Rounding Decimals

You will need
- thousandths grids
- number lines

GOAL

Interpret rounded decimals, and round decimals to the nearest tenth or the nearest hundredth.

Batting averages for baseball players are reported in decimal thousandths. Rachel's batting average is 0.286. This means she can expect to get 286 hits in 1000 times at bat.
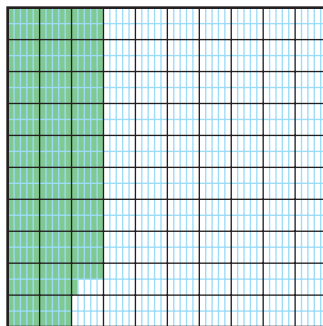
About how many hits would you expect Rachel to get in 10 times at bat and 100 times at bat?

Rachel's Model

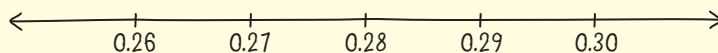I'll model 0.286 on a thousandths grid.

A. Rachel coloured 286 thousandths on the grid. About how many hundredths did she colour?

B. About how many hits in 100 times at bat would you expect Rachel to get? Use your answer for Part A to help you.

C. Round Rachel's batting average to the nearest hundredth.

D. On the thousandths grid, about how many tenths are coloured?

E. About how many hits in 10 times at bat would you expect Rachel to get? Use your answer for Part D.

F. Round Rachel's batting average to the nearest tenth.

Reflecting

G. Round 0.718 to the nearest hundredth and the nearest tenth using a thousandths grid. Describe what you did.

H. Tyler says he can use the number line to round 0.286 to the nearest hundredth. Do you agree or disagree? Explain.

Checking

1. The chart shows batting averages for some professional baseball players.

a) Model each baseball player's batting average on a thousandths grid.

b) Round each number to the nearest hundredth.

c) About how many hits in 100 times at bat would you expect each player to get?

d) Round each batting average to the nearest tenth.

e) About how many hits in 10 times at bat would you expect each player to get?

Batting Averages

Player	Batting average
J. McDonald	0.447
R. Clayton	0.288
A. Hill	0.312
G. Zaun	0.186

Practising

2. Round each decimal to the nearest hundredth and the nearest tenth.

   a) 0.158   **b)** 0.228   **c)** 1.067   **d)** 2.039

Decimal	Nearest hundredth	Nearest tenth
a) 0.158		
b)		

3. Which numbers below round to the same hundredth? Explain how you know.

   0.234   0.324   0.237   0.229

4. Which decimal thousandths could match each description below? Sketch number lines and mark all possible answers.

   a) can be rounded up to 0.27 or up to 0.3

   b) can be rounded down to 0.25 or up to 0.3

   c) can be rounded up to 0.28 or up to 0.3

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   ←—|++++++++|++++++++|++++++++|++++++++|++++++++|→
    0.250    0.260    0.270    0.280    0.290    0.300
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5. Jackson's parents are planning to open a grooming service for dogs. They surveyed 1000 people in their town and found that 418 of these people owned dogs.

   a) Write the decimal that represents the fraction of the people surveyed who are dog owners.

   b) Round your decimal for part a) to the nearest hundredth.

   c) In a group of 100 people from this town, about how many would you expect to be dog owners?

6. Ahmed wants to buy a new pen. He found pens for $1.28, $1.34, $1.26, and $1.31 in a store. Would rounding to the nearest tenth be a good way for Ahmed to compare the prices of these pens? Explain your thinking.