Rounding numbers

Prior learning

- Order whole numbers up to 100,000.
- Round any number up to 100,000 to the nearest 10, 100 or 1000.

Learn

- Use a selection of number-line fragments, like those at the top of page 12 in the textbook to reinforce children's understanding of place value in small and large numbers.
- Remind children that rounding is a method of approximating that allows us to estimate and visualise numbers more easily.
- *100 Maths Lessons Year 5, Summer 1, Week 1* covers rounding and place value. Check children's knowledge is secure before moving on.
- On A3 paper or card, write two large numbers such as 300 and 400, 6000 and 7000, 50,000 and 60,000, and so on. Ask two children to hold these numbers for everyone to see, and then assign further numbers that lie between these two numbers (for example, 340, 6750). Other children should then take these new numbers and, with class consensus, position themselves between the two original numbers. Finally, have the children agree and then place the 'halfway' number (for example, 350, 6500) and then round up or down each number to a specified power of 10. Look at and discuss the two groups that emerge, remembering that the 'halfway' number always rounds up.
- This can be repeated for rounding for different powers of 10 as appropriate.

Curriculum objectives

- To round any number up to 1,000,000 to the nearest 10, 100, 1000, 10,000 and 100,000.

Success criteria

- I can round any number to the nearest power of 10.

Talk maths

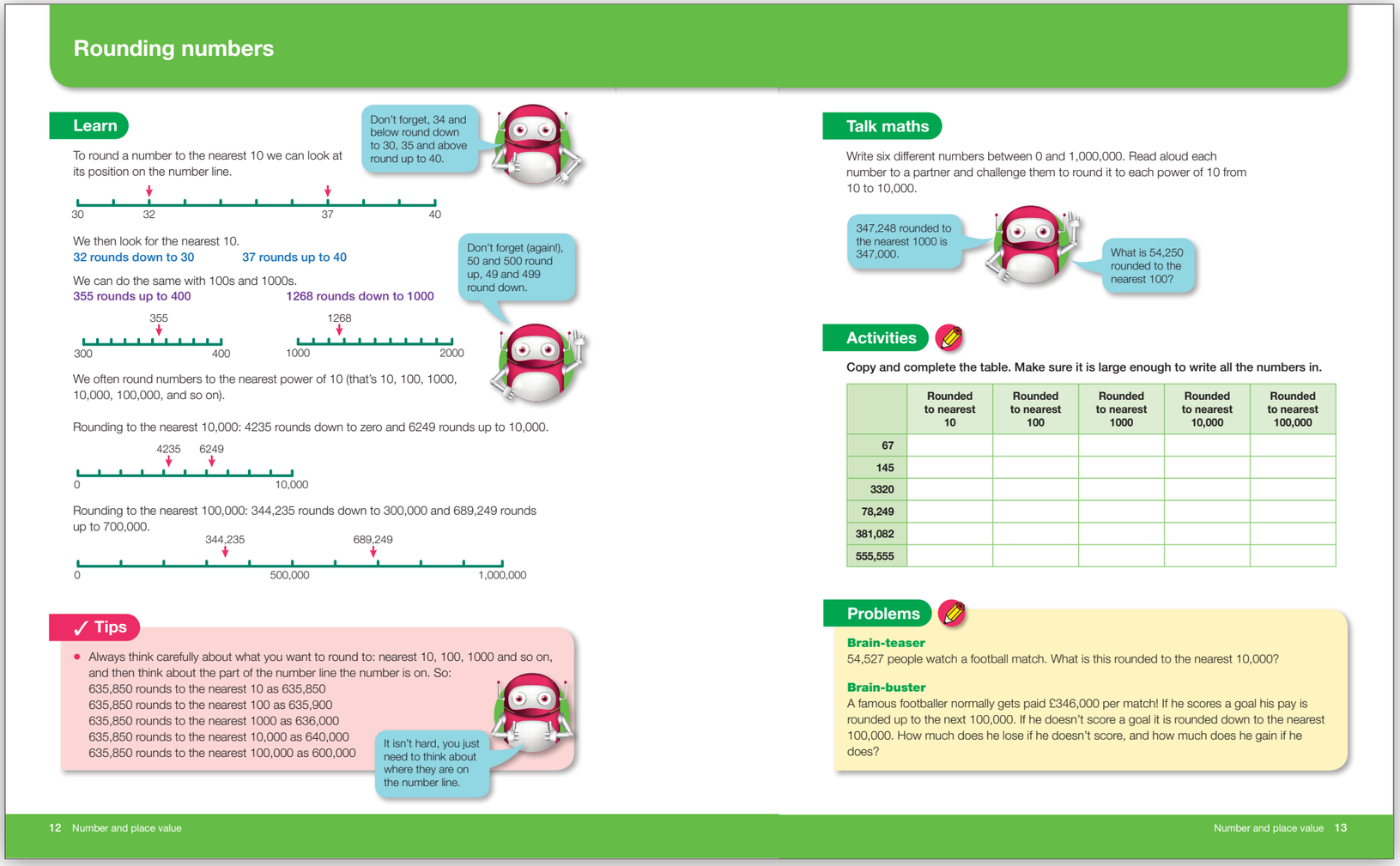
- Start the activity with smaller numbers and gradually increase them, encouraging the children to identify which power of 10 they are rounding to and to use appropriate vocabulary. Identify good examples and using these to model language to the whole class.

Activities

- Ask the children to copy the chart into their exercise books, and check that they understand how numbers change depending on which power of 10 they are rounded to.
- The activities in *Year 5 Practice Book* provide further practice.

Problems

- Review answers to the Brain-teaser and discuss what the answers would be if rounded to different powers of 10.
- The Brain-buster helps reveal children's appreciation of gains and losses when rounding in real-life situations. This question can be simplified or extended as appropriate.



Rounding numbers

Learn

To round a number to the nearest 10 we can look at its position on the number line.

We then look for the nearest 10.

32 rounds down to 30 **37 rounds up to 40**

We can do the same with 100s and 1000s.

355 rounds up to 400 **1268 rounds down to 1000**

We often round numbers to the nearest power of 10 (that's 10, 100, 1000, 10,000, 100,000, and so on).

Rounding to the nearest 10,000: 4235 rounds down to zero and 6249 rounds up to 10,000.

Rounding to the nearest 100,000: 344,235 rounds down to 300,000 and 689,249 rounds up to 700,000.

✓ Tips

- Always think carefully about what you want to round to: nearest 10, 100, 1000 and so on, and then think about the part of the number line the number is on. So:
  635,850 rounds to the nearest 10 as 635,850
  635,850 rounds to the nearest 100 as 635,900
  635,850 rounds to the nearest 1000 as 636,000
  635,850 rounds to the nearest 10,000 as 640,000
  635,850 rounds to the nearest 100,000 as 600,000

Talk maths

Write six different numbers between 0 and 1,000,000. Read aloud each number to a partner and challenge them to round it to each power of 10 from 10 to 10,000.

Activities

Copy and complete the table. Make sure it is large enough to write all the numbers in.

	Rounded to nearest 10	Rounded to nearest 100	Rounded to nearest 1000	Rounded to nearest 10,000	Rounded to nearest 100,000
67					
145					
3320					
78,249					
381,082					
555,555					

Problems

Brain-teaser
54,527 people watch a football match. What is this rounded to the nearest 10,000?

Brain-buster
A famous footballer normally gets paid £346,000 per match! If he scores a goal his pay is rounded up to the next 100,000. If he doesn't score a goal it is rounded down to the nearest 100,000. How much does he lose if he doesn't score, and how much does he gain if he does?

100 Maths Lessons Year 5 links:

- Summer 1, Week 1 (pages 172–177): round any number up to 1,000,000 to the nearest 10, 100, 1000, 10,000 and 100,000
- Summer 1, Oral and mental starter 54 (page 208): round and estimate
- Summer 1, Assess and review (page 207): assess children's understanding using number cards

Year 5 Practice Book links:

- (page 14): Rounding to the nearest 10 and 100
- (page 15): Rounding to the nearest 1000, 10,000 and 100,000