Maths

Multiplication and Division

Multiplication Magic

Aim

- I can use multiplication tables facts to solve calculations with larger numbers and calculations with decimals.

Success Criteria

- I can identify times table facts within larger numbers.

- I can multiply the fact by multiples of 10 to solve calculations with larger numbers.

- I can divide the fact by multiples of 10 to solve calculations with decimals.
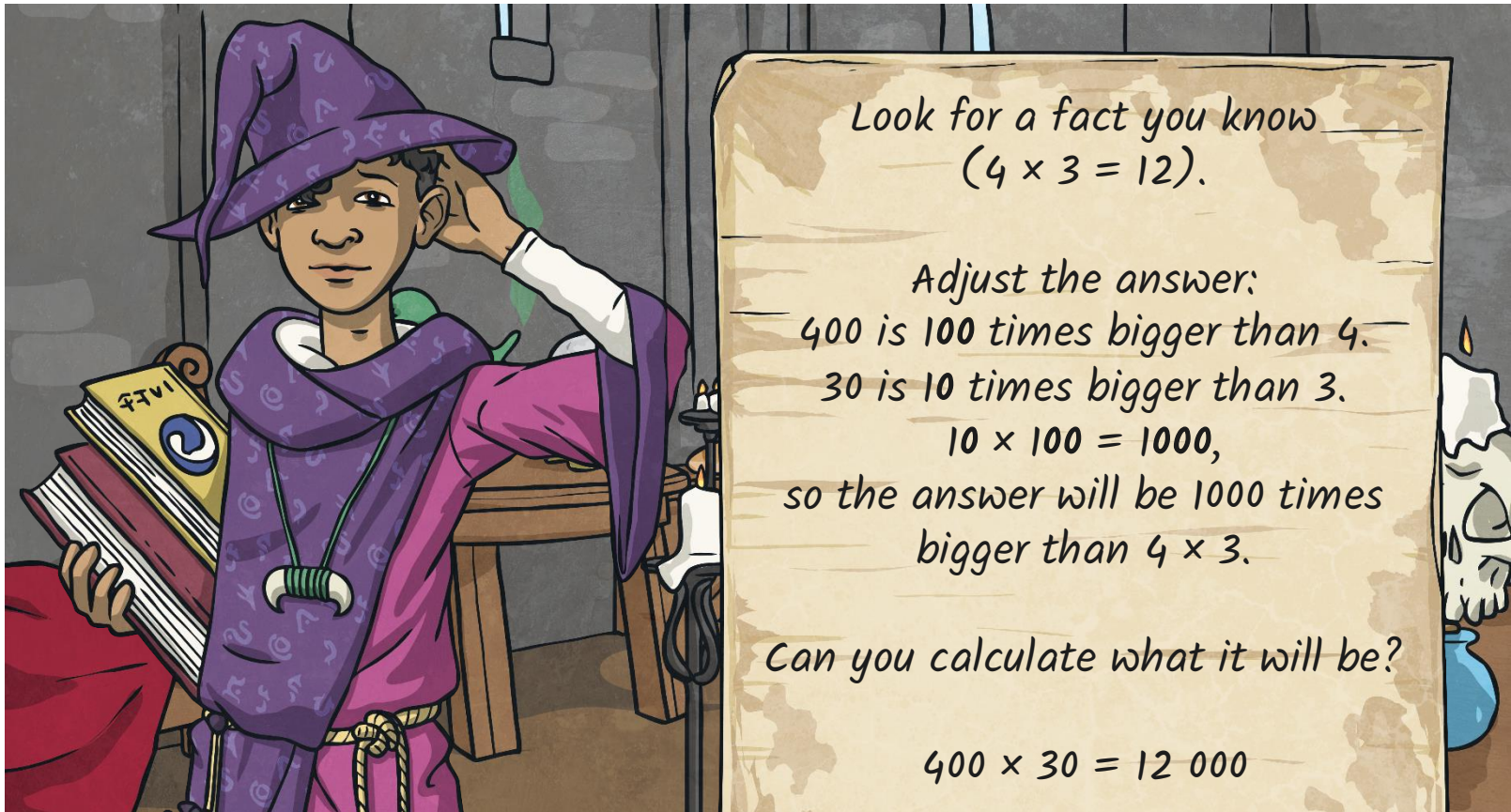
Magic Wands

Start with the number in the middle and calculate the number which will be at each end of the wand.

28	÷ 4	× 2	double it	8	halve it	× 11	÷ 4	12
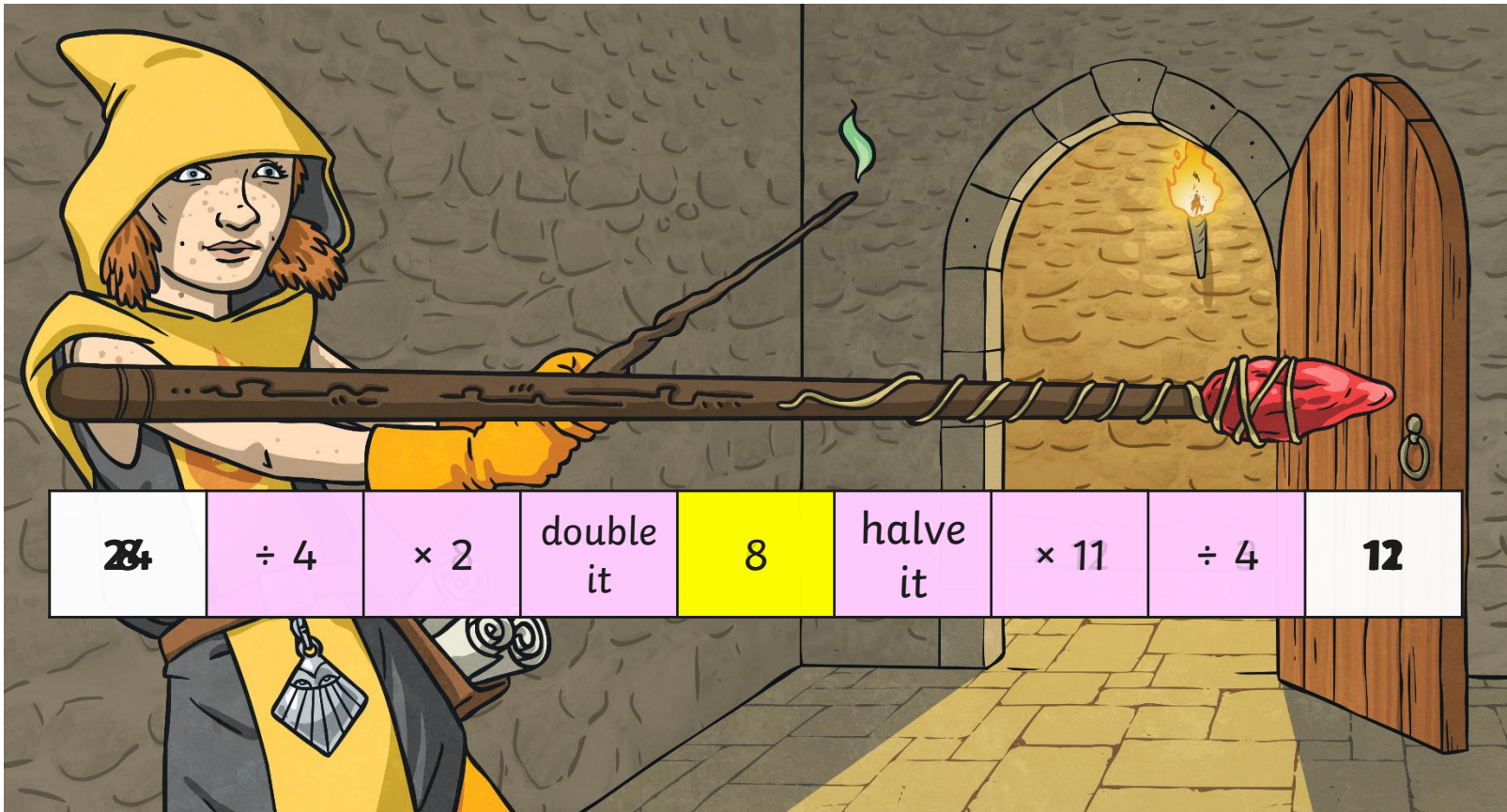
Multiplying in Two Steps

400 × 30 = ?

How would you solve this?

Look for a fact you know
(4 × 3 = 12).

Adjust the answer:
400 is 100 times bigger than 4.
30 is 10 times bigger than 3.
10 × 100 = 1000,
so the answer will be 1000 times
bigger than 4 × 3.

Can you calculate what it will be?

400 × 30 = 12 000

Larger Numbers

Remember the two steps:

1) Look for the multiplication you know.　　　2) Adjust the answer.

$5000 \times 400 = $ **2 000 000**

$70 \times 600 = $ **42 000**

$8000 \times 60 = $ **480 000**

$5000 \times 6000 = $ **30 000 000**

$90 \times 7000 = $ **630 000**

$80 \times 40000 = $ **3 200 000**

$3000 \times 300 = $ **900 000**

$6000 \times 120 = $ **720 000**

The answer is 20 **000**.

Multiplying Decimals

When we multiply decimals, step 1 is the same.
We look for the multiplication we know:

Remember the two steps:
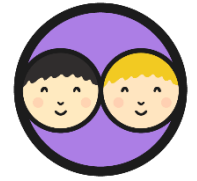1) Look for the fact you know.   2) Adjust the answer.

$0.6 \times 7 = ?$

$6 \times 7 = 42$

Tens	Ones	Tenths
4	2 •	0
	4 •	2

We made 0.6 ten times bigger when we calculated 6 × 7,
so we now have to make the answer ten times smaller
by dividing it by ten (moving it one place to the right).

When we get to step 2, we need to divide
instead of multiply.

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Now Try These

Work in pairs to find the answers to these problems:

Remember the two steps:
1) Look for the multiplication you know.
2) Adjust the answer.

$0.7 \times 4 = \mathbf{2.8}$

$30 \times 6000 = \mathbf{180\ 000}$

$0.9 \times 3 = \mathbf{2.7}$

$5 \times 0.6 = \mathbf{3.0}$

$300 \times 700 = \mathbf{210\ 000}$

$8 \times 0.4 = \mathbf{3.2}$

$30 \times 500 = \mathbf{15\ 000}$

$6 \times 0.9 = \mathbf{5.4}$

Multiplication Magic
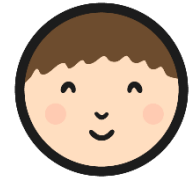
Use your marvellous maths skills to complete these activities:

Sheet 1

Multiplication Magic

I can use my multiplication tables facts to solve calculations with larger numbers and calculations with decimals.

1) Draw lines to match the witches and wizards to their potions.
Can you circle the potion that doesn't belong to any of these witches or wizards?

Potions: 7 × 0.8, 8 × 7000, 7000 × 80, 70 × 800 000, 800 × 7, 70 × 60, 7 × 8, 7 × 8000, 800 × 70, 8000 × 7000

Answers: 5.6, 5600, 56 000, 500 000, 56

2) Can you think of 2 multiplication questions for each of these answers?
The first one is done as an example.

28 000 000	4 × 7 000 000	7 × 4 000 000
2.4		
3000		
4500		
4.5		
630 000 000		
48 000		
1.6		

Sheet 2

Multiplication Magic

I can use my multiplication tables facts to solve calculations with larger numbers and calculations with decimals.

1) Draw lines to match the wizards to their potions.

Potions: 70 × 60, 0.7 × 4, 4000 × 7, 700 × 40, 7 × 8000, 4 × 7000, 7 × 0.4

Answers: 2.8, 7800, 28 000

2) Can you think of 2 multiplication questions for each of these answers?
The first one is done as an example.

28 000	40 × 700	70 × 400
2.4		
40 000		
2400		
7.2		
630 000		
480 000		
3.6		

Sheet 3

Multiplication Magic

I can use my multiplication tables facts to solve calculations with larger numbers and calculations with decimals.

1) Draw lines to match the calculations with their answers.

Calculation	Answer
7 × 400	20 000
80 × 40	180 000
300 × 60	3200
50 × 60	2800
8000 × 40	3000
800 × 40	28 000
50 × 400	320 000
200 × 9000	32 000
30 × 6000	18 000
70 × 400	1 800 000

2) Solve the calculations on the potion bottles. Look for the facts that you know!

Potions: 0.7 × 6, 0.9 × 9, 8 × 0.9, 0.2 × 9, 6 × 0.6, 6 × 0.9, 0.3 × 6, 6 × 0.7, 8 × 0.2, 6 × 0.8

Find a Friend

Below is an example of the team who need to know their graph and you to demonstrate your answers?

Somewhere in the room of the are there friends who need to know the graph actual find your own and complete your calculations?

0.7 × 4

700 × 40

7000 × 40 000

4 × 0.7

Aim

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Success Criteria

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