Number and Place Value Prior Assessment Questions 5 and 6: Q5: I can round to the nearest 10,000 1,000 and 100

Q6: I can work out the possibilities of a number before it was rounded NPV2: round any whole number to a required degree of accuracy

Teacher Input Ideas:

For children that need to review rounding with accuracy:

Show the children three examples of population sizes. Look at how large the number is. To apply previously taught skills these could be written in words and the children could write the amounts in digits on whiteboards. Additionally, they could order the amounts and compare the sizes.

Introduce rounding and discuss that rounding is often used to approximate the amount, especially with larger amounts. Look at population sizes and discuss that if we are going to compare different population sizes, rounding them helps people to compare quickly. For example: when rounding to the nearest million, Paraguay is rounded to 7 million and Costa Rica to 5 million. Show rounding to different amounts such as tens, hundreds, thousands and discuss why people may round to these different marks. You may want to look at a few similar population sizes and discuss that if we only rounded to the nearest million that it would not give us an accurate comparison, therefore we may need to round to the nearest thousand or hundred. Encourage the children to think of different times they have rounded - example: money, time, points.

Some children may demonstrate an error when recording the amounts. For example, children often know that they need to round up or down to the nearest amount however may not include all digits. For example: 34567 to nearest hundred, some children may write 600. They often concentrate on the hundred and tens digits only. Children need to understand why rounding is important and that we can't just write 600 as that changes the total amount completely.

For children who need to find possibilities of the amount before it was rounded: Place a rounded amount on the board. On cards or slips of paper write different amounts that can have been rounded and ones that can't. In groups or pairs, children to select which ones can be rounded and which ones can't to make the amount on the board. Then discuss with the children, what if I rounded to the nearest ten, does that change some of these answers? What if I round to the nearest hundred? Look at different possibilities for different examples of rounding to the nearest.

Practice Activities

<u>Purple Practice</u>: Most suited for children that made errors in **Question 5 of the Place Value Prior Assessment task** and would benefit from rounding up to 7 digit amounts.

This activity provides the opportunity for the children to explore rounding to the nearest ten, hundred, thousand, ten thousand and hundred thousand, in a simpler layout to the yellow task.

<u>Green Practice</u>: Most suited for children that **made errors in Question 6** and would benefit from exploring examples of numbers before an amount was rounded.

The children should give an example of what the number could have been before being rounded. Encourage the children to give examples of numbers that could have been round **up and down**. The last question also encourages this as they may think it is an error but it is to encourage giving 2 different examples: one of when it has been rounded up to the nearest ten and one when it has been rounded down to the nearest ten. The sheet does get trickier as the children work down the page, therefore for children who made errors in question 5 and 6 may want to complete the first 4 or 5 questions only.

<u>Yellow Practice</u> most suited for children who made some errors in Question 5 of the prior assessment or would benefit from consolidating rounding numbers up to ten million.

The information is presented in a table and the children are required to round population sizes to the nearest ten, thousand, ten thousand, hundred thousand, and million. This also requires the children to think about rounding when they already have a zero in the appropriate place and to explore rounding up and down when they have a 5 digit.

<u>Mastery</u> 1: children are to explore how many numbers can be rounded to the nearest ten and show their understanding through reasoning, explaining and proving. Some children may need to write down and explore the possibilities to help them to prove that they are right. Look out for errors from children who count on from 15 to 24 and may not include the number 15 or 20, resulting in an answer of 9.

They should then explore the numbers that can be rounded to 100 and should notice a pattern. This should then help them to explain, without recording down a thousand options, how many different numbers can be rounded to 1000.

<u>Mastery 2</u>: This activity requires the children to use examples and mathematical vocabulary and understanding of rounding, to find examples of when Ben is correct and when Sophie is correct. Encourage the children to explain how both Sophie and Ben are correct using their knowledge of rounding to both ten and one hundred and to support their view with examples of the amounts that both children started with.

<u>Answers</u>

Purple

1a) 330	b) 5460	c) 10950
2a) 6700	b) 10900	c) 80700
3a) 162000	ь) 10000	c) 768000
4a) 260000	ь) 10000	c) 70000
5a) 500000	b) 900000	c) 100000

<u>Green</u> there are a variety of examples that can be given. Below are the amounts that the number can be between.

1a) 29,500 to 30,499	1b) 25,000 to 34,499
2a) 99,500 to 100,499	2b) 95,000 to 104,499
3a) 119,500 to 20,499	3b) 115,000 to 124,499
4a) 54,500 to 55,499	4b) 54,950 to 55,049
5a) 110, 500 to 111,449	5b) 110,950 to 111,049
6a) 11,950 to 12,049	6a) 11,995 to 12, 004
7a) 123,650 to 123,749	7b) 123,695 to 123,704
8a) 8,748,050 to 8,748,149	8b) 8,748, 095 to 8,748, 104
9a) 2445 to 2454	9b) 2445 to 2454

Yellow:

	Hong Kong 7,346,700	Croatia 4,190,669	New Zealand 4,769,190	Mauritius 1,233,747	Slovenia 2,064,241	Fiji 869,458
Nearest million	7000000	4000000	5000000	1000000	2000000	1000000
Nearest hundreds of thousand	7300000	4200000	4800000	1200000	2100000	900000
Nearest ten thousand	7350000	4190,000	4770000	1230000	2060000	870000
Nearest thousands	7347000	4191000	4769000	1234000	2064000	869000
Nearest hundreds	7346700	4190700	4769200	1233700	2064200	869500
Nearest ten	7346700	4190670	4769190	1233750	2064240	869450

<u>Mastery:</u>

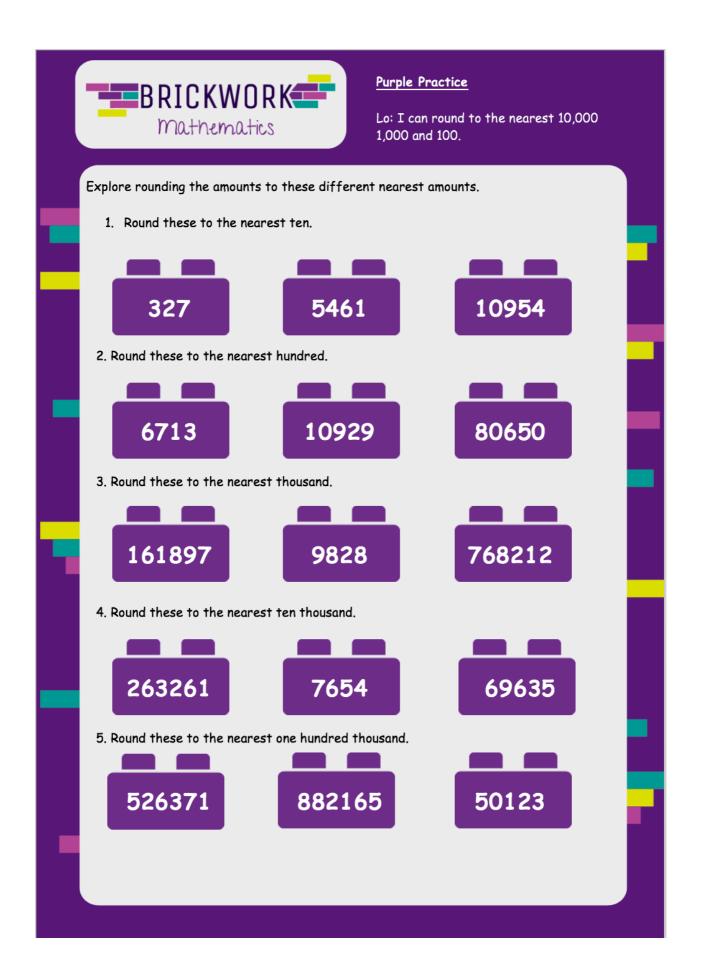
1: there are 10 possibilities for rounding numbers to the nearest ten. Children need to include the number 15 and count through, including 20, all the way to 24.

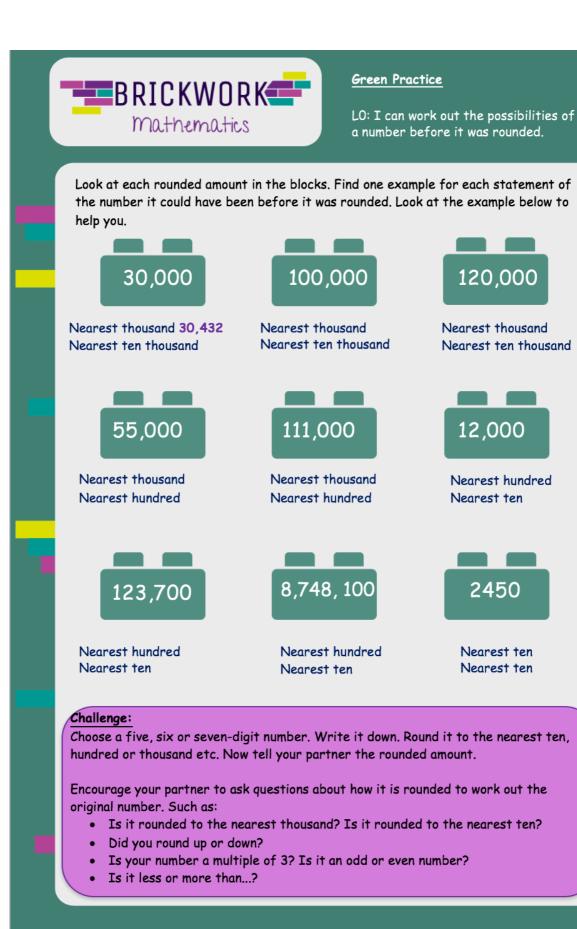
There are 100 possibilities for rounding to the nearest 100 and 1000 possibilities for rounding to the nearest 1000.

2: the children's answers should show that for Sophie to round to £180 her amount of money will be between £175 and £184. Therefore, for Ben to have more money he would have to have anything above £184 and that would be rounded to £200 when rounded to the nearest one hundred.

However, Ben could have £150 or more and this also would be rounded to £200 when rounded to the nearest hundred. So, if Ben had £164 for example, Sophie would have more money than Ben.

You are looking for the children to explain themselves in full sentences with examples of amounts to prove their points of view.







Yellow Practice

LO: I can round up to 7 digit amounts with accuracy.

Round the population sizes of the countries in the table.

	Hong Kong	Paraguay	Norway	Costa Rica	New Zealand	Fiji
	7,346,700	6,953,646	5,258,317	4,890,379	4,769,190	869,458
Nearest million						
Nearest hundreds of thousand						
Nearest ten thousand						
Nearest thousands						
Nearest hundreds						
Nearest ten						

Challenge: Can you apply any other skills? Try these:

- Can you order these amounts?
- Can you write these amounts in words?
- What is value of different digits?

