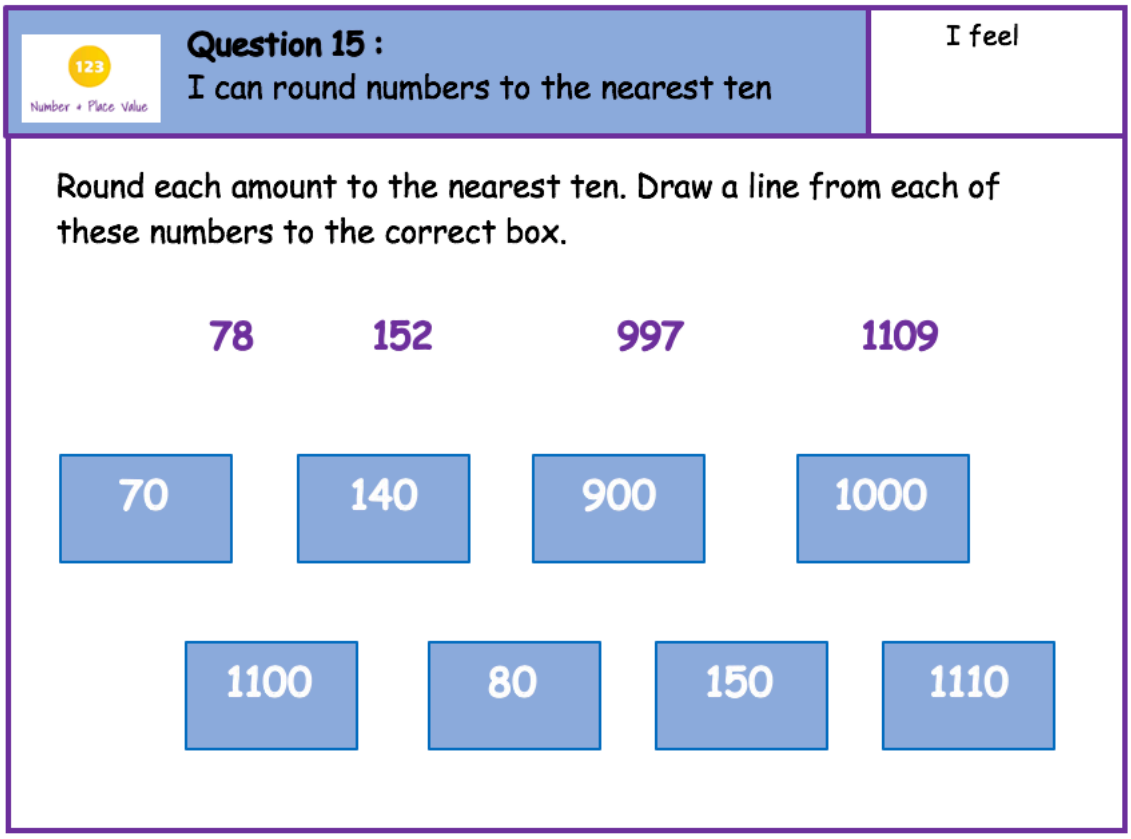
Place Value Question

Objective: I understand what rounding is

I can round a number to the nearest ten.

NPV 7: round any number to the nearest 10, 100 or 1000

Assessment Question



Input:

Many children find the idea of rounding quite tricky and may not have experienced the use of the vocabulary. A good way to introduce the idea of rounding is practically.

As a class make a large number line to 100 using metre sticks. At each interval of ten place a large label sticker.

Using a toy car or a character roll or place the car at 62. Tell the children that the car has broken down. There is a garage at 60 and a garage at 70. Ask the children which garage would they walk to if they were in the car. Why? Discuss which is closest. So we stopped at 62, this is closest to 60 rather than 70. Repeat with other examples

such as 98, 76, 54. Encourage the children to write their answers on to whiteboards with which numbers are closer. Discuss that the children are rounding to the nearest ten. I am deciding which ten is nearer, 60 or 70, 80 or 90. Each time I am either rounding down or rounding up. Share examples and discuss what rounding means. Discuss with other examples of when it may be used.

Once children show understanding, place the car at 45. Ask the children to decide which is closer, 40 or 50. Discuss with the children that both 40 and 50 are the same distance. Look at the number line to prove this. So we can either round up or down, however a general rule in maths has been created and if it is exactly half way we round up. So if we had 45, 85, 95, 105, 155 etc. we would round up to the next ten.

When children are ready , look at numbers over 100 and rounding to the nearest ten. For example 678, 934. Discuss which digits we need to look at and why. You may want to split rounding to the nearest ten over more than one lesson, dependent on the pupils' understanding.

Practice Activities

Purple Practice: Most suited for children who show difficulty when rounding any number to the nearest ten in Question 15 of the prior learning assessment.

For this activity encourage the children to use the class number line that was made to 100 and the character/car used. Children to place the character on to the numbers provided on the block and then decide if they are going to round up or down. Which ten is the character closest to? How do you know? Photographs or a table can be used to record the activity and answers.

Green Practice: Most suited for children who demonstrate difficulties in Question 15 when rounding numbers over 100 to the nearest ten.

As above the children are provided with blocks to 1000 on. The children are to round each number to the nearest ten. Children may want to make number lines to help them decide. You could either encourage the children to use metre sticks for the hundred they are in and then mark the tens. For example a number line for 100 to 200 and intervals of 110, 120, 130 etc. will be marked. Children to then place character to help them see where is closer. Check that children show understanding that they still need to include the hundred digit.

Yellow Practice: Most suited for children who show a good understanding of rounding 2 and 3 digit amounts to the nearest ten, and can begin to explore rounding 4 digit amounts to the nearest ten.

As above the children are provided with blocks but this time with amounts over 1000. The children are to round each number to the nearest ten. Children may want to make number lines to help them to decide. They should begin to show understanding that the thousand will not affect the rounding but we still need to include these amounts as they are part of the number. Often children become fixated on the rounding part and focus mainly on the tens, therefore forget to include the hundreds or thousands digits. If this is observed , you may want to regroup the children to demonstrate that this is important. You could do this with the class number line created. This time swap the amounts for amounts between 1000 and 1100. Make labels for the children. Demonstrate that the car has broken down here. I have travelled 1000 steps for example. I have broken down at 1062. What would this be rounded to? If I wanted to call the garage closest, I need to make sure it is garage number 1060 and not 60. Place value is very important and discuss this with the children.

Mastery – practical

Place different number cards on to each table with numbers that are a multiple of ten (for example 70, 150, 200, etc). Give the children time to find as many numbers as possible that can be rounded to that amount. Observe where the children start when doing this. Do the children just select a few possibilities? Which children understand that any number between and including 65 and 74 will be rounded to 70? If they do not notice this initially, do they notice when given other number cards? What do the children notice? How can they record their findings? Do any of the pupils show skills such as working systematically or improving when they repeat with a different number? Do children spot any patterns?

Answers:

Purple:

60	60	10
20	80	70
70	50	40
20	10	90
30	70 or 80	10

Green:

200	170	110
230	290	210
300	460	530
580 or 590	600	620
780	800	790 or 800

Yellow:

1010	1170	1100
3000	1540	4500
1630	2240 or 2250	1980
2390	3920	1220
1320	3230	1550 or 1560

BRICKWORK Mathematics

Purple Practice

Lo: I can round 2 digit amounts to the nearest ten.

Round these to the nearest ten.

63	56	12
19	81	70
67	49	36
24	7	91
31	75	98

BRICKWORK Mathematics

Green Practice

Lo: I can round 3 digit amounts to the nearest ten.

Round these amounts to the nearest ten.

198	167	114
234	287	209
302	458	527
585	605	621
783	803	795

BRICKWORK Mathematics

Yellow Practice

LO: I can round 4 digit amounts to the nearest ten.

Round each block to the nearest ten.

1012	1168	1101
3001	1543	4500
1627	2245	1982
2389	3921	1217
1321	3233	1555