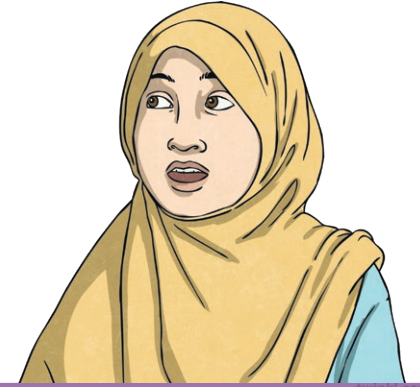# Year 4
Rounding Place Value Maths Mastery
Challenge Cards

Maths Mastery Rounding Place Value

1. Fatima is asked to count the number of apples in a box. She rounds the answer to the nearest 10 and says, "There are 60 apples." The apples are then divided into 12 bags of 5 apples, but there aren't enough for each bag.

What could have happened?

Maths Mastery Rounding Place Value

2. Alfie goes to a cricket match. The attendance is reported as 6000 people. Alfie assumes that this figure has been rounded.

How could the attendance have been rounded and what could the actual attendance have been?

Which do you think is the most likely number to which the attendance has been rounded? Explain your answer to a partner.

Maths Mastery Rounding Place Value

3. Laura asks, "If 45 is halfway between 40 and 50, why is it rounded up to 50 when rounding to the nearest 10?"

Explain to Laura why 45 is rounded up when rounding to the nearest 10.

4. Laura is going on holiday. She is told that the place they are visiting is approximately 300 miles away. When she asks for a more accurate distance, she is told that it is 311 miles away.

How could 311 miles have been rounded to give an answer of 300 miles?

5. Alfie's school raises £517 for a charity. He rounds this to the nearest 1000 and says that his school raised £1000 for charity.

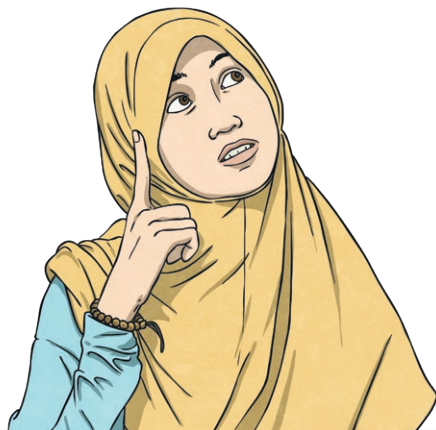Do you think that it is reasonable to round £517 to the nearest 1000? Explain your answer.

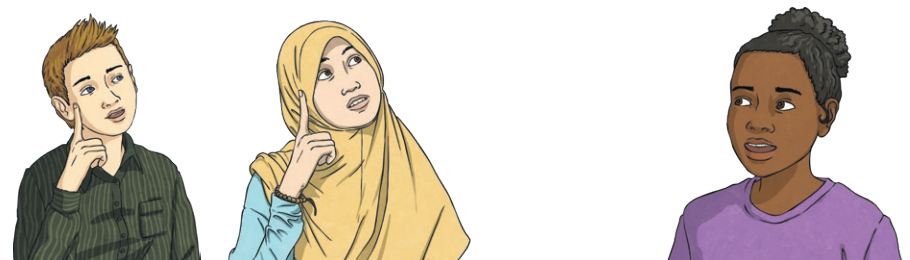6. Fatima counts the number of colouring pencils at her school. There are 2004. She rounds this to 2000.

Why is it not possible to work out what 2004 has been rounded to?

7. Fatima and Alfie each think of a number. Their numbers both round to 200 when rounded to the nearest 100. The sum of their numbers is 406. What could their numbers be?

Fatima, Alfie and Laura think of a number. All of their numbers round to 200 when rounded to the nearest 100. What is the lowest possible total of the 3 numbers?

Year 4 Rounding Place Value Maths Mastery Challenge Cards **Answers**

1. Fatima is asked to count the number of apples in a box. She rounds the answer to the nearest 10 and says, "There are 60 apples." The apples are then divided into 12 bags of 5 apples, but there aren't enough for each bag.
   What could have happened?
   If there were not enough apples for each bag, it is likely that she rounded 55 - 59 apples up to 60.

2. Alfie goes to a cricket match. The attendance is reported as 6000 people. Alfie assumes that this figure has been rounded.
   How could the attendance have been rounded and what could the actual attendance have been?
   Rounded to the nearest 10, the number of people could have been 5995 – 6004.
   Rounded to the nearest 100, the number of people could have been 5950 – 6049.
   Rounded to the nearest 1000, the number of people could have been 5500 – 6499.
   Which do you think is the most likely number to which the attendance has been rounded? Explain your answer to a partner.
   Accept any reasonable explanation.

3. Laura asks, "If 45 is halfway between 40 and 50, why is it rounded up to 50 when rounding to the nearest 10?"
   Explain to Laura why 45 is rounded up when rounding to the nearest 10.
   Accept any correct explanation, such as 45 is exactly halfway between 40 and 50 so there has to be an agreement about whether to round the number up or down. To ensure that rounded answers are consistent, the decision was made to round 5 up to the next 10.

4. Laura is going on holiday. She is told that the place they are visiting is approximately 300 miles away. When she asks for a more accurate distance, she is told that it is 311 miles away.
   How could 311 miles have been rounded to give an answer of 300 miles?
   311 miles could have been rounded to the nearest 100 to reach 300 miles. It could have also been rounded to the nearest 50.

5. Alfie's school raises £517 for a charity. He rounds this to the nearest 1000 and says that his school raised £1000 for charity.

Do you think that it is reasonable to round £517 to the nearest 1000? Explain your answer.

Accept answers justified with an explanation. The expected answer would be that although rounding £517 to the nearest 1000 is £1000, it is nearly doubling the actual amount that has been raised and that is not reasonable.

It would be more appropriate to round to the nearest 100 (£500).

6. Fatima counts the number of colouring pencils at her school. There are 2004. She rounds this to 2000.

Why is it not possible to work out what 2004 has been rounded to?

Accept any correct explanation, such as 2004 could be rounded to the nearest 10, 100 or 1000 to give 2000.

7. Fatima and Alfie each think of a number. Their numbers both round to 200 when rounded to the nearest 100. The sum of their numbers is 406. What could their numbers be?

Accept any correct answers, such as 186 + 220.

Fatima, Alfie and Laura think of a number. All of their numbers round to 200 when rounded to the nearest 100. What is the lowest possible total of the 3 numbers?

450 (150 + 150 + 150)