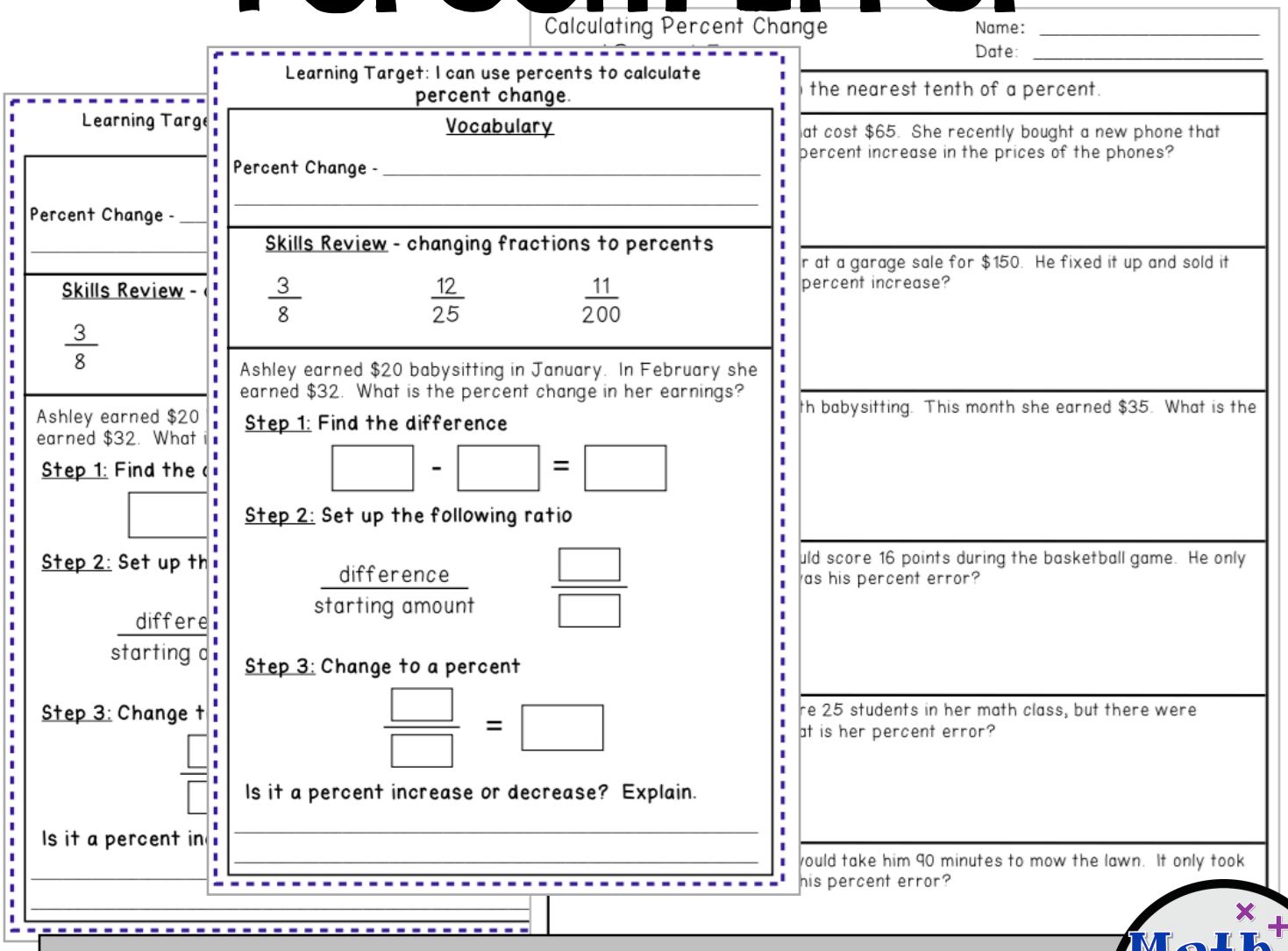
Percent Change and Percent Error



Notes + Worksheets!

Math on the Move

Cut along the dotted lines and glue into your notebook.

Learning Target: I can use percents to calculate percent change.

Vocabulary

Percent Change - _____

_____

Skills Review - changing fractions to percents

$\frac{3}{8}$ $\frac{12}{25}$ $\frac{11}{200}$

Ashley earned $20 babysitting in January. In February she earned $32. What is the percent change in her earnings?

Step 1: Find the difference

$\square - \square = \square$

Step 2: Set up the following ratio

$$\frac{\text{difference}}{\text{starting amount}} \qquad \frac{\square}{\square}$$

Step 3: Change to a percent

$$\frac{\square}{\square} = \square$$

Is it a percent increase or decrease? Explain.

_____

_____

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Cut along the dotted lines and glue into your notebook.

Learning Target: I can use percents to calculate percent error.

Vocabulary

Percent Error - _____

_____

The predicted temperature today was a high of 55°F. The actual high temperature was 47°F. Calculate the percent error.

Step 1: Find the difference

$$\square - \square = \square$$

Step 2: Set up the following ratio

$$\frac{\text{difference}}{\text{actual value}} \qquad \frac{\square}{\square}$$

Step 3: Change to a percent

$$\frac{\square}{\square} = \square$$

Try It Out!

Haley thought 12 friends were coming to her party, but 15 friends showed up. Calculate the percent error.

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Calculating Percent Change and Percent Error

Name: _____

Date: _____

Show your work. Round to the nearest tenth of a percent.

1 Alexis had a cell phone that cost $65. She recently bought a new phone that cost $79. What was the percent increase in the prices of the phones?

2 Kevin bought a used guitar at a garage sale for $150. He fixed it up and sold it for $200. What was the percent increase?

3 Elle earned $45 last month babysitting. This month she earned $35. What is the percent decrease?

4 Ray predicted that he would score 16 points during the basketball game. He only scored 12 points. What was his percent error?

5 Ainsley thought there were 25 students in her math class, but there were actually 27 students. What is her percent error?

6 Trent told his friends it would take him 90 minutes to mow the lawn. It only took him 75 minutes. What is his percent error?

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Cut along the dotted lines and glue into your notebook.

Learning Target: I can use percents to calculate percent change.

Vocabulary

Percent Change - the extent to which a value increases or decreases. Also known as percent increase or percent decrease.

Skills Review - changing fractions to percents

$\frac{3}{8}$ 37.5% $\frac{12}{25}$ 48% $\frac{11}{200}$ 5.5%

Jenny earned $20 babysitting in January. In February she earned $32. What is the percent change in her earnings?

Step 1: Find the difference

32	-	20	=	12

Step 2: Set up the following ratio

Note: It is helpful to have students highlight this, since it's so easy to confuse it with percent error

→ $\frac{\text{difference}}{\text{starting amount}}$ $\frac{12}{20}$

Step 3: Change to a percent

$\frac{12}{20}$ = 60%

Is it a percent increase or decrease? Explain.

Increase. She made more money in February than January. Her earnings increased over time.

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Learning Target: I can use percents to calculate percent error.

Vocabulary

Percent Error - describes how far away from the expected value your result is

The predicted temperature today was a high of 55°F. The actual high temperature was 47°F. Calculate the percent error.

Step 1: Find the difference

55 - 47 = 8

Step 2: Set up the following ratio

Note: It is helpful to have students highlight this, since it's so easy to confuse it with percent change

$$\frac{\text{difference}}{\text{actual value}} \qquad \frac{8}{47}$$

Step 3: Change to a percent

$$\frac{8}{47} = 17\%$$

Try It Out!

Haley thought 12 friends were coming to her party, but 15 friends showed up. Calculate the percent error.

$\frac{3}{15}$ 20%

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Calculating Percent Change and Percent Error

Name: KEY

Date: _____

Show your work. Round to the nearest tenth of a percent.

1 Alexis had a cell phone that cost $65. She recently bought a new phone that cost $79. What was the percent increase in the prices of the phones?

21.5%

2 Teney bought a used guitar at a garage sale for $150. He fixed it up and sold it for $200. What was the percent increase?

33.3%

3 Elle earned $45 last month babysitting. This month she earned $35. What is the percent decrease?

22.2%

4 Ray predicted that he would score 16 points during the basketball game. He only scored 12 points. What was his percent error?

33.3%

5 Aruna thought there were 25 students in her math class, but there were actually 27 students. What is her percent error?

7.4%

6 Trent told his friends it would take him 90 minutes to mow the lawn. It only took him 75 minutes. What is his percent error?

20%

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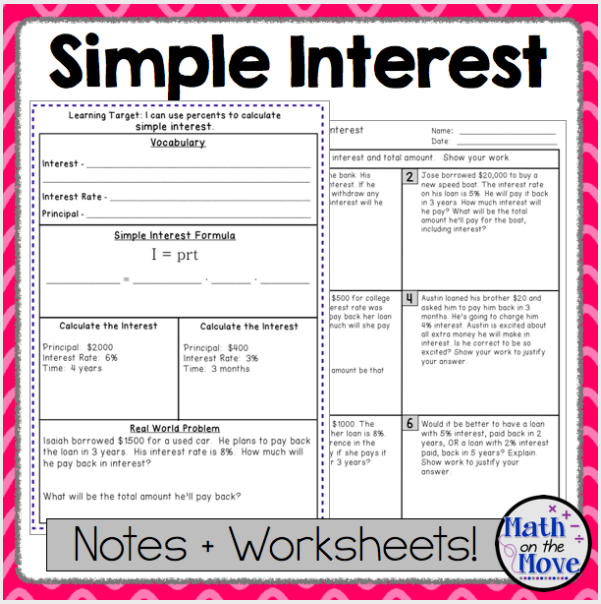

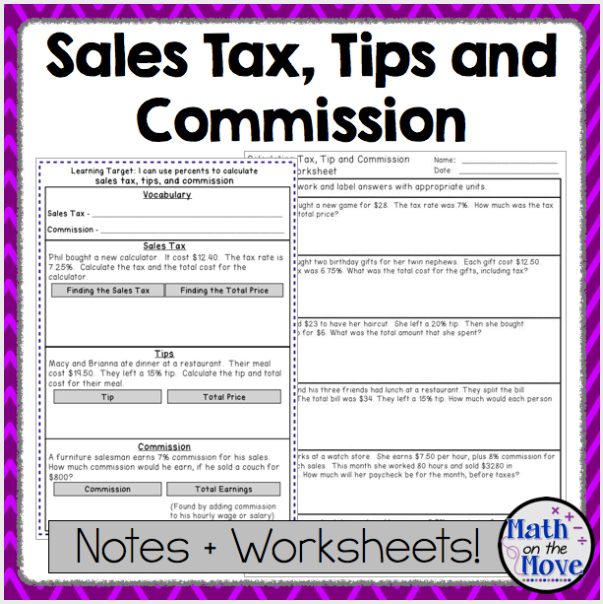

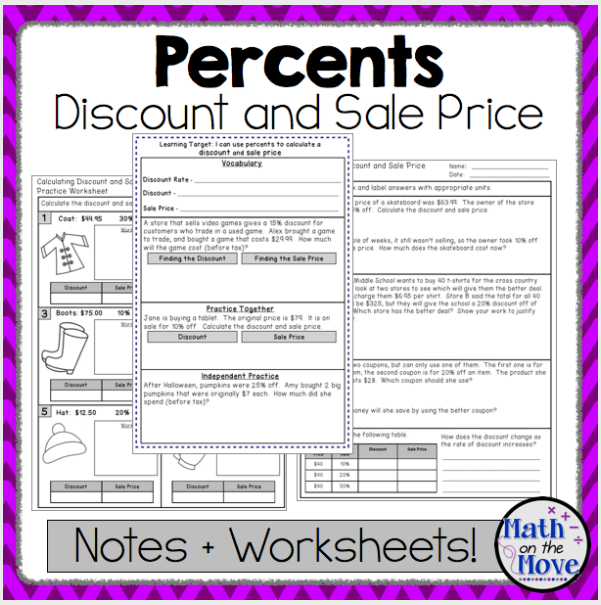

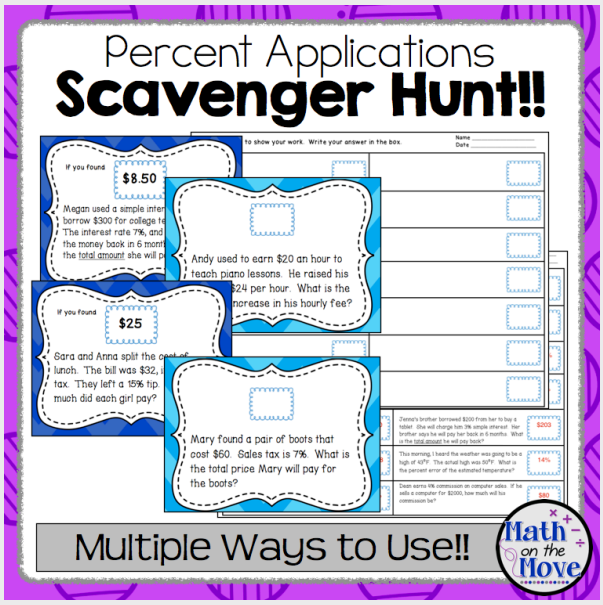

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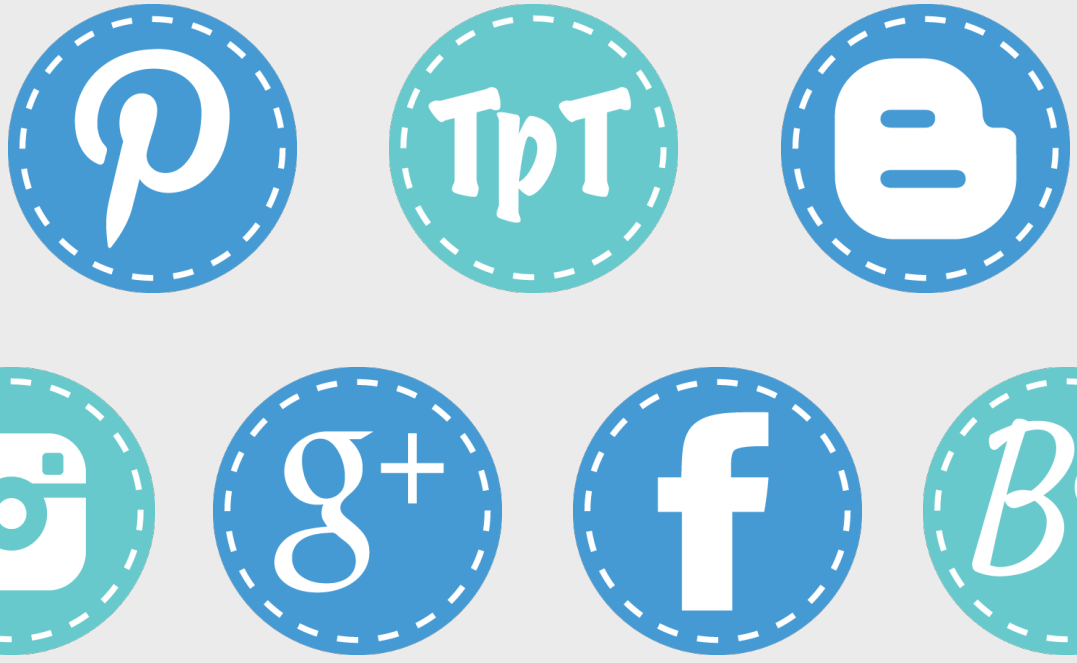

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