Unit 5: Percent

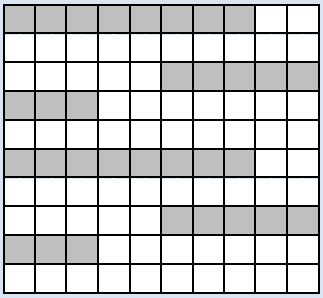
Dear Parents/Guardians,

In Unit 5, students explore percent. In Lesson 1, students use visuals and procedures to change a fraction to a decimal and a percent. In Lesson 2, students find the percent of a number using sense-making and procedural methods. In Lesson 3, they revisit double number lines to solve more complex percent problems.

Percent

Since percent means parts per hundred, a 10 x 10 grid is a helpful picture for converting between a fraction, a decimal and a percent.

Example: What percent is represented by $\frac{8}{25}$?



Students might determine the percent by shading 8 of every 25 squares four times to see:

$$\frac{8}{25} = \frac{32}{100} \text{ or } 32\%.$$

Or they may use the "big one" computation:

$$\frac{8}{25} \times \frac{4}{4} = \frac{32}{100} \text{ or } 32\%.$$

Chunking to Find Percent of a Number

Students use a predominantly mental "chunking" procedure to find the percent of a number when the values are "friendly."

Example: Find 15% of \$80.

Amount of \$	Find 100%	Find 10%	Find 5%
\$80	\$80	\$8	\$4
\$80	100% is always the whole amount	10% is $\frac{1}{10}$ of 100% Find $\frac{1}{10}$ of \$80 to get 10%. $\frac{\$80}{10} = \$8$	5% is $\frac{1}{2}$ of 10% Find $\frac{1}{2}$ of \$8 to get 5%. $\frac{\$8}{2} = \$4$

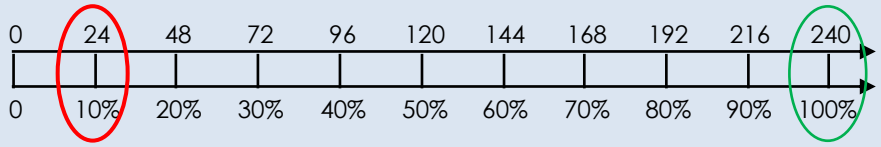
One way to use chunking to find 15% of \$80:

15% of \$80 = 10% of \$80 + 5% of \$80.
15% of \$80 = \$8 + \$4 =\$12.

Using Double Number Lines in Percent Problems

Students revisit double number lines to find the missing values in percent problems.

Example: 24 is 10% of what number?



One of the lines represents percent, and is numbered from 0% to 100% in increments of 10%. If the other line is also split into 10 equal parts, we know that 24 lines up with 10%. We can count up by 24's to find the total amount, which is 240.

Another method is to recognize that 10(10%) = 100%, so 10(24) = 240.

Center For Mathematics And Teaching

Math Links GRADE 6

By the end of the unit, your student should know…

- Percent means parts per hundred [Lesson 5.1]
- How to convert between fractions, decimals, and percent representations [Lessons 5.1, 5.2]
- How to find a percent of a number using a variety of methods [Lessons 5.2, 5.3]

Additional Resources

- For definitions and additional notes please refer to Student Resources at the end of the unit.
- To convert between fractions, decimals and percent: https://youtu.be/wwg052FC_Zw
- To convert from a percent to a fraction or decimal: https://bit.ly/2Y5Njcc
- To find the percent of a number using double number lines: https://youtu.be/2NYSq_i1i3Q and https://youtu.be/1rhiXeCekyk
- Finding percent of a number using symbolic notation: https://bit.ly/2zHhygm