Applying Problem-Solving Strategies

Race to Earn

This game of strategy applies investment and borrowing concepts and skills. The goal is to earn as much interest as possible in a set time period.

The Game

A. Play the game in a group of two to four players.

B. Follow these rules:

- Players decide on the time period for the game.
- Each player starts the game with a balance of $1000.
- Players take turns spinning the spinner.

  - If *single payment* is spun (investment or loan), the player has 1 min to roll four dice and arrange them on the appropriate Dice Variable Mat.
  - If *regular payments* is spun (investment or loan), the player has 1 min to roll five dice and arrange them on the appropriate Dice Variable Mat.

- The player determines the interest earned or charged, and adds it to or subtracts it from his or her balance.

C. The winner is the player with the greatest balance at the end of the game.

The Strategy

D. What is the least and most interest you can earn or be charged on a single payment investment or loan? What numbers would you have to roll?

E. **i)** What is the least and most interest you can earn on a regular payment investment? What numbers would you have to roll?

   ii) What is the least and most interest you can be charged on a regular payment loan? What numbers would you have to roll?

F. When arranging the dice, how did your strategy for an investment differ from your strategy for a loan?

YOU WILL NEED

- five standard dice
- calculator
- financial application
- timer
- Dice Variable Mats
- Race to Earn Spinner
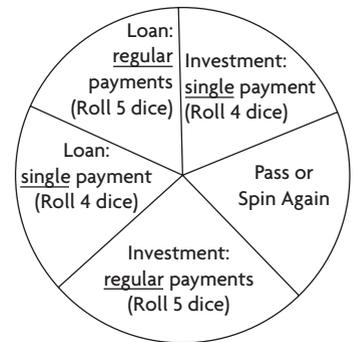
Dice Variable Mats Investment/Loan: Single Payment

Principal Invested (number rolled times $2000)	Interest Rate	Compounding Frequency 1 is annual, 2 is semi-annual, 3 is quarterly, 4 is monthly, 5 is weekly, 6 is daily	Term (years)

Investment: Regular Payments

Regular Payment Amount (number rolled times $50)	Payment Frequency 1 is annual, 2 is semi-annual, 3 is quarterly, 4 is monthly, 5 is weekly, 6 (roll again)	Interest Rate	Compounding Frequency 1 is annual, 2 is semi-annual, 3 is quarterly, 4 is monthly, 5 is weekly, 6 is daily	Term (years)

Loan: Regular Payments

Principal Borrowed (number rolled times $2000)	Payment Frequency 1 is annual, 2 is semi-annual, 3 is quarterly, 4 is monthly, 5 is weekly, 6 (roll again)	Interest Rate	Compounding Frequency 1 is annual, 2 is semi-annual, 3 is quarterly, 4 is monthly, 5 is weekly, 6 is daily	Term (years)

2.1 Analyzing Loans **97**