

Red Lesson 6.7: Simple Interest

Goal: Today's lesson is using the simple interest formula.

<p>Lesson Objective: In the activity, students explored the simple interest formula, applying it to several consumer applications. In the lesson, students will use the simple interest formula and knowledge of equation solving to solve for different variables in the formula.</p> <p>Vocabulary: interest, principal, simple interest</p> <p>Materials for Motivate in Teaching Edition: none</p> <p>Materials for Lesson Notes in Teaching Edition: none</p> <p>Materials for Lesson in Pupil Edition: none</p> <p>Pacing: 45 minutes</p>	<p>CC State Standards</p> <p>7.RP.3</p>	<p>CC Mathematical Practice Focus</p> <p>MP2</p>
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1. INTRODUCTION (10 minutes) - Michelle - ONE TEACH/ONE OBSERVE

Warm Up

Have students answer *Start Thinking!* and/or *Warm Up* questions. Review the answers as a class. Review previously assigned homework, if necessary.

Kim - attendance & circulate. Make sure they're working rather than just waiting for answers.

2. Key Idea (5 minutes) - Kim - TEAM TEACH

Simple Interest

This Key Idea defines simple interest.

- **Kim - PROJECT the Key Idea.**
- Write the formula in words first.

Focus on Mathematical Practice 2

Michelle - Three variables are multiplied together. Knowing 3 of the 4 variables, you can solve for the fourth.

3. EXAMPLE 1 (10 minutes) - Kim - TEAM TEACH

Finding Interest Earned

This example finds the simple interest and the balance in a savings account.

- Ask the question "What operation is performed in writing Prt ?"
- **Michelle - Ask the question "In calculating $500(0.03)(3)$, what order is the multiplication performed?"**
- **Have students work independently to answer On Your Own Question 1 and then have neighbors check each other's work.**
- Have students discuss any discrepancies.

4. EXAMPLE 2 (5 minutes) - Michelle - TEAM TEACH

Finding an Annual Interest Rate

This example uses simple interest to find the annual interest rate.

- This example uses the Division Property of Equality to solve for the interest rate.
- Ask the question "Why does $1000(r)(4) = 4000r$?"
- Ask the question "How do you write a decimal as a percent?"
- **Have students work independently to answer On Your Own Question 2 and then have neighbors check each other's work.**
- Have students discuss any discrepancies.

Kim remind them that interest rate is a percent.

5. EXAMPLE 3 (10 minutes) - Kim - TEAM TEACH

Finding an Amount of Time

This example uses simple interest to determine how long it takes an account to earn \$100 in interest.

- Discuss the diagram.
- Ask the question "Why would a bank offer different interest rate for different principals?"
- Work through the problem.
- Ask the question "What is 6.25 as a mixed number?"
- **Have students work independently to answer On Your Own Question 3 and then have neighbors check each other's work.**
- Have students discuss any discrepancies.

Michelle - reinforce the ideas of substitution, and the 1-step equation

6. EXAMPLE 4 (10 minutes) - Michelle - ONE TEACH/ONE OBSERVE

Finding an Amount Paid on a Loan

This example uses simple interest to determine how much is paid on a loan.

- Remind students that the simple interest formula is used to calculate interest *earned* when you *deposit* money and to calculate interest *owed* when you *borrow* money.
- Work through the problem.
- **Extension:** Have students find the monthly payment.
- **Have students work independently to answer On Your Own Question 4 and then have neighbors check each other's work.**
- Have students discuss any discrepancies.

Kim - Circulate & make sure they're working rather than just waiting for answers.

7. ASSESS (5 minutes) - Kim - TEAM TEACH

Closure (as time allows)

Exit Ticket: Assume \$1000 was deposited at 5% simple interest when you were born. Approximately how much is the account worth today?

Upon successful completion of the Exit Ticket - they can begin their homework. If they're not successful, then they need to see Michelle.

Assignment:

- 1–3, 8–12 even, 13–19 odd, 23–27 odd, 32–34 - C, D

Suggestions for leveling

BASIC: Homework Assignment: 1–3, 9, 11, 12, 13–27 odd - B

ADVANCED: Homework Assignment: 1–3, 12–36 even, 37

Do Now

Lesson
6.7

Start Thinking!
For use before Lesson 6.7

You earned \$150 babysitting. You want to open a savings account. What factors must you consider before opening an account?

Learning Goal

I will use the simple interest formula and knowledge of equation solving to solve for different variables in the formula.

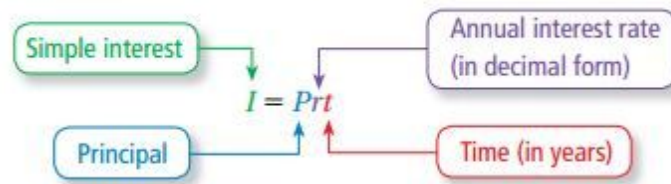
Interest is money paid or earned for the use of money. The **principal** is the amount of money borrowed or deposited.

Key Idea

Simple Interest

Words **Simple interest** is money paid or earned only on the principal.

Algebra



Exit Ticket

Assume \$1000 was deposited at 5% simple interest when you were born.

Approximately how much is the account worth today?

