Measurement (mass)

HERE'S THE MATHS

Your child is learning to calculate and convert between standard units of mass: 1 tonne (t) = 1000 kg; 1 kg = 1000 g) to solve problems, using decimal notation up to three decimal places: 100 g = 0·1 kg, 10 g = 0·01 kg, 1 g = 0·001 kg.

ACTIVITY

You will need:

- 1–9 digit cards from a pack of playing cards
- pencil, paper and rubber
- coin

What to do

- The first person turns over cards to make the mass of two different shopping bags in kilograms with three decimal places.
- Round each mass to the nearest 100 g and find the total.
- The second person has a turn.
- Toss the coin to score: heads means the person with the bag with the greater mass scores a point, and, tails, the person with the smaller mass.
- The winner is the first person to score 5 points.

Variation

- Instead of rounding the mass, each person keeps a running total of the exact mass of their bags and the first person to reach 20 kg is the winner.

QUESTIONS TO ASK

What is 1 g in kilograms?

What is 7500 kg in tonnes?

What is 6378 g in kilograms?

Can you convert 0·075 kg to grams?

Can you convert 1·009 tonnes to kilograms?

Year 6 Maths Newsletter 6

Date: _____ **Name:** _____

MATHS TOPICS

These are the maths topics your child will be working on during the next three weeks:

- Multiplication and division, including decimals
- Measurement (mass)

KEY MATHEMATICAL IDEAS

During these three weeks your child will be learning to:

- multiply multi-digit numbers (up to ThHTO) by a 2-digit number using an appropriate method, including the formal written method of long multiplication
- use mental methods to multiply decimals to tenths or to hundredths by whole numbers
- calculate and convert between standard units of mass to solve problems, using decimal notation up to three decimal places.

TIPS FOR GOOD HOMEWORK HABITS

Take a break before your child gets bored or overwhelmed.

Multiplication and division

HERE'S THE MATHS

Your child is learning to multiply multi-digit numbers (up to ThHTO) by a 2-digit number using an appropriate method, including the formal written method of long multiplication. The importance of estimation the answer continues to be emphasised.

ACTIVITY

Grid method

457 x 36

	400	50	7
30	12 000	1500	210
6	2400	300	42

13 710 + 2742 = 16 452

Formal written method

$$\begin{array}{r} 4\ 5\ 7 \\ \times\quad 3\ 6 \\ \hline 1\ 3^{1}\ 7^{2}\ 1\ 0 \\ 2\ 7^{3}\ 4^{4}\ 2 \\ \hline 1\ 6\ 4\ 5\ 2 \\ 1 \end{array}$$

What to do

- One person chooses three cards to make a 3-digit number and two cards for a 2-digit number.
- Write out the multiplication carefully and execute it as show in the example above.
- Second person checks the answer with calculator.
- Change roles and repeat.
- Score 1 point for each odd number in the answer and 2 points for each even number in the answer.
- Continue for 10 minutes.
- The winner is the person with the higher score.

You will need:

- 1–9 cards

Variation

- Choose four cards to make a 4-digit number and multiply by TO as before.

QUESTIONS TO ASK

In a HTO × TO calculation, when you multiply by the tens figure, why do you put a 0 in the ones column? (*Because you are multiplying by a multiple of ten, not a single digit.*)

Estimate 326 × 69. (*300 × 70 = 21 000*)

How can you calculate 39 × 25 mentally? (*4 × 25 = 100 so 39 × 25 = 975*)

What is the ones digit in the answer to 489 × 67? (*3, because 9 × 7 = 63*)

Multiplication and division

HERE'S THE MATHS

Your child is practising the multiplication of decimals to tenths or to hundredths by whole numbers, using an appropriate method, including the formal written method. They may choose a mental method, the grid method, partitioning, the expanded written method or the formal written method.

ACTIVITY

What is 65·38 × 6? Estimate 70 × 6 = 420	**6 5 3 8** **× 6** **3 9 2 2 8** 3 2 4	65·38 × 6 is equivalent to 6538 × 6 ÷ 100. This equals 39 228 ÷ 100 which is 392.28 **65·38 × 6 = 392·28**

1	2	3	4	5	6	7	8	9
6·37	17·62	23·78	30·29	41·06	8·42	13·94	27·47	36·59

What to do

- Shuffle the cards and turn one over to choose the calculation.
- Turn a second card over to decide what to multiply by. (If 1 is selected, turn another card).
- Both complete the calculation.
- Compare strategies.
- Continue for 10 minutes.

You will need:

- 1–9 digit cards from a pack of playing cards
- calculator (or use mobile phone)

Variation

- Take turns to complete calculations and award a point to the person with the higher score.

QUESTIONS TO ASK

What is 0·8 × 3? (*2·4*)

What is 0·07 × 6 (*0·42*)

Can you estimate the answer to 4·6 × 7? (*35*)

Can you estimate the answer to £7.07 × 7? (*£49*)

What is the cost of 4 boxes of biscuits costing £1.59 a box? (*£6.36*)