

## Mini Lesson: Simple Interest

*Revised August 2016*

No Prerequisites Required

**Interest** is the payment you make for using someone else's money or the payment you receive for lending money. It can be calculated using the formula:

- Interest = Principal \* Rate \* Time, where:
  - **Principal** = the amount of money borrowed or loaned
  - **Rate** = the percentage charged to borrow or loan
  - **Time** = the period of time the money is borrowed or loaned

The two basic types of interest are **simple** and **compound**.

- **Simple interest** is equal to a percentage of the original amount of money borrowed or loaned.
- **Compound interest** is money that builds on itself, that is, it is calculated on the principal **and** the interest amount in prior periods.

The **Maturity Value** (also known as value of the investment) is the amount to be paid on the maturity date of a financial instrument. The maturity value is equal to the principal plus the interest and can also be calculated using the formula below.

- Maturity Value =  $P * (1 + (R * T))$ , where:
  - P = Principal
  - R = Interest Rate
  - T = Time or # of Years

Click on the tab with the worksheet titled Activity 1 to begin.

### Activity 1: Compute Simple Interest – One Time Period

Calculate the interest amount, interest rate, and principal for a 1 year period in the table. The formula given in the Mini Lesson to calculate Interest is  $I = P * R * T$ , but since T is equal to 1 (year) in this problem, T is optional to include in the formula for the activity.

#### Directions:

- a. Copy current worksheet into a new worksheet and title it "Activity 1 Solution."
- b. Readjust the width of each column to allow for the contents in each cell to become visible.
- c. Enter formula in cells D5:D9 to calculate Interest Amount.
- d. Enter formula in cells C10:C14 to calculate Interest Rate.
- e. Enter formula in cells B15:B19 to calculate Principal.
- f. Format cells B5:B19 and D5:D19 to Currency with 2 decimal places, comma separator, and \$ symbol.
- g. Format cells C5:C19 to Percentage with 0 decimal places and % symbol.
- h. Fill color to Light Grey for cell areas B4:D4.
- i. Change cells B4:D4 to Bold Font.

*Simple Interest Directions*

- j. Save file as Simple Interest where XX are your initials.
- k. Click on the tab for the worksheet titled Activity 2 to continue.

### Activity 2: Compute Simple Interest – Multiple Time Periods

Calculate the principal, interest rate, and interest amount after 2, 5, and 10 years in the table using the formula given in the Mini Lesson,  $I = P * R * T$ .

#### Directions:

- a. Copy current worksheet into a new worksheet and title it "Activity 2 Solution."
- b. Readjust the width of each column to allow for the contents in each cell to become visible.
- c. Enter formula in cells D5:D9, E5:E9, and F5:F9 to calculate Interest Amount.
- d. Enter formula in cells C10:C14 to calculate Interest Rate.
- e. Enter formula in cells B15:B19 to calculate Principal.
- f. Format cells B5:B19 and D5:F19 to Currency with 2 decimal places, comma separator, and \$ symbol.
- g. Format cells C5:C19 to Percentage with 0 decimal places and % symbol.
- h. Fill color to Light Grey for cell areas B4:F4.
- i. Change cells B4:F4 to Bold Font.
- j. Save file.
- k. Click on the tab for the worksheet titled Activity 3 to continue.

### Activity 3: Compute Simple Interest and Determine Maturity Value

Calculate the principal, interest rate, interest amount, and maturity value after 2, 5, and 10 years in the table using the formula given in the Mini Lesson,  $Maturity\ Value = P * (1 + (R * T))$  and  $Interest = P * R * T$ .

#### Directions:

- a. Copy current worksheet into a new worksheet and title it "Activity 3 Solution."
- b. Readjust the width of each column to allow for the contents in each cell to become visible.
- c. Enter formula in cells E5:E9, G5:G9, and I5:I9 to calculate Maturity Value after 2, 5 and 10 years.
- d. Enter formula in cells D5:D9, F5:F9, and H5:H9 to calculate Interest Amount after 2, 5, and 10 years.
- e. Enter formula in cells C10:C14 to calculate Interest Rate.
- f. Enter a different formula (Principal + Interest Amount) in cells E10:14, G10:G14, and I10:I14 to calculate Maturity Value after 2, 5, and 10 years.
- g. Enter the original formula in cells E15:E19, G15:G19, and I15:I19 to calculate Maturity Value after 2, 5, and 10 years.
- h. Format cells B5:B19 and D5:I19 to Currency with 2 decimal places, comma separator, and \$ symbol.
- i. Format cells C5:C19 for Percentage with 0 decimal places and % symbol.
- j. Fill color to Light Grey for cell areas B4:I4.
- k. Change cells B4:I4 to Bold Font.
- l. Save file.