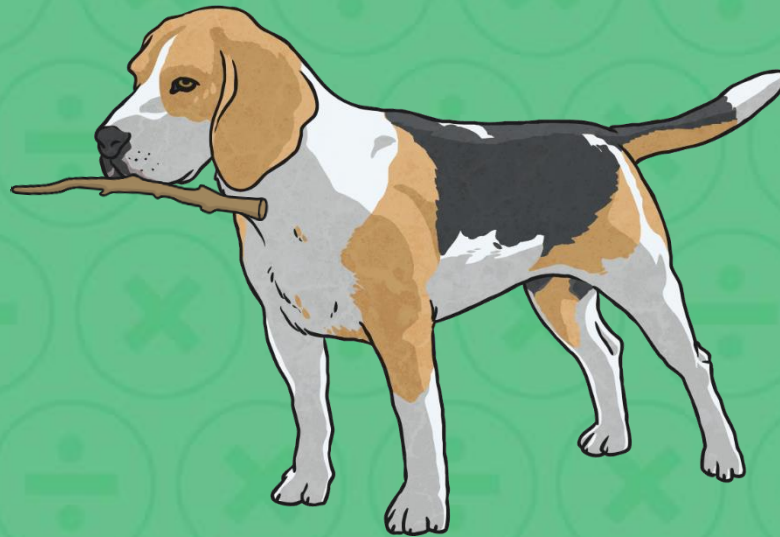




# Maths

## Multiplication and Division

# The Sixes



# Aim

- I can multiply and divide by six.

# Success Criteria

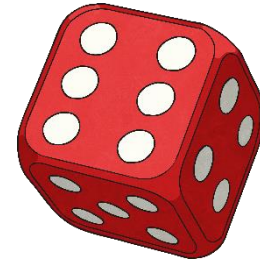
- I can count in sixes.
- I can recognise the multiples of 6 up to  $12 \times 6$ .
- I can use arrays and the 6 times table to find division facts.
- I can solve multiplication and division word problems using my 6 times table facts.

# Find the Product



## Instructions:

1. Your team needs two dice and a Find the Product Sheet.
2. The youngest team member starts by rolling both dice.
3. Find the product of the two numbers.
4. Write the answer down, then pass it on to the next group member.
5. Once everyone in the group has had a go, check the answers together. Each correct answer gets a point.
6. The team member with the highest answers wins two points.



## Play another round.

How many points can you get before your teacher asks you to stop?

## Find the Product

Roll both dice and find the product. Check the answers; give one point for a correct answer and 2 points for the highest product of the round.

Player's Name	Round 1		Round 2		Round 3	
	Calculation	Score	Calculation	Score	Calculation	Score

# Let's Count in Sixes!



Click a segment of the counting stick to reveal the number.



If  $10 \times 6 = 60$ , how could you work out  $5 \times 6$ ?

How could you work out  $2 \times 6$ ?

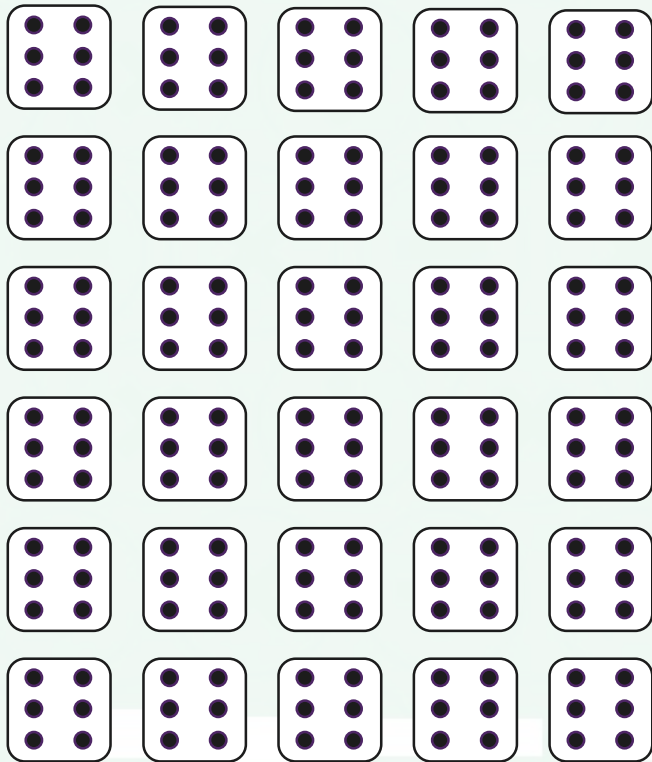
What would  $9 \times 6$  be? Can you use subtraction to work this out?

How could you work out  $11 \times 6$ ,  $12 \times 6$  and  $20 \times 6$ ?

# Arrays



How many dice are there?



Look at the rows. There are six rows of five.

$$6 \times 5 = 30$$

Look at the columns. There are five columns of six.

$$5 \times 6 = 30$$

If you share the 30 into six groups, there would be five in each group.

$$30 \div 6 = 5$$

If you share the 30 into five groups, there would be six in each group.

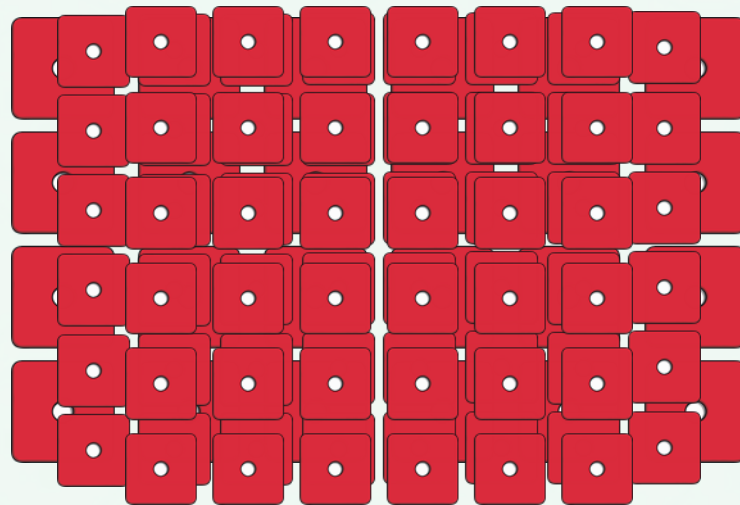
$$30 \div 5 = 6$$

# Arrays



How many dice are there in each of these arrays?

Can you write two multiplication and two division sentences to describe each array?



Are there always four different facts for each array? Why are there only two for  $6 \times 6$ ?



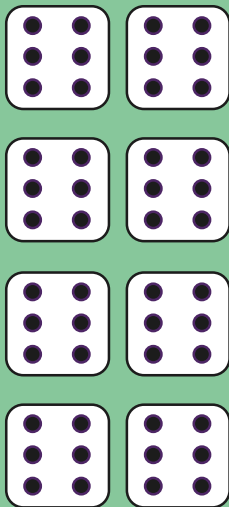
# Roll a Six



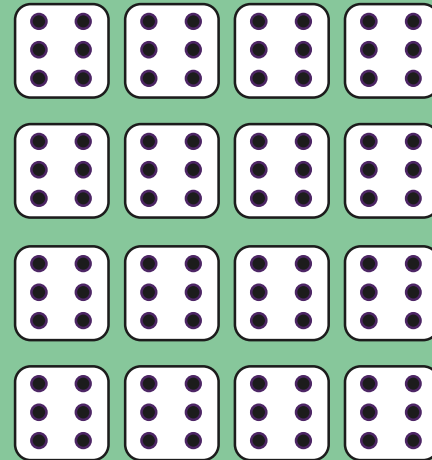
Can you use your six times table facts to solve any of these problems?

I rolled sixes on my dice and counted 42 dots in total.

How many sixes did I roll?



How many dots in total?



If I rolled two dice and had 12 dots in total, what did I roll?



# The Sixes Activities



**★**

1. Fill in the missing numbers.

0	6
---	---

2. Write two multiplication facts for each array.

a.

$5 \times 6 = \underline{\quad}$ ,  $6 \times \underline{\quad} = 6$

b.

$\underline{\quad} \times \underline{\quad} = \underline{\quad}$

c.

$\underline{\quad} \times \underline{\quad} = \underline{\quad}$

**★**

3. Circle the numbers which are multiples of 6.

a. 6, 12, 15, 20, 24, 30, 36, 42, 48, 54, 60, 66, 72, 78, 84, 90, 96, 102, 108, 114, 120

b. 60, 54, 46, 40, 36, 28, 24, 20, 15, 12, 9, 6, 3, 0

4. I rolled some dice. The total number of dots is 12. Draw in the rest of the dice.

**★★**

1. Write out the multiples of 6 from 6 to 60.

0				
---	--	--	--	--

2.  $11 \times 6 = \underline{\quad}$

3.  $12 \times 6 = \underline{\quad}$

4.  $20 \times 6 = \underline{\quad}$

5. Circle the numbers which are NOT multiples of 6.

a. 6, 12, 15, 20, 24, 32, 36, 42, 48, 54, 60, 66, 72, 78, 84, 90, 96, 102, 108, 114, 120

b. 60, 54, 46, 40, 36, 28, 24, 20, 15, 12, 9, 6, 3, 0

6. Answer these division questions.

a.  $36 \div 6 = \underline{\quad}$

b.  $42 \div 6 = \underline{\quad}$

c.  $24 \div 6 = \underline{\quad}$

d.  $48 \div 6 = \underline{\quad}$

7. I rolled some dice. The total number of dots is 12. How many dice did I roll?  $\underline{\quad}$

8. I rolled some dice. The total number of dots is 12. How many dice did I roll?  $\underline{\quad}$

9. Write your own word problem for  $12 \div 6 = \underline{\quad}$ .

10. Write your own word problem for  $12 \div 6 = \underline{\quad}$ .

**★★★**

1. Highlight the multiples of six up to 100 on the grid.

1	2	3	4	5	6	7
11	12	13	14	15	16	17
21	22	23	24	25	26	27
31	32	33	34	35	36	37
41	42	43	44	45	46	47
51	52	53	54	55	56	57
61	62	63	64	65	66	67
71	72	73	74	75	76	77
81	82	83	84	85	86	87
91	92	93	94	95	96	97

2. Which of these numbers are NOT multiples of 6?

a. 78, 18, 90, 76, 66, 58, 100, 99, 96, 84, 72, 60, 48, 36, 24, 12, 6, 0

3. Insects have six legs. How many insects are there in each group?

a. 48 legs?  $\underline{\quad}$

b. 84 legs?  $\underline{\quad}$

c. 72 legs?  $\underline{\quad}$

d. 24 legs?  $\underline{\quad}$

e. 54 legs?  $\underline{\quad}$

**★★★**

4. Stefan keeps stick insects as pets. Each carrier is a habitat for six stick insects. How many carriers has...

a. 10 stick insects?  $\underline{\quad}$

b. 19 stick insects?  $\underline{\quad}$

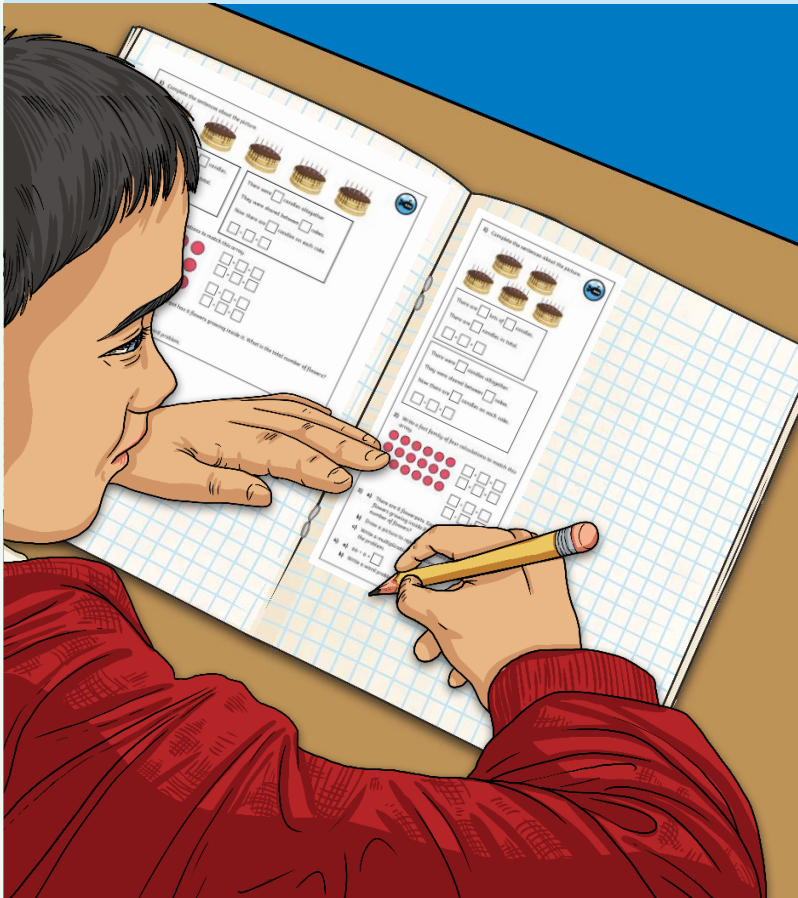
c. 50 stick insects?  $\underline{\quad}$

5. Write your own word problem for this number sequence:  $18 \div 6 = 3$

6. Write your own word problem for this number sequence:  $54 \div 6 = 9$

# Diving into Mastery

Dive in by completing your own activity!



1) Complete the sentences about the picture.



There are  lots of  candles.

There are  candles in total.

$$\square \times \square = \square$$

There were  candles altogether.

They were shared between  cakes.

Now there are  candles on each cake.

$$\square \div \square = \square$$

2) Write a fact family of four calculations to match this array.



$$\square \times \square = \square$$

$$\square \times \square = \square$$

$$\square \div \square = \square$$

$$\square \div \square = \square$$

3) a) There are 8 flowerpots. Each flowerpot has 6 flowers growing inside it. What is the total number of flowers?

b) Draw a picture to represent this word problem.

c) Write a multiplication calculation that matches the problem.

4) a)  $66 \div 6 = \square$

b) Write a word problem to match this division fact.

1) Complete the sentences about the picture.



There are  lots of  candles.

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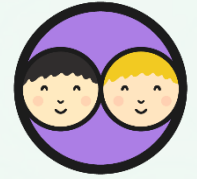
b) Write a word problem to match this division fact.



There are  cakes.  
Each cake has  candles.

What is the total number of flowers?

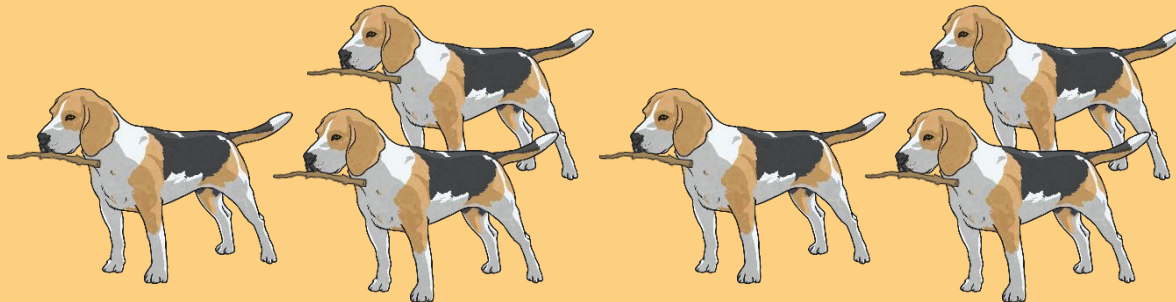
# Rhymes to Remember



Which of the facts from the six times table are the hardest to remember?

Some people make up rhymes to help them to remember them. Here is an example:

**Six dogs with six sticks, six times six is thirty-six.**



Can you make up any rhymes of your own for these tricky six times table facts?

# Aim



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