =	11 × 12 =	2 × 11 =	11 × 3 =	11 × 12 =
4 × 11 =	11 × 2 =	6 × 11 =	0 × 11 =	11 × 8 =

Activity 7

Place Value – Decimals

Watch the video link for place value.
Place the digits for each number in the correct place value column.

https://www.youtube.com/watch?v=KG6ILNOiMgM

Numbers	Hundreds	Tens	Ones	Decimal Point	Tenths	Hundredths	Thousandths
25.076							
512.3							
1.18							
961.537							
34.29							
6.4							
415.88							
82.645							
9.32							
70.1							

Activity 9

4 by 4 Sudoku for Kids

Fill the grid with the numbers 1 to 4 in such that each number is only used once in each row, column and region (marked 2 by 2 block).

			3
	1		4
4	2	3	1
1	3	4	2

4 by 4 Sudoku for Kids

4	3		
1	2	3	
		2	
2	1		

4 by 4 Sudoku for Kids

4			
3			
	4		3
	3		4

4 by 4 Sudoku for Kids

	2	4	
3			
	3	2	
	1	3	4

4 by 4 Sudoku for Kids

Activity 9 - Extension

6 by 6 Sudoku for Kids

Fill the grid with the numbers 1 to 6 in such that each number is only used once in each row, column and region (marked 3 by 2 block).

	5			2	
		2	5		
			4	3	
4				5	6
2		5			1
	6	1	2	4	

6 by 6 Sudoku for Kids, puzzle 1

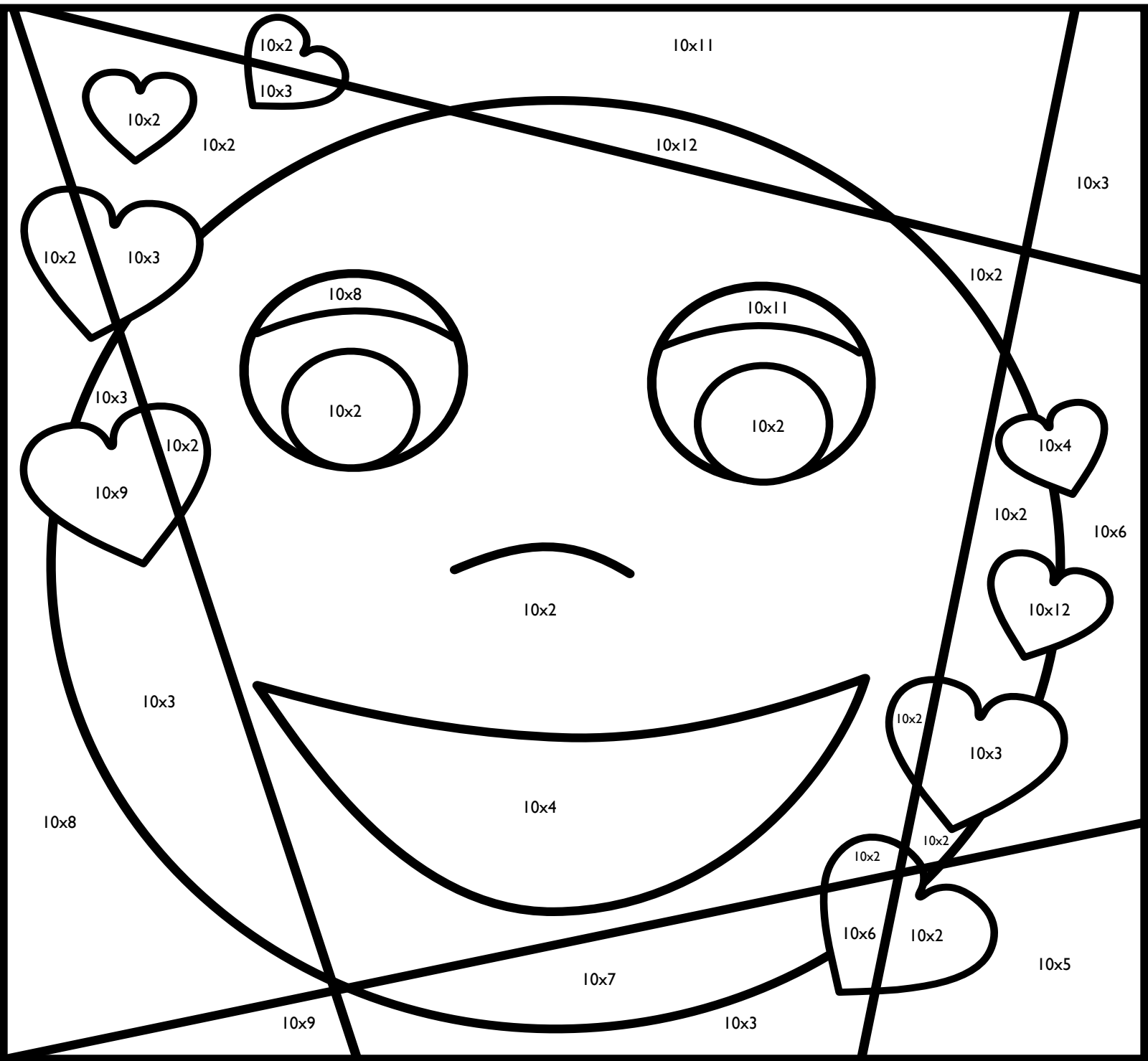
	4	5	6		2
6	2				
	5	6	1		3
		2	5		4
	3				
2		1	3		5

6 by 6 Sudoku for Kids, puzzle 2

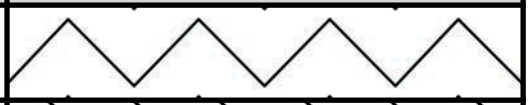
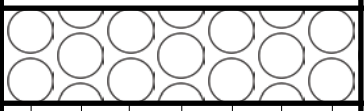
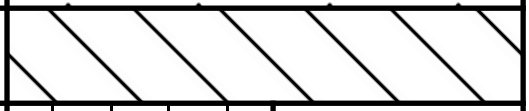
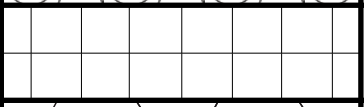
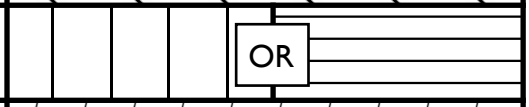
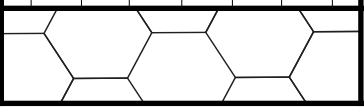
Activity 10

If the Answer Is…	Use this Pattern…	If the Answer Is…	Use this Pattern…
20	Solid color of your choice	**60**	
30		**70 or 100**	
40		**80 or 110**	OR
50		**90 or 120**	**Spaces with no math can be left white.**

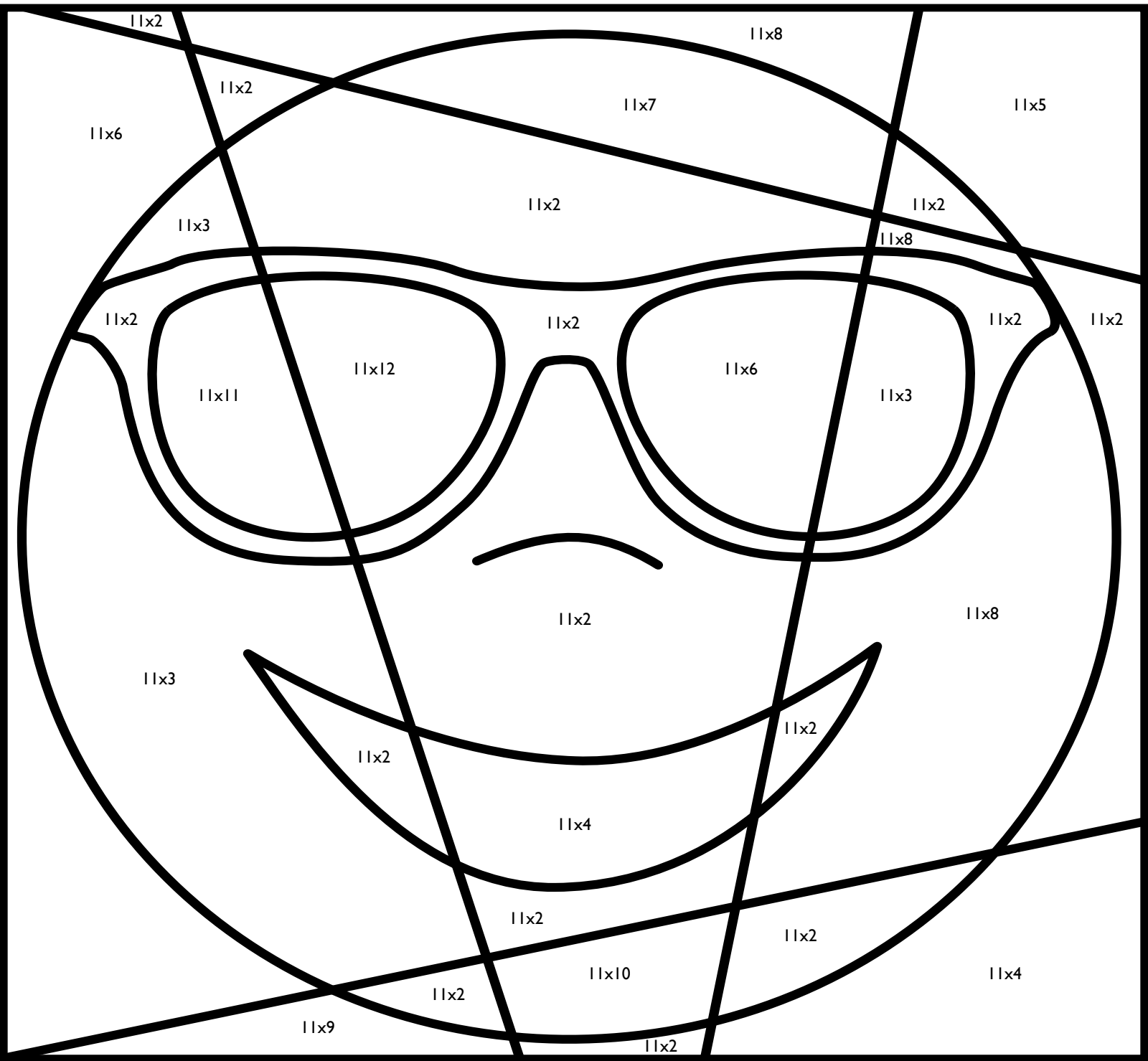
Solve the math problems on the image below. Then use the answer key above to find out what pattern to draw into each space below based on the answer. Color your design however you want. Then cut out your final work.



Activity 10

If the Answer Is…	Use this Pattern…	If the Answer Is…	Use this Pattern…
22	Solid color of your choice	**66**	
33		**77 or 110**	
44		**88 or 121**	
55		**99 or 132**	

Solve the math problems on the image below. Then use the answer key above to find out what pattern to draw into each space below based on the answer. Color your design however you want. Then cut out your final work.



11's

Activity 11

Place Value – Decimals

Value of the Digit

Write down the place value of 7 in each of these numbers. The 1st one has been done for you.

a) 9.710 0.7 b) 241.357 _____

c) 78.924 _____ d) 54.673 _____

1) Write down the place value of 3 in each of these numbers.

a) 3.592 _____ b) 47.203 _____

c) 509.368 _____ d) 81.437 _____

2) Write down the place value of 6 in each of these numbers.

a) 756.04 _____ b) 9.367 _____

c) 62.07 _____ d) 49.635 _____

3) Write down the place value of 1 in each of these numbers.

a) 278.153 _____ b) 9.316 _____

c) 352.901 _____ d) 61.542 _____

4) Write down the place value of 4 in each of these numbers.

a) 304.522 _____ b) 467.256 _____

c) 28.540 _____ d) 92.437 _____

5) Write down the place value of 3 in each of these numbers.

a) 3.592 _____ b) 47.203 _____

c) 509.368 _____ d) 81.437 _____

Activity 13

6 by 6 Numbricks Puzzles

Fill the grid with the numbers 1 to 36 to make a non-stop connecting path.
You may connect the numbers horizontally and vertically (not diagonally).
You must connect all 36 numbers.

4					29
	2	33	26	27	
				24	
	36			21	
	11	12	19	18	
9					16

11	10			7	6
12		20	21		5
	14			23	
	17			26	
35		31	30		2
36	33			28	1

	27	28	35	34	
25					2
22		30	31		3
21		15	10		4
20					5
	18	13	12	7	

		20	21		
	34	23	22	9	
	33	24	25	6	
		27	26		

6 by 6 Numbricks Puzzles

Activity 13 - Extension

Fill the grid with the numbers 1 to 36 to make a non-stop connecting path.
You may connect the numbers horizontally and vertically (not diagonally).
You must connect all 36 numbers.

20		16	15		11
	18			13	
22					9
23					8
	35			4	
33		31	30		6

	35			2	
31	32	33	6	5	4
	29			14	
	28			13	
26	23	22	11	12	17
	24			19	

31					12
	29	24	21	14	
	28			15	
	27			16	
	2	1	18	17	
36					7

21	20			5	6
22					7
		35	16		
		34	15		
29					10
30	31			12	11

NOGGLE

sheet 8

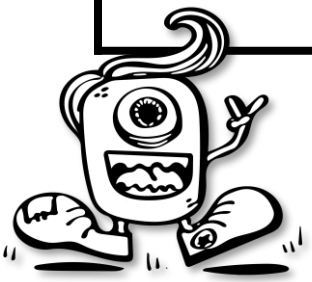
Activity 14

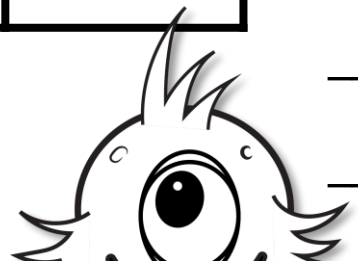
Name_____

8	12	4	6
3	5	80	30
60	48	40	72
18	96	10	36

How many multiplication or division facts can you find?

$4 \times 10 = 40$





Activity 15

Dice Experiment

Before you begin the experiment, make a prediction about what you think will happen. Think about what numbers may be rolled the most/least. Is there an even chance of rolling each number?

My prediction is: _____

Instructions:

1. Roll the 2 dice. Add them together.
2. Record the number shown on the dice as a tally mark.
3. Repeat steps 1 and 2 nineteen more times (so that you have rolled the dice 20 times).
4. Fill in the frequency column with the amount of tally marks you have for each number.

Dice Number Total	Tally	Frequency
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		

Was your prediction correct? Why do you think it was or wasn't?

_____

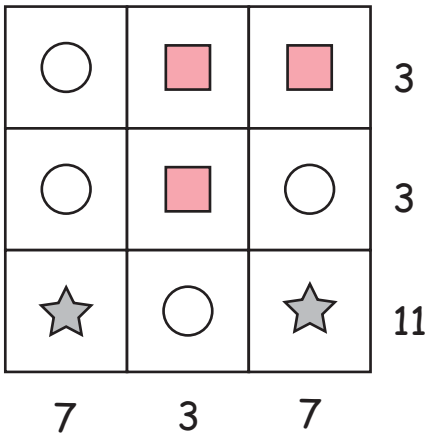
_____

_____

Activity 17

Shape Algebra Boxes

Given the sums of each row and column, find the value of the shapes.



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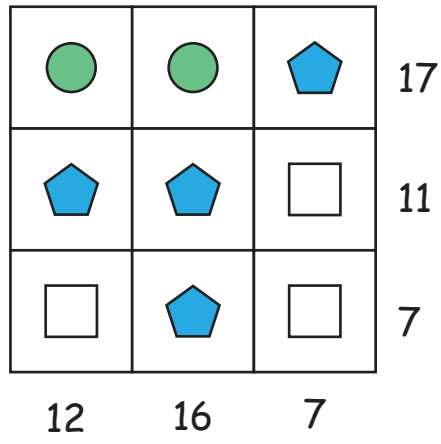

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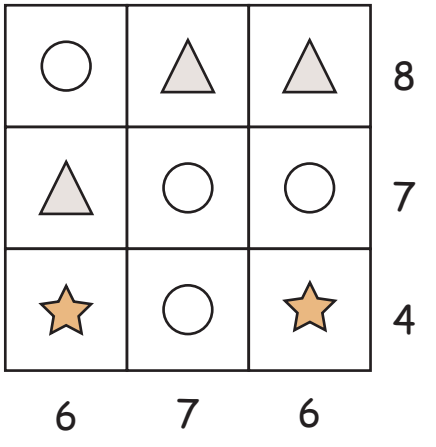

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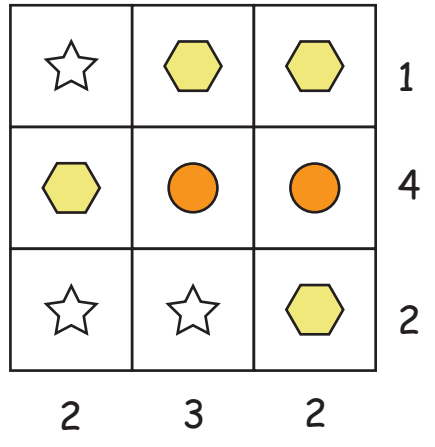

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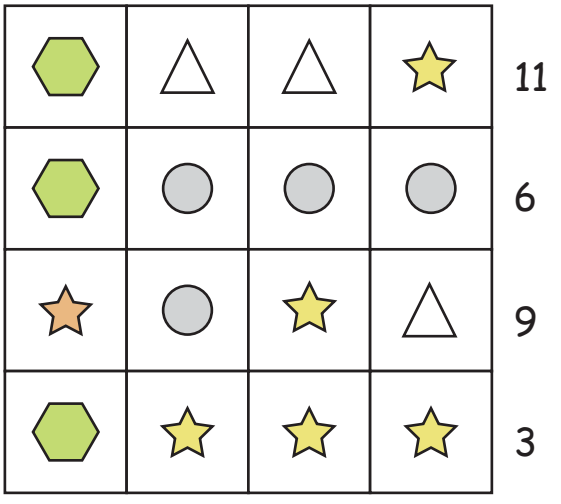
Activity 17 - Extension

Shape Algebra Boxes

Given the sums of each row and column, find the value of the shapes.



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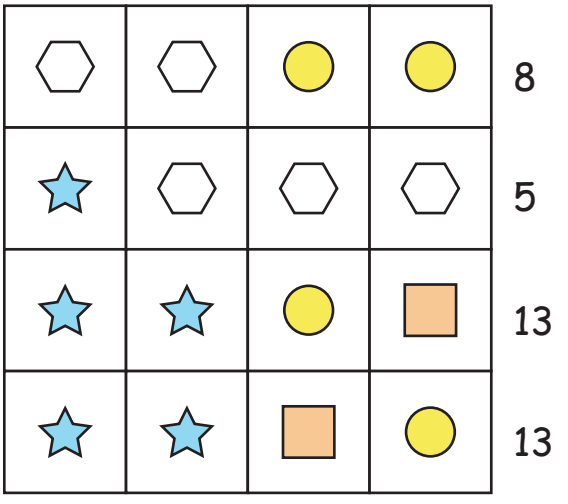

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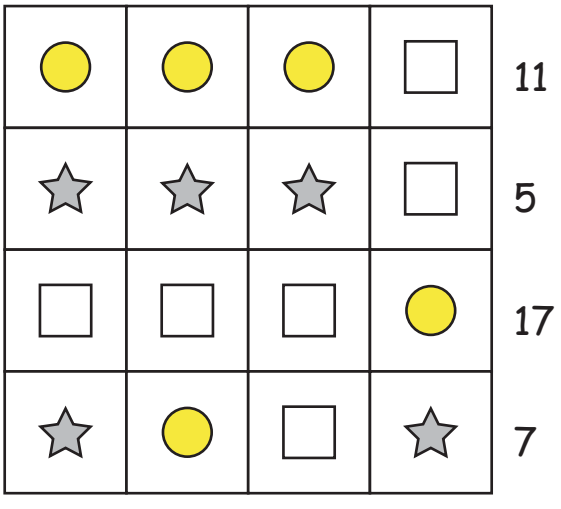

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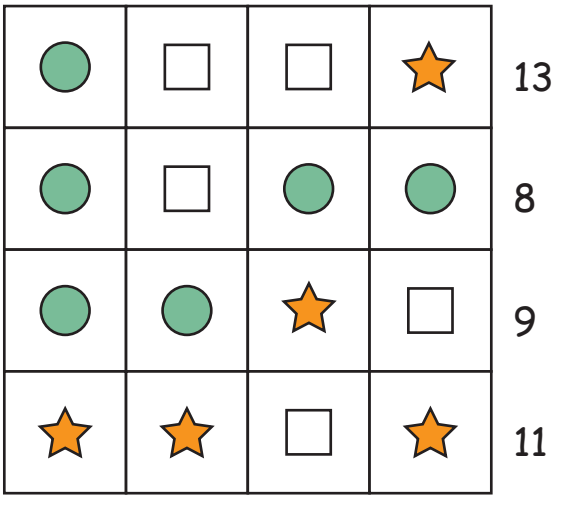

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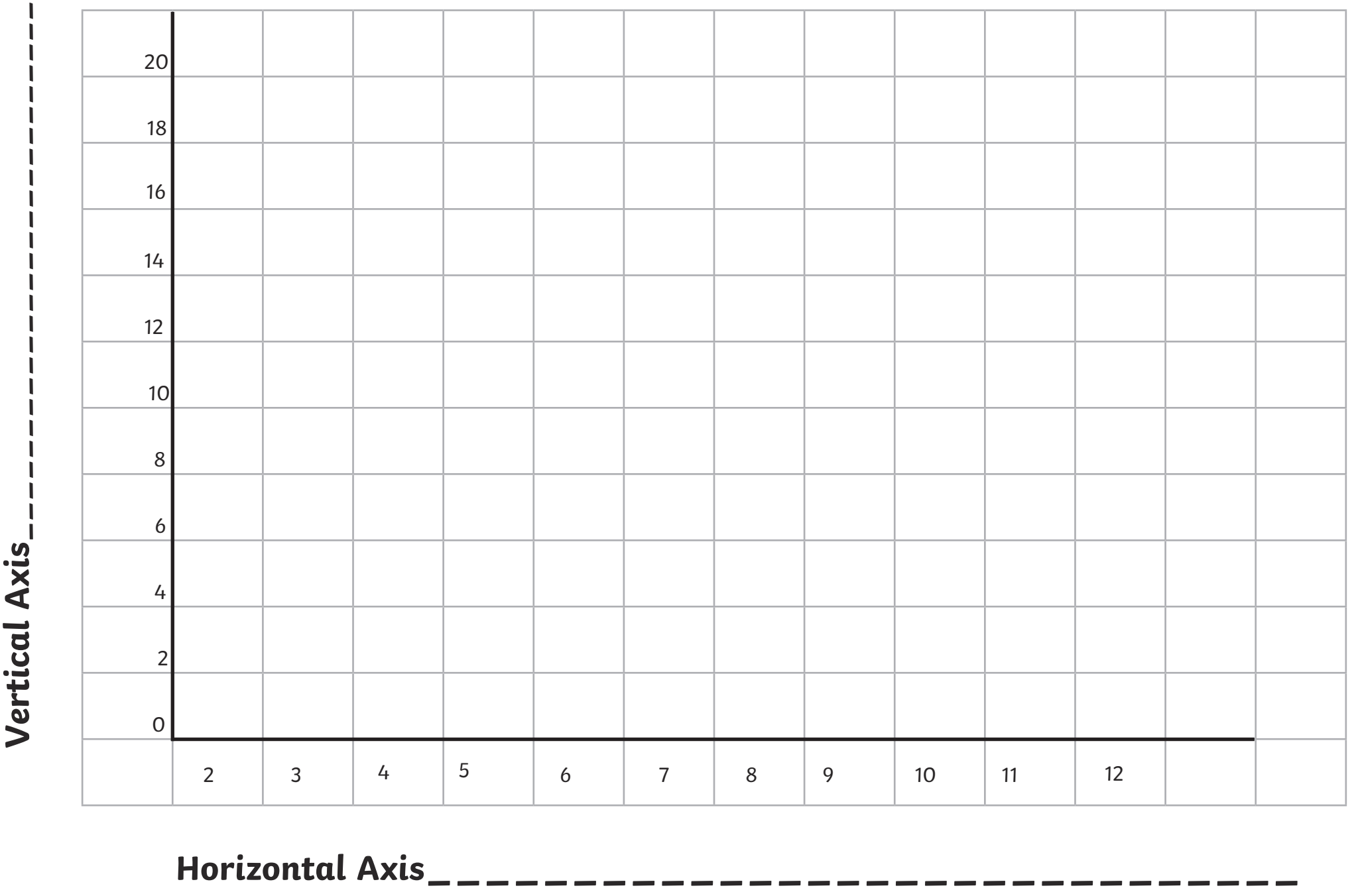
Activity 19

Dice Experiment Column Graph



Spare Pages for Answers

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