

## MATHEMATICS – GRADE 8

**Grade:** 8

**Academic Standard:** 8.2

**Academic Standard Indicator:** 8.2.2

**Core Standard:** No

**Standard Description (Academic or Indicator):** Solve problems by computing simple and compound interest.

**Suggestion for Integrating International**

**Content:** Have students visit various online newspapers from around the world to investigate bank interest rates and mortgage rates. *Example:* They can use these rates to calculate the amount of interest that would be paid, in different international locations, on a \$10,000 loan. *Extension:* They can also explore the average cost of buying a vacation home in various countries, using the classified ads from the online newspapers, and make a case for their choice of house. *Suggested resource:* <http://www.oanda.com/currency/converter/>.

**Grade:** 8

**Academic Standard:** 8.3

**Academic Standard Indicator:** --

**Core Standard:** No

**Standard Description (Academic or Indicator):** Students solve simple linear equations and inequalities. They interpret and evaluate expressions involving integer powers. They graph and interpret functions. They understand the concepts of slope and rate.

**Suggestion for Integrating International**

**Content:** Have students study plant or crop growth patterns and use data to analyze plant or crop choice versus population needs in the U.S. and a selection of other countries.

**Grade:** 8

**Academic Standard:** 8.3

**Academic Standard Indicator:** 8.3.5

**Core Standard:** Yes

**Standard Description (Academic or Indicator):** Identify and graph linear functions,

and identify lines with positive and negative slope.

**Suggestion for Integrating International**

**Content:** Have students use linear functions and linear equations to represent, analyze, and solve problems, such as demographic data-inverse and direct relationships like literacy rate or infant mortality in the U.S. and a selection of other countries.

**Grade:** 8

**Academic Standard:** 8.4

**Academic Standard Indicator:** 8.4.5

**Core Standard:** Yes

**Standard Description (Academic or Indicator):** Use the Pythagorean Theorem and its converse to solve problems in two and three dimensions.

**Suggestion for Integrating International**

**Content:** Have students use the Pythagorean Theorem to solve problems with international contexts. *Example:* Calculate the height of pyramids in Egypt; Eiffel Tower in France; pyramid of Kukulcán, in Mexico's ancient Mayan city of Chichen Itza. *Suggested resource:* [http://en.wikipedia.org/wiki/El\\_Castillo,\\_Chichen\\_Itza](http://en.wikipedia.org/wiki/El_Castillo,_Chichen_Itza).

**Grade:** 8

**Academic Standard:** 8.6

**Academic Standard Indicator:** 8.6.2

**Core Standard:** Yes

**Standard Description (Academic or Indicator):** Identify different methods of selecting samples, analyzing the strengths and weaknesses of each method, and the possible bias in a sample or display.

**Suggestion for Integrating International**

**Content:** Have students use online magazines and newspapers from around the world to evaluate the reasonableness of claims about depleted natural resources or any aspects of climate change, based on statistical data.

**Example:** Claims by environmentalists; conservation activists; scientists; marine biologists.

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**Grade:** 8

**Academic Standard:** 8.6

**Academic Standard Indicator:** 8.6.3

**Core Standard:** Yes

**Standard Description (Academic or Indicator):** Understand the meaning of, and be able to identify or compute the minimum value, the lower quartile, the median, the upper quartile, the interquartile range, and the maximum value of a data set.

**Suggestion for Integrating International**

**Content:** Have students use mean, median, and mode to compare data sets such as water availability and life expectancy in the U.S. and a selection of other countries. **Suggested resource:** <http://www.nationmaster.com/>.

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