

Spotlight 1

Rounding inaccurately, particularly when decimals are involved, and having little sense of the size of the numbers involved

Opportunity for: reasoning about numbers

Throw the dice

Time 15–20 minutes

Resources

- Tens number cards (Resource sheet 24)
- Number line 0–100
- Calculator
- Bag
- Two standard 1–6 dice

Key vocabulary

round up	whole one
round down	multiple of ten/hundred
almost	decimal
nearest ten	tenth
hundred	between
unit	estimate

Teaching activity

‘Today we are going to play a game, **Throw the dice**, where you have to round numbers to the nearest multiple of ten. Then we are going to do some calculating and I hope you will see how useful rounding can be when we are calculating.’ (The game can be adapted, rounding to any numbers.)

1. Put the number cards in a bag or face down on the table.
2. The child takes two (or three) cards, for example 20 and 40.
3. Locate the numbers on a number line.
4. Then the child throws two dice to give two single-digit numbers, for example 2 and 6.

The child can use the dice numbers in any way, and as many times as they want to make any number that will round to either of the two number cards 20 and 40. (The calculator can be used where it is needed; it helps to take off the pressure of calculating correctly and gives you a chance to assess rounding skills.)

20	40	••	••••
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$2 \times 6 = 12$
 $12 \times 2 = 24$ This rounds down to 20.

Make 62 then subtract $2 \times 6 = 12$ twice
 $62 - 12 = 50$
 $50 - 12 = 38$ This rounds to 40.

? Explain to me how you know forty-two rounds down to forty.

? Which other numbers could you have tried to make to round to forty? What about numbers below forty?

Then move on to some calculating.



'Think of some of the numbers we have used today. Let's take sixty-four and thirty-two. If you were going to add them, you would first make an estimate, so you could round the numbers first to help you estimate.'

? Look carefully at sixty-four and thirty-two. Round them in your head, then give me an estimate of the answer.

64 rounds down to 60
32 rounds down to 30

so 64 + 32 is about
60 + 30 = 90

so the answer is a bit more
than 90, nearly 100.

We rounded these down to sixty and thirty.

If we want to add them we round first so we can make an estimate.

Sixty add thirty equals ninety so the answer is a bit more than ninety, nearly one hundred.

? Today we did some rounding and then we used rounding to help us with calculating. Tell me how you think rounding helps with calculating?