

RECALL

FACTORS

10	1, 2, 5, 10
12	
15	
20	
36	

RECALL

$$6 \overline{) 3744}$$

$$7 \overline{) 4465}$$

L.O. DIVIDE NUMBERS UP TO 4 DIGITS BY A 2-DIGIT NUMBER
USING THE FORMAL WRITTEN METHOD OF SHORT DIVISION,
INTERPRETING REMAINDERS ACCORDING TO THE CONTEXT.

- **SOME WILL EVEN:** Explain my method.
- **SOME WILL:** Check answer using short/long division.
- **MOST WILL:** Use known multiplication facts to aid calculation.
- **ALL WILL:** Use diagrams to help divide.

MY TURN



- a) How many times did the log flume run?
- b) The next day the log flume ran with only $\frac{4}{5}$ the capacity. 720 people still rode. How many times did the log flume run?

help

Use $15 = 3 \times 5$ – draw a diagram.



Create another question for this picture involving division.



APE

$$750 \div 15 = \quad \text{or } 750 \div 5 \text{ then } \div 3 = \mathbf{50}$$

150			150			150			150			150		
50	50	50	50	50	50	50	50	50	50	50	50	50	50	50

$$\begin{array}{r} \mathbf{050} \\ 15 \overline{) 750} \end{array}$$

$$720 \div 12 = \quad \text{or } 720 \div 2 \text{ then } \div 6 = \mathbf{60}$$

360						360					
60	60	60	60	60	60	60	60	60	60	60	60

$$\begin{array}{r} \mathbf{060} \\ 12 \overline{) 720} \end{array}$$

YOUR TURN



- a) How many times did the log flume run?
- b) The next day the log flume ran with only $\frac{4}{5}$ the capacity. 600 people still rode. How many times did the log flume run?

help

Use $15 = 3 \times 5$ – draw a diagram.



Create another question for this picture involving division.



APE

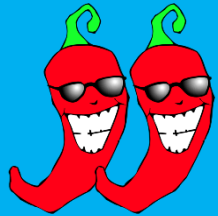
How many times did each of these rides run?



320 people rode the Runaway train. Each carriage held 16 people.



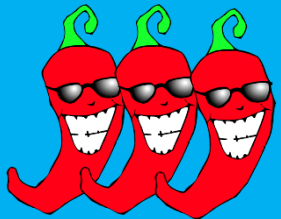
$$320 \div 16 = \quad \quad 16 = 2 \times 8$$



540 people rode the Ghost train. Each carriage held 18 people.



$$540 \div \underline{\quad} = \quad \quad 18 = \underline{\quad} \times \underline{\quad}$$



1,920 people rode the rollercoaster. Each carriage held 24 people.



£175,000 was made this day with tickets costing £35 per person. How many people visited in total?



$$320 \div 16 = \quad 16 = 2 \times 8$$



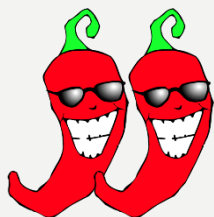
160	160
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$$320 \div 2 = 160$$

20	20	20	20	20	20	20	20
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$$160 \div 8 = 20$$

$$540 \div 18 = \quad 18 = 2 \times 9$$



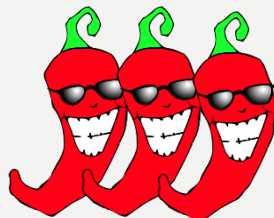
270	270
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$$540 \div 2 = 270$$

30	30	30	30	30	30	30	30	30
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$$270 \div 9 = 30$$

$$1,920 \div 24 = \quad 24 = 4 \times 6$$



480	480	480	480
-----	-----	-----	-----

$$1,920 \div 4 = 480$$

80	80	80	80	80	80
----	----	----	----	----	----

$$480 \div 6 = 80$$

$$175,000 \div 35 = \quad 35 = 5 \times 7$$



35,000	35,000	35,000	35,000	35,000
5000	5000	5000	5000	5000

$$175,000 \div 5 = 35,000$$

$$35,000 \div 7 = 5000$$

DIVE DEEPER 1

- 1 A new roller coaster opens at the park. 1,260 people ride on it in the first 14 days. How many people is that per day?

I know 14 is 2×7 . I will divide by 2, and then divide by 7.



1,260

$$1,260 \div 2 = \square$$

$$\square \div 7 = \square$$

$\square$ people ride on the new roller coaster per day.

- 2 Tickets for the park cost £18 per person. On one day the park made £5,490. How many tickets were sold?

Choose which method solves the division correctly, then solve it.

$$5,490 \rightarrow \boxed{\div 6} \rightarrow \boxed{\div 3} \rightarrow$$

$$5,490 \rightarrow \boxed{\div 10} \rightarrow \boxed{\div 8} \rightarrow$$

$$5,490 \div \square \div \square = \square$$

$\square$ tickets were sold on that day.

- 1 A new roller coaster opens at the park. 1,260 people ride on it in the first 14 days. How many people is that per day?

I know 14 is 2×7 . I will divide by 2, and then divide by 7.



1,260

630
630

90	90	90	90	90	90	90
90	90	90	90	90	90	90

$$1260 \div 2 = 630 \quad 630 \div 7 = 90$$

90 people ride on the new rollercoaster per day.



- 2 Tickets for the park cost £18 per person. On one day the park made £5,490. How many tickets were sold?

Choose which method solves the division correctly, then solve it.

$$5,490 \rightarrow \boxed{\div 6} \rightarrow \boxed{\div 3} \rightarrow$$

$$5,490 \rightarrow \boxed{\div 10} \rightarrow \boxed{\div 8} \rightarrow$$

$$5,490 \div \boxed{} \div \boxed{} = \boxed{}$$

tickets were sold on that day.

$$5490 \div 6 \div 3 = 305$$

915	915	915	915	915	915
-----	-----	-----	-----	-----	-----

305	305	305
-----	-----	-----

305 tickets were sold on that day.



DIVE DEEPER 1

3

a) Max is trying to solve $2,100 \div 12$.

I will use the facts that 12 is 2×6 , 6×2 , 3×4 and 4×3 .

I can see that 12 is also $3 \times 2 \times 2$.

CHALLENGE

$$\begin{array}{l}
 2,100 \longrightarrow \boxed{\div 2} \longrightarrow \boxed{\div 6} \longrightarrow \\
 2,100 \longrightarrow \boxed{\div 6} \longrightarrow \boxed{\div 2} \longrightarrow \\
 2,100 \longrightarrow \boxed{\div 3} \longrightarrow \boxed{\div 4} \longrightarrow \\
 2,100 \longrightarrow \boxed{\div 4} \longrightarrow \boxed{\div 3} \longrightarrow \\
 2,100 \longrightarrow \boxed{\div 3} \longrightarrow \boxed{\div 2} \longrightarrow \boxed{\div 2} \longrightarrow
 \end{array}$$

Max tries each of these calculations.

Do they all give the correct answer?

Which method makes it easiest to solve?

b) Reena is trying to solve $1,800 \div 24$. Which factors could she choose?

$$\begin{array}{l}
 1,800 \longrightarrow \boxed{\div ?} \longrightarrow \boxed{\div ?} \\
 1,800 \longrightarrow \boxed{\div ?} \longrightarrow \boxed{\div ?} \longrightarrow \boxed{\div ?} \\
 1,800 \longrightarrow \boxed{\div ?} \longrightarrow \boxed{\div ?} \longrightarrow \boxed{\div ?} \longrightarrow \boxed{\div ?}
 \end{array}$$

1050			1050		
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175	175	175	175	175	175
-----	-----	-----	-----	-----	-----

350	350	350	350	350	350
-----	-----	-----	-----	-----	-----

175			175		
-----	--	--	-----	--	--

700		700		700
-----	--	-----	--	-----

175	175	175	175
-----	-----	-----	-----

525	525	525	525
-----	-----	-----	-----

175	175	175
-----	-----	-----



3 a) Max is trying to solve $2,100 \div 12$.



I will use the facts that 12 is 2×6 , 6×2 , 3×4 and 4×3 .

I can see that 12 is also $3 \times 2 \times 2$.



$$\begin{aligned}
 2,100 &\rightarrow \boxed{\div 2} \rightarrow \boxed{\div 6} \rightarrow \\
 2,100 &\rightarrow \boxed{\div 6} \rightarrow \boxed{\div 2} \rightarrow \\
 2,100 &\rightarrow \boxed{\div 3} \rightarrow \boxed{\div 4} \rightarrow \\
 2,100 &\rightarrow \boxed{\div 4} \rightarrow \boxed{\div 3} \rightarrow \\
 2,100 &\rightarrow \boxed{\div 3} \rightarrow \boxed{\div 2} \rightarrow \boxed{\div 2} \rightarrow
 \end{aligned}$$

Max tries each of these calculations.

Do they all give the correct answer?

Which method makes it easiest to solve?

700	700	700
-----	-----	-----

350	350
-----	-----

175	175
-----	-----

Ambika says 'If I double the number that I am dividing by, the answer to the division will be halved.'

Bella says 'I think that means that if I double both numbers in a division, the answer will be halved and then halved again.'

Do you agree with both Ambika and Bella? Show how you know.



Broken Calculator

'The 4, 5 and 6 keys on my calculator are broken!'

How can I use my calculator to work out:

$$1350 \div 15 =$$

$$624 \div 16 =$$

$$480 \div 16 = 30$$

AMBIKA

$$480 \div 32 = 15$$

BELLA

$$960 \div 32 = 30$$

Broken Calculator

'The 4, 5 and 6 keys on my calculator are broken!'

How can I use my calculator to work out:

$$1350 \div 15 =$$

$$624 \div 16 =$$

$$1350 \div 30 \times 2 = 90$$

$$2700 \div 30 = 90$$

$$312 \div 8 = 39$$



Explain

For this task, **do not** work out the answers to the questions.

For each question, the answer has **how many digits?**

$$576 \div 6$$

digit(s)

$$5880 \div 7$$

digit(s)

$$920 \div 8$$

digit(s)

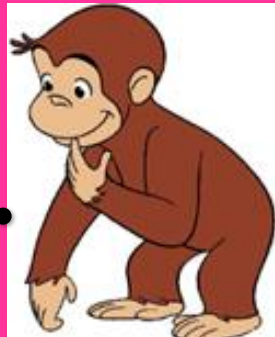
$$6140 \div 5$$

digit(s)

$$2076 \div 3$$

digit(s)

NOW...



APE

