

- 1) a) 700 000 c) 9 000 000 e) 60
 b) 40 d) 3000 f) 0.5



2) $675 \div 100 = 6.75$ $5693 \times 1000 = 5\,693\,000$ $932 \times 10 = 9320$
 $784\,093 \div 10 = 78\,409.3$ $65\,000 \div 1000 = 65$ $846 \times 100 = 84\,600$

- 1) Yes, both calculations total 986.4 so they give the same answer.
 2) Accept any fully-explained correct answer. A possible answer could be $507.9 \times 100 = 50\,790$ whereas 507.9 is the total given by the other two calculations.
 3) Many possible answers, for example:
 a) 1 010 100 and 10 101
 b) 3 000 000 and 3000



- 1) Many possible answers, for example:
 $1000 \times 420 = 420\,000$
 $2000 \times 210 = 420\,000$
 The number being multiplied by 1000 needs to be a 3-digit multiple of 20. The matching number being multiplied by 2000 will be half the number in the first calculation.
 2) Many possible answers, for example:
 $5\,314\,000 \div 1000 > 531 \times 10$
 $1354 \div 1000 > 10.34 \div 10$
 3) a) There are two ways: You could work out $220 \times 100 = 22\,000$ and then multiply the answer by 5 or you could multiply 220 by 1000 and then half your answer.
 b) 110 000





- 1) a) 700 made 1000 times the size is _____
b) 0.4 made 100 times the size is _____
c) 900 000 made ten times the size is _____
d) 3 000 000 made one thousandth times the size is _____
e) 6000 made one hundredth times the size is _____
f) 5 made one tenth times the size is _____

2) Use each of these terms once to complete the calculations.

$\times 10$	$\times 100$	$\times 1000$
$\div 10$	$\div 100$	$\div 1000$

$675 \boxed{} = 6.75$

$5693 \boxed{} = 5\,693\,000$

$932 \boxed{} = 9320$

$784\,093 \boxed{} = 78\,409.3$

$65\,000 \boxed{} = 65$

$846 \boxed{} = 84\,600$



1) Do these calculations give the same answer? Explain your reasoning.

$$98\,640 \div 100$$

$$98.64 \times 10$$

2) Which of these calculations would you say is the odd one out? Explain your reasoning.

$$50.79 \times 10$$

$$50.79 \times 10$$

$$507\,900 \div 1000$$

3) Meera uses 6 counters to represent the number 2 220 000 on a place value chart.

M	HTh	TTh	Th	H	T	O
● ●	● ●	● ●				

a) Use the six counters to make two new numbers that are one hundredth times the size of each other.

b) Use the six counters to make two new numbers that are 1000 times the size of each other.



- 1) Both these calculations give the same answer. Find five possible solutions to this problem. Explain any patterns you see in your answers.

$$1000 \times \square\square\square 0$$

$$2000 \times \square\square\square 0$$

- 2) Use the digit cards below to make the statement true. You can use each digit cards more than once. Can you find more than one solution?

$$? \div 1000 > ? \times 10$$



- 3) a) The school office received 220 boxes of glue sticks. Each box holds 500 glue sticks. What scaling by powers of 10 fact could you use to help you calculate how many glue sticks there are in total?

- b) Use this fact to calculate the answer.

1) a) 700 made 1000 times the size is...



b) 0.4 made 100 times the size is...

c) 900 000 made ten times the size is...

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$$1000 \times \boxed{}\boxed{}\boxed{}0$$

$$2000 \times \boxed{}\boxed{}\boxed{}0$$

- 2) Use the digit cards below to make the statement true. You can use each digit cards more than once. Can you find more than one solution?

$$? \div 1000 > ? \times 10$$

4

1

5

0

3

- 3) a) The school office received 220 boxes of glue sticks. Each box holds 500 glue sticks. What scaling by powers of 10 fact could you use to help you calculate how many glue sticks there are in total?

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Gattegno Chart

10 000 000	20 000 000	30 000 000	40 000 000	50 000 000	60 000 000	70 000 000	80 000 000	90 000 000
1 000 000	2 000 000	3 000 000	4 000 000	5 000 000	6 000 000	7 000 000	8 000 000	9 000 000
100 000	200 000	300 000	400 000	500 000	600 000	700 000	800 000	900 000
10 000	20 000	30 000	40 000	50 000	60 000	70 000	80 000	90 000
1 000	2 000	3 000	4 000	5 000	6 000	7 000	8 000	9 000
100	200	300	400	500	600	700	800	900
10	20	30	40	50	60	70	80	90
1	2	3	4	5	6	7	8	9
0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09



Scaling by 10, 100 and 1000 Roll and Read

To understand the relationship between powers of 10 from 1 hundredth to 10 million.



Instructions

- On your turn, roll the dice.
- Choose one of the calculations on the row that matches the number you rolled.
- Complete the stem sentences for the number.
- If your partner thinks you are correct, colour and claim that representation.
- Claim four in a line to win.

_____ is 10 / 100/ 1000
times the size of _____.



	23×10	52×100	90×1000	$45 \div 10$	$36 \div 100$	$57\ 000 \div 1000$
	420×10	100×100	610×1000	$780 \div 10$	$170 \div 100$	$290 \div 1000$
	8000×10	7800×100	2500×1000	$1100 \div 10$	$9300 \div 100$	$7000 \div 1000$
	$31\ 000 \times 10$	$43\ 000 \times 100$	$82\ 000 \times 100$	$64\ 000 \div 10$	$49\ 000 \div 100$	$81\ 000 \div 1000$
	$950\ 000 \times 10$	$890\ 000 \times 10$	$530\ 000 \times 10$	$2\ 000\ 000 \div 10$	$7\ 300\ 000 \div 100$	$3\ 800\ 000 \div 1000$
	6.9×10	3.4×100	9.4×1000	$50.1 \div 10$	$207 \div 100$	$1600 \div 1000$

1600 is 1000
times the
size of 1.6