

Diving into Mastery



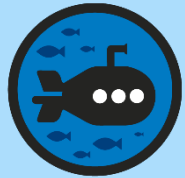
Round to Estimate and Approximate

Diving into Mastery Guidance for Educators

Each activity sheet is split into three sections, diving, deeper and deepest, which are represented by the following icons:



Diving



Deeper



Deepest

These carefully designed activities take your children through a learning journey, initially ensuring they are fluent with the key concept being taught; then applying this to a range of reasoning and problem-solving activities.

These sheets might not necessarily be used in a linear way. Some children might begin at the 'Deeper' section and in fact, others may 'dive straight in' to the 'Deepest' section if they have already mastered the skill and are applying this to show their depth of understanding.

Aim

- Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.



Complete the table below.

Calculation	Rounded Calculation	Estimated Answer	Actual Answer
$3867 + 4003$	$4000 + 4000$	8000	7870
$12\ 056 + 1802$	$12\ 000 + 2000$	14 000	13 858

Did you choose any different place values to round to? Did this change the estimated answers that you found?



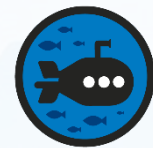
Complete the table below.

Days of the Week	Men	Women	Children
Monday	18 352	21 708	4593
Tuesday	10 895	11 950	5432
Wednesday	25 671	9093	8111

What is the approximate number of people who travelled into London on the train on Monday? **45 000**

What is the approximate difference between the number of children who travelled into London on Monday and the number on Wednesday? **3000**





Arnold has rounded this calculation in order to work out the approximate answer. Spot and explain his mistake.

$$99\ 531 + 2357 =$$

$$99\ 531 \approx 90\ 000$$

$$2357 \approx 2000$$

$$90\ 000 + 2000 = 92\ 000$$



Arnold has rounded the number 99 531 incorrectly. He rounded down to 90 000 when he should have rounded up to 100 000. 99 531 is much closer to 100 000 than 99 000 on the number line.

The correct calculation to give an approximate answer should be $100\ 000 + 2000 = 102\ 000$.



The children were looking at the calculation below and using rounding to work out an approximate answer.

Work out the answer to each child's calculation below.

$$39\ 835 - 10\ 321 =$$



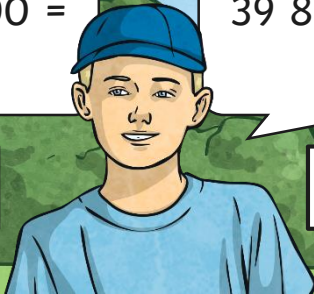
$40\ 000 - 10\ 000 =$
30 000

Lola



$39\ 000 - 10\ 000 =$
29 000

Sorcha



$39\ 800 - 10\ 300 =$
29 500

Dimitri

Whose calculation is the most accurate approximation?

Dimitri is the most accurate because he rounded the numbers to a smaller place value (the hundreds) than Lola and Sorcha, making his answer closer to the actual answer, which is 29 514.

Round to Estimate and Approximate

Deepest



The children at Twinkl Academy are baking for the summer fete. They are making enough cupcakes so that every child in the school will be able to buy a cupcake. There are 4 classes with 30 children in each class.

What is the approximate cost of baking one cupcake? **£3.00**

What is the approximate cost of baking enough cupcakes for one class? **£90**

What is the approximate cost of baking enough cupcakes for the whole school? **£360**

Ingredients	87p
Decorations	£1.08
Packaging	73p





Enzo added two 4-digit numbers together. Neither number ended in a 0. He rounded the numbers to help estimate the answer. Enzo's estimated answer was 3000.

What could his two starting numbers have been? Find 5 possibilities.



How could you work systematically to solve this problem?

Example answers:

$$1001 + 2001$$

$$1002 + 2002$$

$$1003 + 2003$$

$$1004 + 2004$$

$$1005 + 2005$$

Round to Estimate and Approximate

Dive in by completing your own activity!



1) The child class and For each

Cost

Cost

Cost

Cost

2) Freddie he approx

1) Complete the table below.

Calculation	Rounded Calculation	Estimated Answer	Actual Answer
$56/1 + 56/1$			
$2483 + 4382$			
$6189 - 3407$			
$6719 - 1588$			

2) a) Look at the table below. It shows the type and quantity of food that is used each day to feed the animals at Twinkl Zoo. Use rounding to work out the approximate quantity of each food fed to the animals over 5 days.

Day of the Week	Fish	Meat	Fruit and Vegetables
Monday	12 056g	25 789g	10 001g
Tuesday	22 307g	17 663g	15 774g
Wednesday	9946g	8093g	12 025g
Thursday	28 570g	12 552g	27 350g
Friday	7009g	18 904g	10 888g
Approximate Total			

b) What is the approximate quantity of food fed to the animals on Monday?

c) What is the approximate difference between the amount of food fed to the animals on Tuesday and the amount of food fed to the animals on Friday?

d) The approximate quantity of fruit and vegetables fed to the animals on Monday and Saturday came to a total of 17 000g. Estimate the quantity of fruit and vegetables fed to the animals on Saturday.

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Need Planning to Complement this Resource?

National Curriculum Aim

Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.

For more planning resources to support this aim, [click here](#).

This screenshot shows three resource cards from Twinkl Planit. The first card, 'Open the Box', features a grid of numbers 1-12. The second card, 'Security Compromised', has a camouflage background and a play button icon. The third card, 'Below Five Scuba Dive!', includes a table for place value and a number line.

T	h	h	H	T	U
6	4	4	5	6	

64 400 64 500

This screenshot shows three resource cards from Twinkl Planit. The first card, 'Check Mate', includes a table for a chess game. The second card, 'Checking In', features an illustration of people at an airport. The third card, 'Question Time', includes a list of prices and a newspaper icon.

	Jeremy	Elmer Dred
1	8	8
2	11	11
3	11	11
4	10	10
5	9	9
6	21	21

Twinkl Planit is our award-winning scheme of work with over 4000 resources.





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