

Number and Place Value Prior Assessment Question 6 :

LO: I can round numbers to the nearest 10, 100, 1000, 10,000 and hundreds of thousand

NC NPV4: round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000

Teacher Input Ideas:

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 hundreds of thousand 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 entirely.

Additionally, some children may show errors when rounding down so the use of place value charts may help too. For example, 2439: children may know that they need to round down when rounding to the nearest hundred, but they may say 300 as they feel this digit needs to change as it does when we round up. Showing children this on a place value chart or creating part a large number line, may help to explain this.

Hundreds of thousands	Tens of thousands	Thousands	Hundreds	Tens	Ones

Practice Activities

Purple Practice: Most suited for children who demonstrated misconceptions in question 6 of the prior learning task and will benefit from rounding 4,5 and 6 digit amounts to the nearest 10, 100, 1000, 10000, and 100000 gradually.

For this task, the questions are sectioned so that the children can work through rounding to the nearest ten with smaller amounts and gradually round to the nearest 100, 1000, etc with larger amounts. The children can work through each section identifying which digit is the ten, hundreds, thousands etc and discuss which digit/s they need to use to help them to round . If children are having difficulty, in groups draw number lines to help the children to see where the number would sit between the thousands etc and which thousand it is closest to.

Green Practice: Most suited for children who will benefit from rounding 6 digit amounts to the nearest 1000, 10000, and 100000.

The children are presented with the distance different cities in Europe are from London. The children have the measurements in metres and are required to round these amounts to the nearest hundreds of thousand, tens of thousands and thousands.

The children are also presented with a challenge where they are asked to think of their own suggestion of cities and research the distance in metres. The children are then to think of what the accurate distance would be to the nearest metre by using their knowledge of rounding.

Key questioning: Often distances are rounded. Why? What could this have been before it was rounded? Explain your choice? What would it have been rounded to?

Yellow Practice: Most suited for children who demonstrated some accuracy in question 6 of the prior learning task and will benefit from rounding 6 digit amounts to the nearest 10, 100, 1000, 10000, and 100000.

The children are presented with the distance different cities in Europe are from London. The children have the measurements in metres and are required to round these amounts to the nearest million, hundreds of thousand, tens of thousands, thousands, hundreds and tens. The children can select different blocks and combinations. You may want the children to round to different amounts using the same starting amount on the yellow blocks.

Mastery (reasoning) This activity requires the children to use examples, mathematical vocabulary and understanding of rounding, to prove 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.

Answers

Purple:

- | | | |
|--------------|-----------|-----------|
| 1) a) 330 | b) 5460 | c) 10950 |
| 2) a) 6700 | b) 10900 | c) 80700 |
| 3) a) 25000 | b) 10000 | c) 20000 |
| 4) a) 40000 | b) 10000 | c) 70000 |
| 5) a) 400000 | b) 300000 | c) 100000 |

Green : There are a variety of examples that can be given dependent on the combinations children select.

Yellow: There are a variety of examples that can be given dependent on the combinations children select.

Mastery:

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.

Explore rounding the amounts to these different nearest amounts.

1. Round these to the nearest ten.

327

5461

10954

2. Round these to the nearest hundred.

6713

10929

80650

3. Round these to the nearest thousand.

25543

9828

19986

4. Round these to the nearest ten thousand.

42657

7654

69635

5. Round these to the nearest hundred thousand.

449890

298761

50123

Green Practice

LO: I can round 5 and 6 digit amounts to the nearest hundreds of thousand, tens of thousands and thousands.

Pick a green block below with a city on it. The amount written on the block is the distance in metres from London. Pick a pink block and round the amount as asked.

Edinburgh
666400

Brussels
372693

Colchester
106110

Manchester
348632

Oxford
96345

Leicester
165400

Round to the
nearest 100,000
thousand

Round to the
nearest ten
thousand

Round to the
nearest
thousand

Challenge:

Look on a map to find 3 other cities near to London. Find out their distance from London. Can you work out what these are in metres?

- 1.
- 2.
- 3.

If these amounts are rounded, suggest what the distance could be to the nearest metre for each one.

Pick a yellow block below with a city on it. The amount written on the block is the distance in metres from London. Pick a pink block and round the amount as asked.

469893

545801

348632

583346

372693

346822

To the nearest
million

To the nearest
hundred
thousand

To the nearest
ten thousand

To the nearest
thousand

To the nearest
hundred

To the nearest
ten

Edinburgh is rounded to 666000 metres in distance from London when travelling by car. What is the nearest distance it can be before being rounded?

Ben and Sophie are brother and sister. They both have been saving their pocket money. Ben rounds his to the nearest £100 and approximately has £200. Sophie rounds hers to the nearest £10 and approximately has £180.

Who do you think has more and why? Can you find examples where Ben has more than Sophie and where Sophie has more than Ben?

I think Ben has the most amount of money because ...

I think Sophie has the most amount of money because ...