

Communicate the Ideas

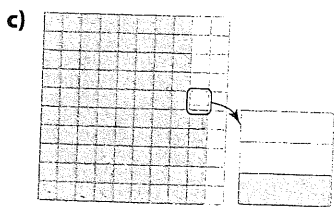
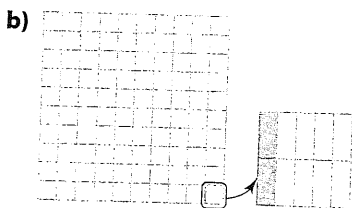
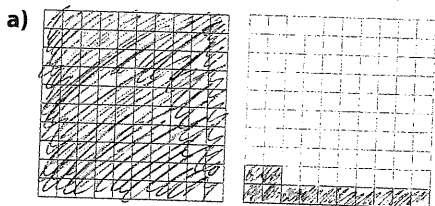
- Use hundred grids and words to describe the similarities and differences between a percent less than 1%, a percent between 1% and 100%, and a percent greater than 100%.
- You are asked to show a classmate how to use hundred grids to show 243%. How do you explain which squares need shading?
 - Explain how you would represent $25\frac{1}{4}\%$ on a grid.
- Shindi commented to a friend that “some percents would be easier to show if we shaded the parts that were not included in the percent.” Explain what she means. Which percents are easier to show using Shindi’s method? Why?

Check Your Understanding

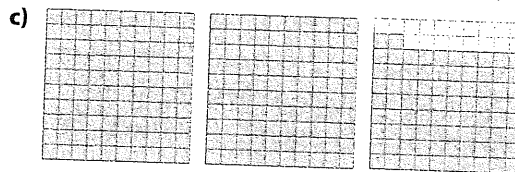
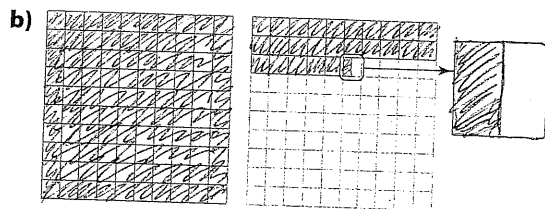
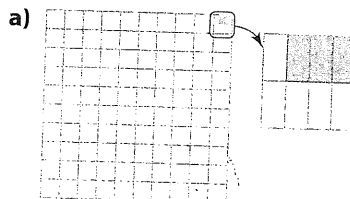
Practise

For help with #4 and #5, refer to Example 1 on pages 124–125.

- One full grid represents 100%. What percent does each diagram represent?



- What percent is represented by each diagram if a completely shaded grid represents 100%?



For help with #6 and #7, refer to Example 2 on page 126.

- Represent each percent on a grid.

a) 125% b) $10\frac{1}{2}\%$ c) 0.4%

d) 262% e) $\frac{7}{8}\%$ f) 45.6%

7. Represent the percent in each statement on a grid.
- Attendance at the fall fair increased by 3.2% this year.
 - The average mass of a Singapura cat is about 0.13% of the mass of a Siberian tiger.
 - The length of the Yukon River is about 230% of the length of the Fraser River.
8. How many hundred grids are needed to show each of the following percents?
- 300%
 - 466%
 - 1200%

Apply

9. Give two examples where a percent greater than 100% might be found in everyday life.
10. Why might a scientist studying water pollution work with percents less than one?
11. The land area of Alberta is about 113% of the land area of Saskatchewan. Use hundred grids to show how the land area of Alberta compares with the land area of Saskatchewan.
12. A 250-mL glass of milk contains 30% of the recommended daily value of calcium. Use a hundred grid to show how many glasses of milk you would need to drink to get 100% of the daily value of calcium.

Extend

13. a) Use a calculator to convert $\frac{1}{3}$ to a decimal. How could $\frac{1}{3}\%$ be shown using a hundred grid?
 b) Why are percents involving repeating decimals sometimes difficult to show on a hundred grid?
14. a) If 200 squares were used instead of 100 squares to represent 100%, how would you show 0.25%?
 b) If 400 squares were used instead of 100 squares to represent 100%, how would you show 0.75%?
15. Show how hundred grid(s) could be used to represent a very small percent, such as 0.000 0125%.
16. Suppose one large square represents 100%. The square is divided into smaller equal-sized pieces.
- If there are 1000 pieces, what percent do 17 pieces represent?
 - If there are two large squares each divided into ten smaller pieces, what percent do 13 pieces represent?
 - If the large square is divided into eight smaller pieces, show how to represent $87\frac{1}{2}\%$ and $56\frac{1}{4}\%$.

MATH LINK

Use hundred grids to represent the following data.

97.5% of Earth's Water is Salt Water

2.5% of Earth's Water is Fresh Water

0.04% of Fresh Water Found in Earth's Atmosphere

$\frac{3}{10}\%$ of Fresh Water Found in Lakes and Rivers

0.007% of Fresh Water Accessible for Drinking Water