Summer term Year 5 week 4 Maths

Use short division to divide, including writing remainders.

Each day covers one maths topic. It should take you about 1 hour or just a little more.

Read carefully through the remainder sheets

Tackle the questions on the **Practice Sheet**.
There might be a choice of either Mild (easier) or Hot (harder)!
Check the answers.

Finding it tricky? That's OK... have a go with a grown-up at **A Bit Stuck?**

Think you've cracked it? Whizzed through the Practice Sheets?
Have a go at the **Investigation**...

Learning Remainder

Use short division to divide 3 and 4-digit numbers by 1-digit numbers, including those that leave a remainder.

Solving 547 ÷ 3 using short division

Start by dividing 5 by 3.
There is one 3 in 5 and 2 left over.
So, write 1 above the line, in the 100s place.
Write the 2 left over in front of the next digit.

Now divide 24 by 3.
There are exactly eight 3s in 24.
So, write 8 above the line, in the 10s place.

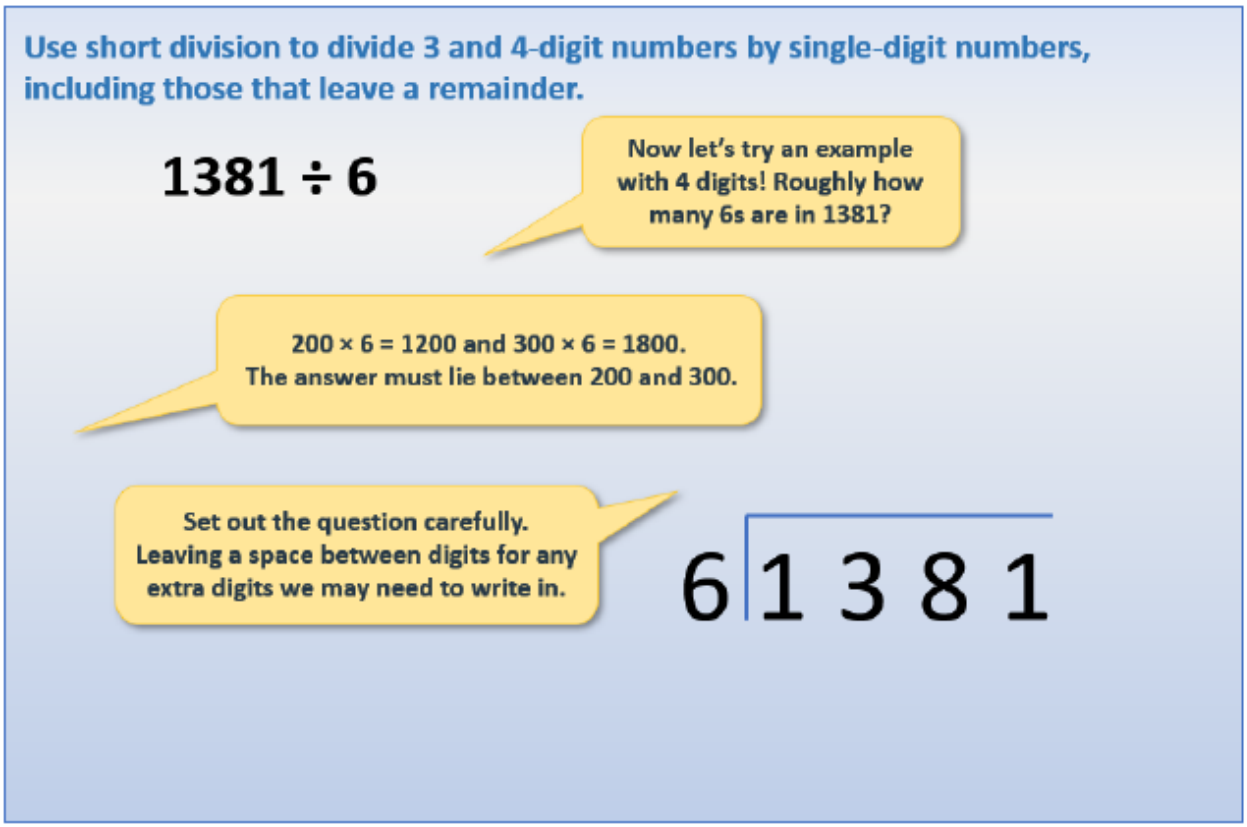
Now divide 7 by 3.
There are two 3s in 7, and 1 left over.
So, write 2 above the line, in the 1s place.
There is 1 left over, so we write r 1.

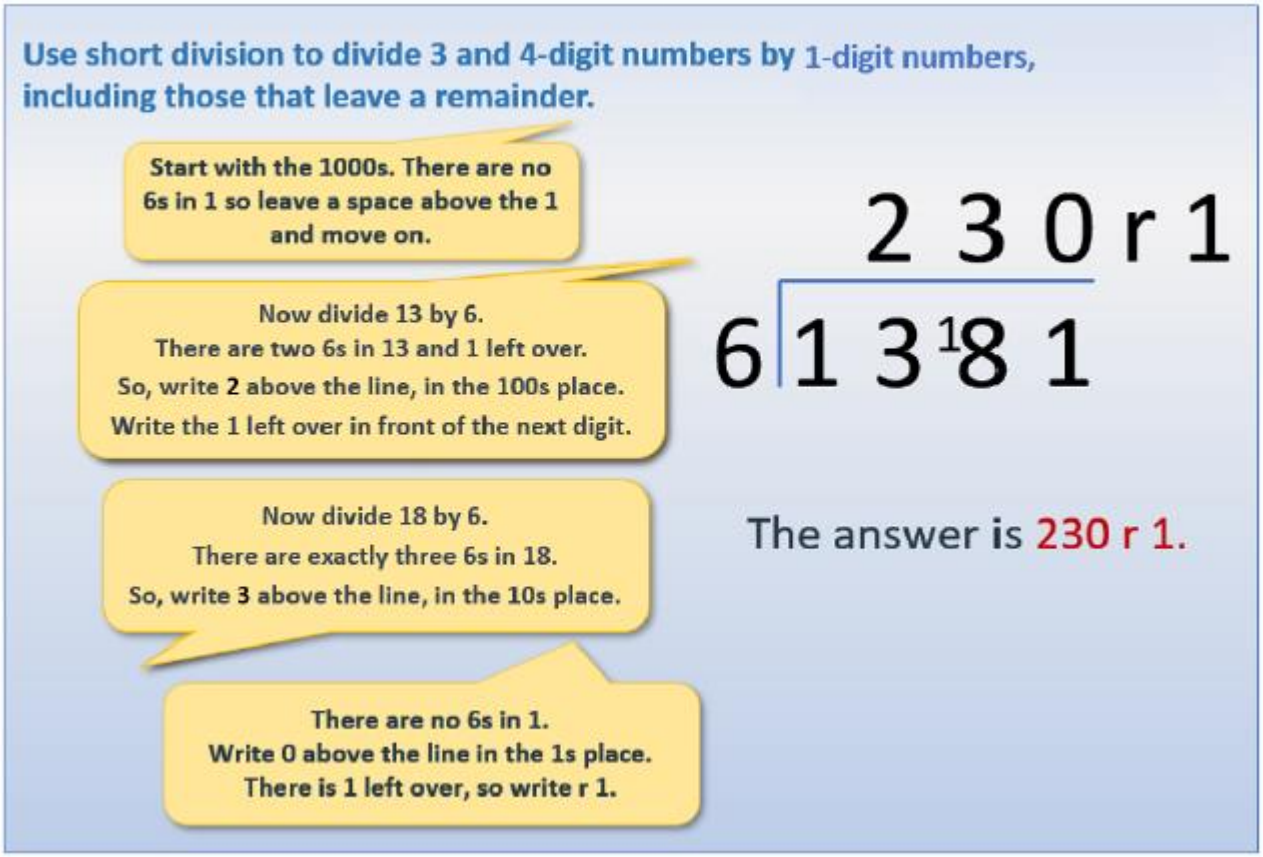
$$3\overline{)5^{2}4\ 7}\quad 1\ 8\ 2\ r\ 1$$

The answer is 182 r 1

Summer term Year 5 week 4 Maths

Day 1





Summer term Year 5 week 4 Maths

Day 1

Practice Sheet Mild

Short division with remainders

1. 542 ÷ 4
2. 523 ÷ 3
3. 746 ÷ 5
4. 638 ÷ 3
5. 982 ÷ 4
6. 249 ÷ 4
7. 341 ÷ 4
8. 283 ÷ 3
9. 364 ÷ 5
10. 754 ÷ 6

Practice Sheet Hot

Short division with remainders

1. 5237 ÷ 4
2. 8351 ÷ 6
3. 8343 ÷ 8
4. 2734 ÷ 5
5. 9535 ÷ 4
6. 2347 ÷ 3
7. 1429 ÷ 4
8. 1532 ÷ 7
9. 4735 ÷ 6
10. 5391 ÷ 8

Summer term Year 5 week 4 Maths

Day 1

Investigation

Investigating remainders

1262	1862	1922

- Choose one of the numbers and divide it in turn by 3, 4, 5 and 6.
- Record each division, and the remainder, what do you notice?
- Now try the same with the other two numbers, what happens this time?
- How can you explain this?

Clue!

Try subtracting 2 from each of the three starting numbers and think about what you know about factors and multiples..

- Find the difference between 1862 and 1262; then between 1922 and 1862.
- Use that information to find two more numbers that will give you the same results when you divide them by 3, 4, 5 and 6.
- How can you be sure without even trying out the divisions?

Challenge

Can you find three 5-digit numbers that will also produce the same remainder when dividing by 3, 4, 5 and 6?
Try to include at least one number that doesn't begin with 6!

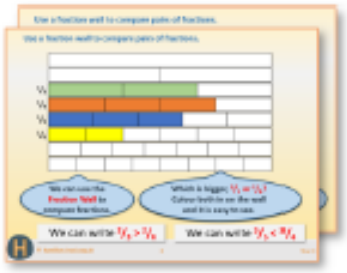
Summer term Year 5 week 4 Maths

Day 2

Use short division, expressing the remainders as fractions.

Each day covers one maths topic. It should take you about 1 hour or just a little more.

1. Start by reading through the **Learning Reminders.**



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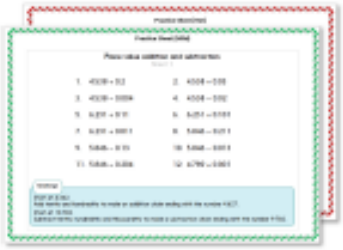
2. Tackle the questions on the **Practice Sheet.**
There might be a choice of either Mild (easier) or Hot (harder)!
Check the answers.



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3. Finding it tricky? That's OK... have a go with a grown-up at **A Bit Stuck?**

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4. Think you've cracked it? Whizzed through the Practice Sheets?
Have a go at the **Investigation...**

Summer term Year 5 week 4 Maths

Day 2

Use short division to divide 4-digit numbers by single-digit numbers, expressing the remainders as fractions.

5466 ÷ 4 using short division

Start by dividing 5 by 4.
There is one 4 in 5 and 1 left over.
Write **1** above the line, in the 1000s place.
Write 1 in front of the next digit.

Now divide 14 by 4.
There are three 4s in 14 and 2 left over.
Write **3** above the line, in the 100s place.
Write 2 in front of the next digit.

Now divide 26 by 4.
There are six 4s in 26 and 2 left over.
Write **6** above the line, in the 10s place.
Write 2 in front of the next digit.

Again, there are six 4s in 26.
Write **6** in the 1s place.
There are 2 left over, so write **r 2**.

$$4\overline{)5^{1}4^{2}6^{2}6} \quad 1366\ r\ 2$$

Use short division to divide 4-digit numbers by single-digit numbers, expressing the remainders as fractions.

If we want an exact answer we can divide 2 by 4 to give $^{2}/_{4}$.
We can simplify that to $^{1}/_{2}$.

$$4\overline{)5^{1}4^{2}6^{2}6} \quad 1366\ r\ 2$$

The exact answer is $1366^{1}/_{2}$

Summer term Year 5 week 4 Maths

Day 2

Practice Sheet Mild

More short division with remainders

1. Calculate:

100 × 3	200 × 3	300 × 3
100 × 4	200 × 4	
100 × 5	200 × 5	

2. Use your answers from above to help you with the following challenges:

452	731	278	625	927	541	394	847

a) Choose a number to divide by 3. Your answer must be between 100 and 200.
b) Choose a number to divide by 3. Your answer must be between 200 and 300.
c) Choose a number to divide by 4. Your answer must be between 100 and 200.
d) Choose a different number to divide by 4. Your answer must be between 100 and 200.
e) Choose a number to divide by 5. Your answer must be between 100 and 200.
f) Choose a different number to divide by 5. Your answer must be between 100 and 200.

Challenge

Choose a number from the box that you haven't used yet. Write divisions by 3, 4 and 5 and give a range for the answers.

Practice Sheet Hot

Short division: remainders written as fractions

Calculate the EXACT answers to these divisions. Write any remainders as fractions.

1. 7453 ÷ 3
2. 8342 ÷ 5
3. 2589 ÷ 3
4. 3801 ÷ 7
5. 5124 ÷ 6
6. 3456 ÷ 5
7. 8346 ÷ 4
8. 7621 ÷ 6
9. 2897 ÷ 3
10. 3247 ÷ 4
11. 6532 ÷ 6
12. 5214 ÷ 8

Summer term Year 5 week 4 Maths

Day 3

Revise short division of 4-digit numbers, expressing remainders as fractions.

Start with the 1000s. There are no 4s in 2 so leave a space above the 1000s place and move on.

Solving 2786 ÷ 4 using short division

Now divide 27 by 4.
There are 6 4s in 27 and 3 left over.
Write 6 above the line, in the 100s place.
Write 3 in front of the next digit.

$$4\overline{)2\,7^{3}8^{2}6}\quad 6\,9\,6\ r\ 2$$

Now divide 38 by 4.
There are 9 4s in 38 and 2 left over.
Write 9 above the line, in the 10s place.
Write 2 in front of the next digit.

Now divide 26 by 4.
There are six 4s in 26 and 2 left over.
Write **6** above the line, in the 1s place.
There are 2 left over, so write r 2.

Revise short division of 4-digit numbers, expressing remainders as fractions.

2786 ÷ 4 = 696 r 2

If we want an exact answer we can divide 2 by 4 to give $^{2}/_{4}$.
We can simplify that to $^{1}/_{2}$.
So 2786 ÷ 4 = $696\,^{1}/_{2}$

473 ÷ 4 = 118 r 1

Here are the answers to 3 more division questions.

3958 ÷ 3 = 1319 r 1

7975 ÷ 4 = 1993 r 3

Now try to write these answers using fractions.

Answers

$1993\,^{3}/_{4}$
$1319\,^{1}/_{3}$
$118\,^{1}/_{4}$

Summer term Year 5 week 4 Maths

Day 3

Practice Sheet Hot

Short division

Use short division to work out the answers to these divisions.
Write the remainders as fractions.

1. 5631 ÷ 5
2. 8621 ÷ 4
3. 4478 ÷ 3
4. 6832 ÷ 6
5. 8234 ÷ 7
6. 3345 ÷ 4
7. 2845 ÷ 3
8. 5043 ÷ 3
9. 4823 ÷ 5
10. 6728 ÷ 8
11. 4527 ÷ 6
12. 2934 ÷ 7

Practice Sheet Mild

Short division

Use short division to work out the answers to these divisions.
Write the remainders as fractions.

1. 467 ÷ 3
2. 623 ÷ 4
3. 277 ÷ 3
4. 651 ÷ 8
5. 459 ÷ 6
6. 272 ÷ 5
7. 5631 ÷ 5
8. 8621 ÷ 4
9. 4478 ÷ 3
10. 6832 ÷ 6

Check your understanding:

Questions

Day 3

Find:

581 ÷ 7 = [_]

3456 ÷ 5 = [_]

5400 ÷ 9 = [_]

A farmer is packing eggs.
Each box holds six eggs.
The farmer has 890 eggs to pack.
How many boxes will the farmer fill?

Fill the missing boxes to give an answer with fraction remainders as follows:

187 ÷ ☐ = ____ $^1/_2$

331 ÷ ☐ = ____ $^3/_4$

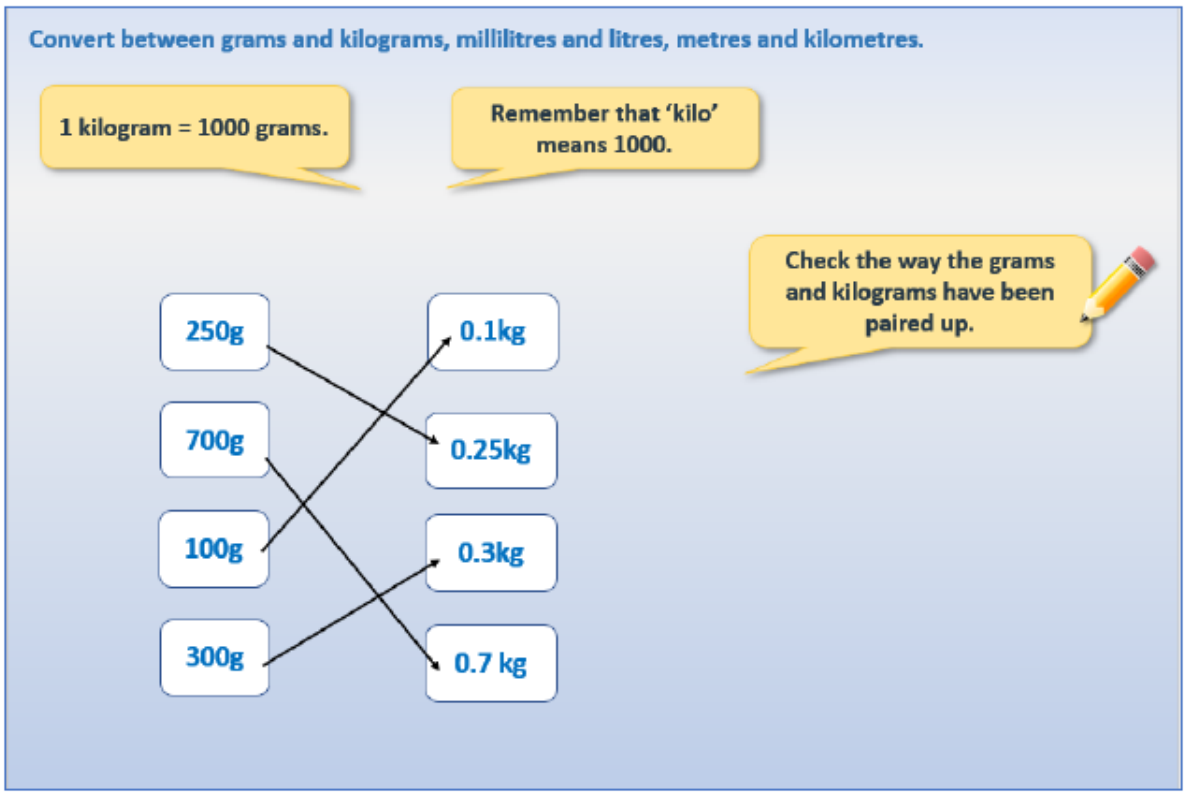
☐ ÷ 10 = ____ $^2/_5$

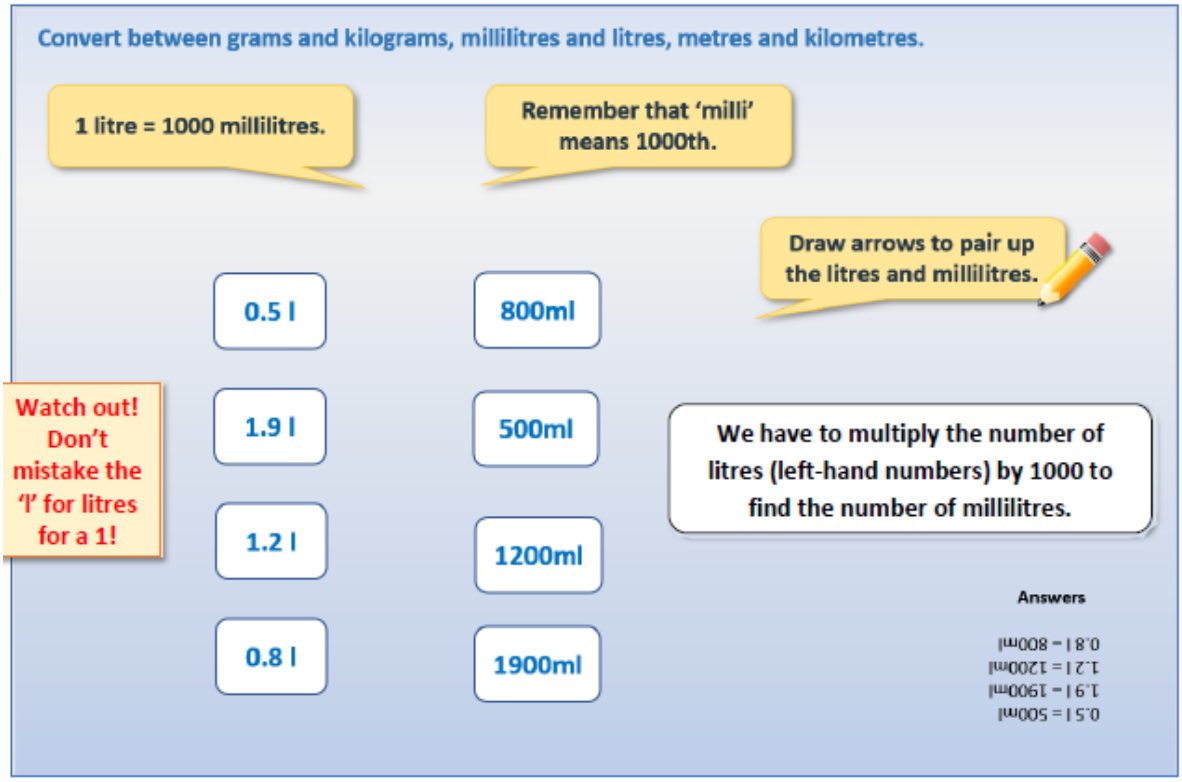
Working out box

Summer term Year 5 week 4 Maths

Day 4

Learning reminders





Summer term Year 5 week 4 Maths

Day 4

Convert between grams and kilograms, millilitres and litres, metres and kilometres.

1 kilometre = 1000 metres.

Write these distances in kilometres.

1100m 2500m 800m 1250m

We have to divide each by 1000.
1100 divided by 1000 is 1.1,
so, 1100 metres is 1.1 kilometres.

Now divide the others by 1000...

Answers

1100m = 1.1km
2500m = 2.5km
800m = 0.8km
1250m = 1.25km

Practice Sheet Mild

Converting between millilitres and litres

Record the capacities of each of these bottles in litres and in millilitres, converting between each unit.

1. 1 litre
2. 800ml
3. 200ml
4. 1.5l
5. 0.5l
6. 100ml
7. 0.4l
8. 600ml
9. 1900ml

Practice Sheet Hot

Converting between millilitres and litres

Record the capacities of each of these bottles in litres and in millilitres, converting between each unit.

1. 
1 litre

2. 
800ml

3. 
200ml

4. 
1.5l

5. 
0.5l

6. 
100ml

7. 
0.4l

8. 
600ml

9. 
1900ml

10. 
1.8l

11. 
1.2l

12. 
2 litres

Challenge

Write all the capacities in order, from least to greatest.

Investigations

Investigating metric conversions

Activity 1

- Cut out all of the twenty-four cards. Put aside the two blanks.
- Mix up the cards and lay them out randomly face-up in front of you.
- Pair up the cards as quickly as you can.
  Aim for less than 5 minutes!
- There should be two cards left over.
- Use the two blank cards to write their equivalent – kilograms for grams or grams for kilograms.
- Mix up all the cards and try to beat your time to pair them all.

Activity 2

- Sort the cards into kilograms and grams.
- Choose the grams and put the kilograms aside.
- Using your set, write the twelve weights in order in a list, from lightest to heaviest.
- Now, beside each weight, write the equivalent number of kilograms.
- Now use the kilogram cards to check that you have got them all right!

Challenge

Create a new set of 24 cards...

- On twelve of them write a length in kilometres.
- On the other twelve write the equivalent lengths in metres.
- Mix up the cards and try the activities with your new set of cards!

Summer term Year 5 week 4 Maths
Day 4

0.3kg	4300g	0.1kg	0.9kg
3.9kg	700g	2.4kg	500g
1300g	2.1kg	3800g	2700g

300g	4.3kg	100g	900g
3900g	0.7kg	2400g	0.5kg
1.3kg	2700g		

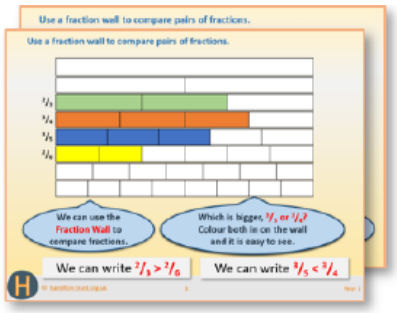
Summer term Year 5 week 4 Maths

Summer term Year 5 week 4 Maths
Day 5

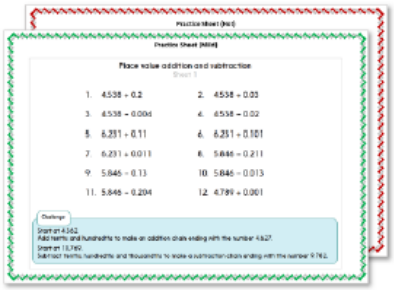
Know some imperial units and approximate metric equivalents

Each day covers one maths topic. It should take you about 1 hour or just a little more.

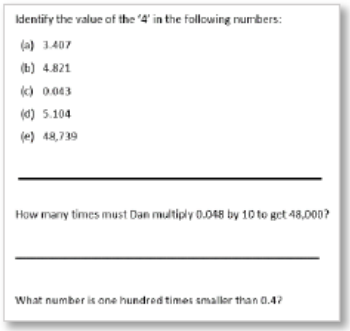
Start by reading through the **Learning Reminders**.



Tackle the questions on the **Practice Sheet**.
There might be a choice of either Mild (easier) or Hot (harder)!
Check the answers.



Have I mastered the topic? A few questions to **Check your understanding**.
Fold the page to hide the answers!



Know regularly used imperial units and approximate metric equivalents; covert between units.

Imperial units
pints pounds stones ounces
feet inches yards

These are some of the imperial units we still hear being used.

Some bags of crisps weigh 28 grams, a very strange number but this is because there were originally '1-ounce' packets.
28g is approximately 1 ounce.

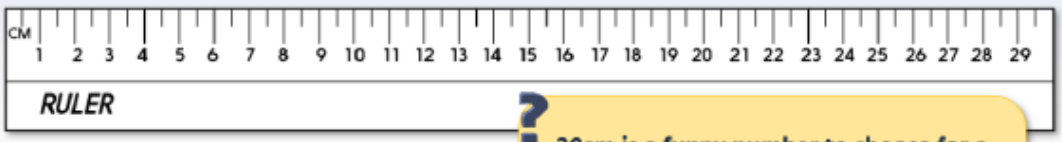
A new born baby might weigh 7 pounds. There are 16 ounces in a pound. So that's 112 ounces (16 x 7). That's 112 bags of crisps!

Many adults will know their weight in stones and pounds rather than kilograms.
There are 14 pounds in a stone.
10 kilograms is about the same as 1 stone 7 pounds.
If a child weighs 40 kilograms that's around 6 stone.

Summer term Year 5 week 4 Maths

Day 5

Know regularly used imperial units and approximate metric equivalents; covert between units.



30cm is a funny number to choose for a ruler, but rulers used to be a foot long, 12 inches, about 30cm.
An inch is about an adult thumb width.

Milk used to come in pint bottles and pubs still serve drinks in pint and half-pint glasses.

Know regularly used imperial units and approximate metric equivalents; covert between units.

Distances on signs in the UK are in miles.

But in France, for example, distances on signs are in kilometres.

A mile is longer than a kilometre, and a good approximate rule to convert from miles to kilometres or vice versa is to remember that 5 miles is approximately 8 km.

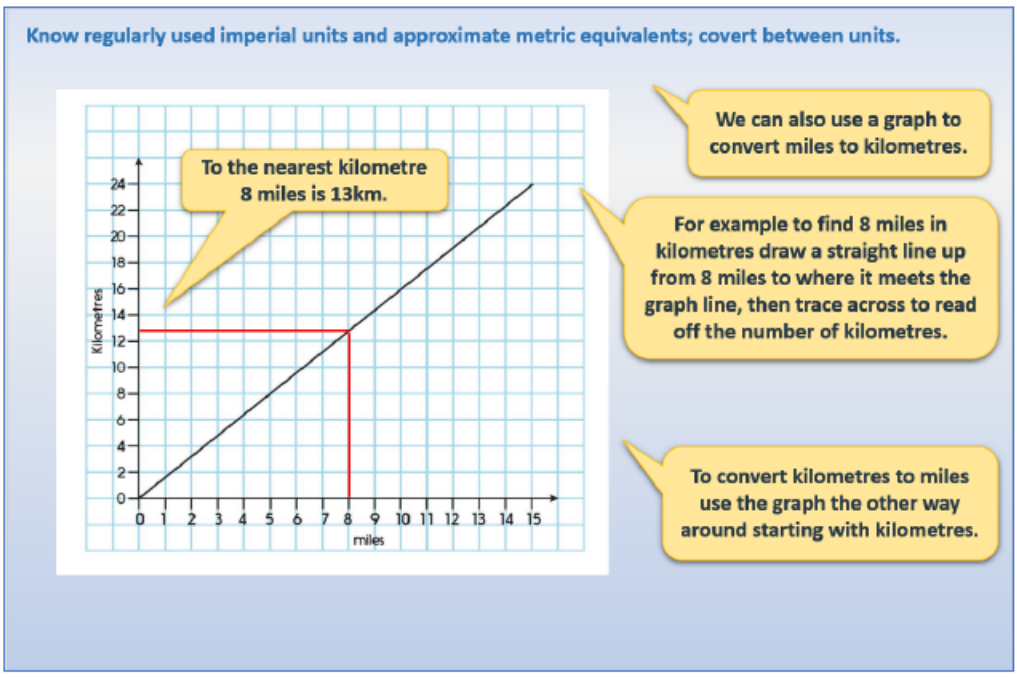
Miles	Kilometres
10	
15	
20	
50	

Complete this table showing the number of kilometres.

Answers

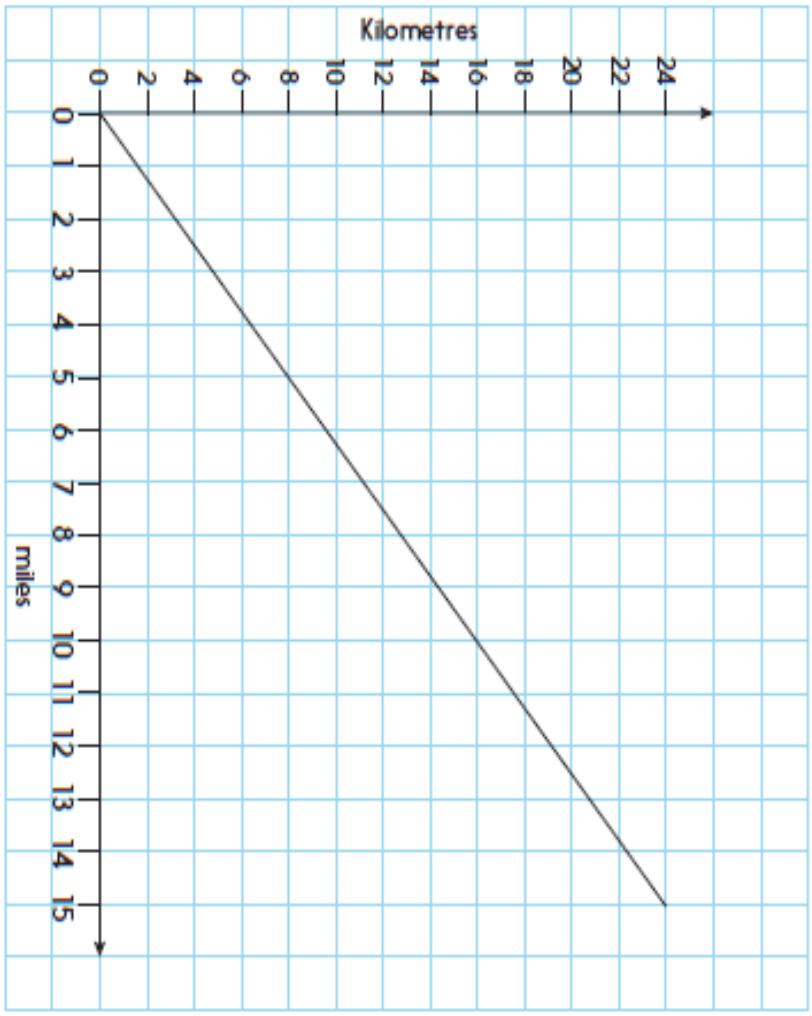
10miles = 16km
15miles = 24km
20miles = 32km
50miles = 80km

Summer term Year 5 week 4 Maths
Day 5



Practice Sheet Mild

Converting between miles and kilometres



Use the graph to convert the following distances to the nearest kilometre.

1. 5 miles
2. 10 miles
3. 2.5 miles
4. 12 miles

Use the graph to convert the following distances to the nearest mile.

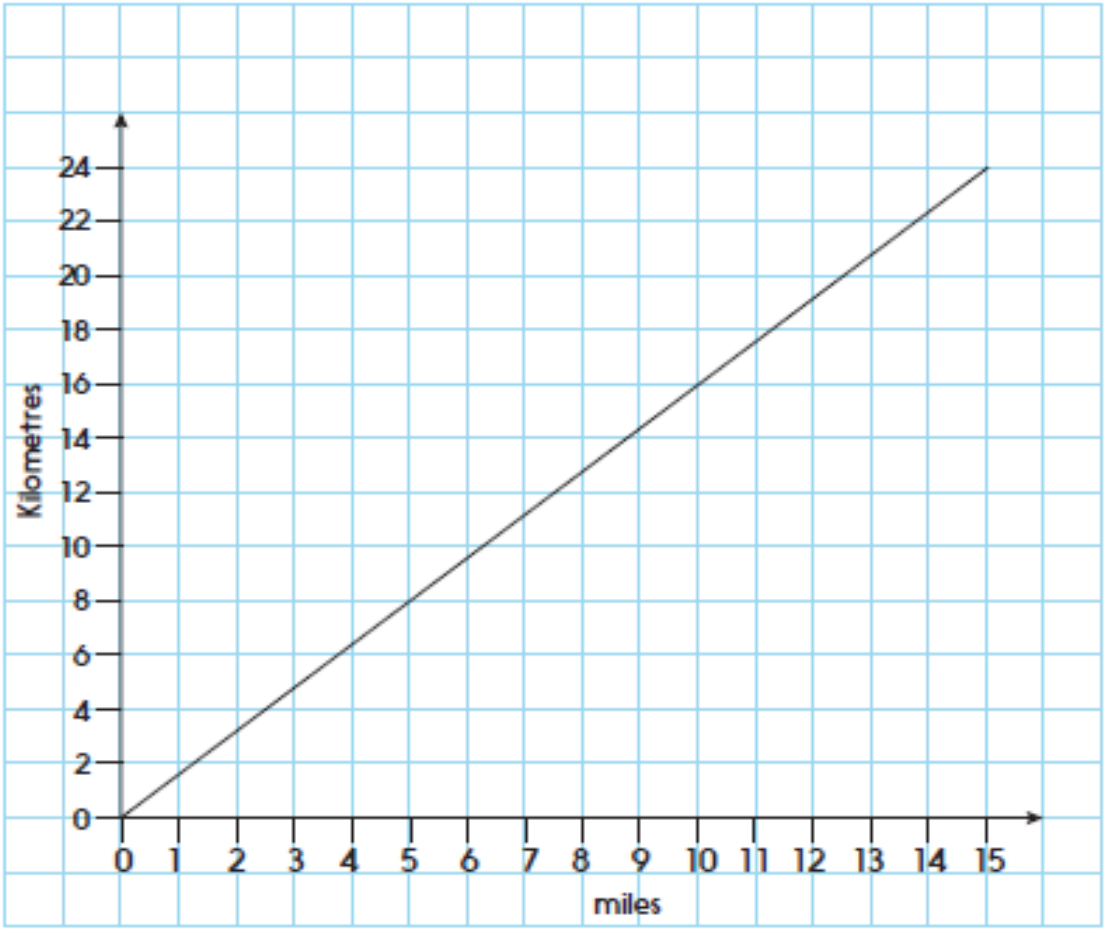
5. 12 km
6. 24 km
7. 18 km
8. 7 km

Summer term Year 5 week 4 Maths

Day 5

Practice Sheet Hot

Converting between miles and kilometres



Use the graph to convert the following distances to the nearest kilometre.

1. 5 miles
2. 10 miles
3. 2.5 miles
4. 12 miles

Use the graph to convert the following distances to the nearest mile.

5. 12 km
6. 24 km
7. 18 km
8. 7 km

Challenge

Use your answers to estimate how many kilometres are equivalent to

1. 20 miles
2. 25 miles
3. 50 miles
4. 250 miles

Day 5

Practice Sheet Hot

Converting between centimetres and inches

Use the information in the box below to complete this 'ready reckoner'. It helps people to approximately convert their heights from feet and inches to metres and centimetres, or vice versa.

30 cm is approximately 12 inches.
There are 12 inches in one foot.
1 inch is approximately $2\frac{1}{2}$ cm.

Ready Reckoner

Height in feet and inches	Height in metres and centimetres
5 feet	
	1m 35cm
5 feet 4 inches	
	1m 45cm
5 feet 8 inches	
5 feet 10 inches	
	1m 80cm
6 feet 2 inches	
6 feet 4 inches	

Challenge

Measure some distances around the classroom in metres and centimetres. For example, the length and width of the room, your desk, the whiteboard. Can you convert these to feet and inches?

Answers for each day

Day 1

Practice Sheet Answers

Practice Sheet (Mild)

1. 542 ÷ 4 = 135 r2
2. 523 ÷ 3 = 174 r1
3. 746 ÷ 5 = 149 r1
4. 638 ÷ 3 = 212 r2
5. 982 ÷ 4 = 245 r2
6. 249 ÷ 4 = 62 r1
7. 341 ÷ 4 = 85 r1
8. 283 ÷ 3 = 94 r1
9. 364 ÷ 5 = 72 r4
10. 754 ÷ 6 = 125 r4

Challenge

Yes, Alys is correct. If the remainder is bigger than 5, then more groups of 6 can be made.

Practice Sheet (Hot)

1. 5237 ÷ 4 = 1309 r1
2. 8351 ÷ 6 = 1391 r5
3. 8343 ÷ 8 = 1042 r7
4. 2734 ÷ 5 = 546 r4
5. 9535 ÷ 4 = 2383 r3
6. 2347 ÷ 3 = 782 r1
7. 1429 ÷ 4 = 357 r1
8. 1532 ÷ 7 = 218 r6
9. 4735 ÷ 6 = 789 r1
10. 5391 ÷ 8 = 673 r7

Challenge

Write two different 4-digit numbers which when divided by 5 will give a remainder of 2.
e.g. 1712 ÷ 5 = 342 r2 and 2817 ÷ 5 = 563 r2
Write two different 4-digit numbers which when divided by 4 will give a remainder of 3.
e.g. 2651 ÷ 4 = 662 r3 and 3135 ÷ 4 = 783 r3

Day 2

Practice Sheet (Hot)

1. 7453 ÷ 3 = 2484 $\frac{1}{3}$
2. 8342 ÷ 5 = 1668 $\frac{2}{5}$
3. 2589 ÷ 3 = 863
4. 3801 ÷ 7 = 543
5. 5124 ÷ 6 = 854
6. 3456 ÷ 5 = 691 $\frac{1}{5}$
7. 8346 ÷ 4 = 2086 $\frac{1}{2}$
8. 7621 ÷ 6 = 1270 $\frac{1}{6}$
9. 2897 ÷ 3 = 965 $\frac{2}{3}$
10. 3247 ÷ 4 = 811 $\frac{3}{4}$
11. 6532 ÷ 6 = 1088 $\frac{2}{3}$
12. 5214 ÷ 8 = 651 $\frac{3}{4}$

Day 2

Practice Sheet Answers

Practice Sheet (Mild)

1.
100 × 3 = 300 200 × 3 = 600 300 × 3 = 900
100 × 4 = 400 200 × 4 = 800
100 × 5 = 500 200 × 5 = 1000

2.
a) 452 ÷ 3 = 150 r2 or 541 ÷ 3 = 180 r1 or 394 ÷ 3 = 131 r1
b) 731 ÷ 3 = 243 r2 or 625 ÷ 3 = 208 r1 or 847 ÷ 3 = 282 r1
c) 452 ÷ 4 = 113 or 731 ÷ 4 = 182 r3 or 541 ÷ 4 = 135 r1
d) 452 ÷ 4 = 113 or 731 ÷ 4 = 182 r3 or 541 ÷ 4 = 135 r1
e) 731 ÷ 5 = 146 r1 or 927 ÷ 5 = 185 r2 or 541 ÷ 5 = 108 r1 or 847 ÷ 5 = 169 r2
f) 731 ÷ 5 = 146 r1 or 927 ÷ 5 = 185 r2 or 541 ÷ 5 = 108 r1 or 847 ÷ 5 = 169 r2

Challenge

Choose a number from the box that you haven't used yet. Write divisions by 3, 4 and 5 and give a range for the answers.
e.g. 625 ÷ 3 answer between 200 and 300 (just over 200)
625 ÷ 4 answer between 100 and 200
625 ÷ 5 answer between 100 and 200

Answer sheet 2

Day 3

Practice Sheet (Mild)

1. $467 \div 3 = 155\frac{2}{3}$
2. $623 \div 4 = 155\frac{3}{4}$
3. $277 \div 3 = 92\frac{1}{3}$
4. $651 \div 8 = 81\frac{3}{8}$
5. $459 \div 6 = 76\frac{3}{6}$
6. $272 \div 5 = 54\frac{2}{5}$
7. $5631 \div 5 = 1126\frac{1}{5}$
8. $8621 \div 4 = 2155\frac{1}{4}$
9. $4478 \div 3 = 1492\frac{2}{3}$
10. $6832 \div 6 = 1138\frac{4}{6}$

Practice Sheet (Hot)

1. $5631 \div 5 = 1126\frac{1}{5}$
2. $8621 \div 4 = 2155\frac{1}{4}$
3. $4478 \div 3 = 1492\frac{2}{3}$
4. $6832 \div 6 = 1138\frac{4}{6}$
5. $8234 \div 7 = 1176\frac{2}{7}$
6. $3345 \div 4 = 836\frac{1}{4}$
7. $2845 \div 3 = 948\frac{1}{3}$
8. $5043 \div 3 = 1681$
9. $4823 \div 5 = 964\frac{3}{5}$
10. $6728 \div 8 = 841$
11. $4527 \div 6 = 754\frac{3}{6}$
12. $2934 \div 7 = 419\frac{1}{7}$

Challenge

Write two other divisions by 6 with answers less than 1000.
e.g. $5662 \div 6 = 943\frac{2}{3}$ and $3638 \div 6 = 603\frac{1}{3}$
Write two other divisions by 6 with answers between 1000 and 1200.
e.g. $6404 \div 6 = 1067\frac{1}{3}$ and $7199 \div 6 = 1199\frac{5}{6}$

Practice Sheet Answers

Practice Sheet (Mild)

1 litre = 1000 millilitres
800 ml = 0.8 litres
200 ml = 0.2 litres
1.5 litres = 1500 millilitres
0.5 litres = 500 millilitres
100 ml = 0.1 litres
0.4 litres = 400 millilitres
600 ml = 0.6 litres

Practice Sheet (Hot)

1 litre - 1000 millilitres
800 ml - 0.8 litres
200 ml - 0.2 litres
1.5 litres - 1500 millilitres
0.5 litres - 500 millilitres
100 ml - 0.1 litres
0.4 litres - 400 millilitres
600 ml - 0.6 litres
1900 ml = 1.9 litres
1.8 litres = 1800 millilitres
1.2 litres = 1200 millilitres
2 litres = 2000 millilitres

Day 4

Challenge: The correct order is: 100 ml, 200 ml, 0.4 litres, 0.5 litres, 600 ml, 800 ml, 1 litre, 1.2 litres, 1.5 litres, 1.8 litres, 1900 ml, 2 litres

Summer term Year 5 week 4 Maths

Practice Sheet (Mild)

1. 5 miles = 8 km
2. 10 miles = 16 km
3. 2.5 miles = 4 km
4. 12 miles = 19 km
5. 12 km = 7.5 miles
6. 24 km = 15 miles
7. 18 km = 11 miles
8. 7 km = 4 miles

Practice Sheet (Hot)
As above plus challenge

Challenge:
1. 20 miles = 32 km
2. 25 miles = 40 km
3. 50 miles = 80 km
4. 250 miles = 400 km

Day 5

Height in feet and inches	Height in metres and centimetres
5 feet	1 m 50 cm
4 feet 6 inches	1 m 35cm
5 feet 4 inches	1 m 60 cm
4 feet 10 inches	1 m 45cm
5 feet 8 inches	1 m 70 cm
5 feet 10 inches	1 m 75 cm
6 feet	1m 80cm
6 feet 2 inches	1 m 85 cm
6 feet 4 inches	1 m 90 cm

Summer term Year 5 week 4 Maths

Problem solving and reasoning:

Answers

True or false

- 1050g = 1.5Kg False since it would be 1.05kg; 1.5kg would be 1500g.
- 1 pint is about 1.5 litres False it is just over half a litre.
- 4 ounces is a bit more than 100g True since 1 ounce is approximately 28g.
- 2.5 inches = 1 cm False – the conversion is the other way around: 1 inch is approximately 2.5cm.
- 1 metre is a bit bigger than a yard True.

If we assume 3 miles = 5 kilometres, write the missing numbers:

50 km = 30 miles 35km = 21 miles 1.5 miles = 2.5km

What imperial unit would be used to measure…

(i) The length of a large dog, nose to tail? feet and inches.
(ii) The weight of a child's lunch box? pounds / ounces.
(iii) The capacity of a baby bath? pints / gallons.