

## MATHEMATICS – GRADE 6

**Grade:** 6

**Academic Standard:** 6.1

**Academic Standard Indicator:** --

**Core Standard:** No

**Standard Description (Academic or Indicator):** Students compare and order positive and negative integers, decimals, fractions, and mixed numbers. They find multiples and factors.

**Suggestion for Integrating International Content:** Have students explore "number sense" in different cultures, such as Mayan mathematics or the Babylonian base 60 system.

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**Grade:** 6

**Academic Standard:** 6.1

**Academic Standard Indicator:** 6.1.1

**Core Standard:** Yes

**Standard Description (Academic or Indicator):** Understand and apply the basic concept of negative numbers (e.g., on a number line, in counting, in temperature).

**Suggestion for Integrating International Content:** Have students compare world high and low temperatures above and below zero, in both Fahrenheit and Celsius. Have students examine U.S. and world locations that fall above or below sea level.

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**Grade:** 6

**Academic Standard:** 6.2

**Academic Standard Indicator:** 6.2.2

**Core Standard:** Yes

**Standard Description (Academic or Indicator):** Multiply and divide positive and negative integers.

**Suggestion for Integrating International Content:** Have students use math to solve the riddle presented in the traditional Indian folktale, *One Grain of Rice* by Demi (Scholastic Press, 1997). A greedy raja must reward a young village woman for her honesty. Have students determine if her quick-witted mind will turn a

single grain of rice into enough to feed all the hungry.

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**Grade:** 6

**Academic Standard:** 6.2

**Academic Standard Indicator:** 6.2.4

**Core Standard:** Yes

**Standard Description (Academic or Indicator):** Explain how to multiply and divide positive fractions and perform the calculations.

**Suggestion for Integrating International Content:** Have students select international recipes, and double the amount of servings by multiplying the fractions of each ingredient, or halve the recipes using division.

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**Grade:** 6

**Academic Standard:** 6.2

**Academic Standard Indicator:** 6.2.6

**Core Standard:** Yes

**Standard Description (Academic or Indicator):** Interpret and use ratios to show the relative sizes of two quantities. Use the notations:  $a/b$ ,  $a$  to  $b$ ,  $a:b$ .

**Suggestion for Integrating International Content:** Have students use ratios to study ethnic and racial diversity in a variety of international city or country populations in order to understand demographics.

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**Grade:** 6

**Academic Standard:** 6.2

**Academic Standard Indicator:** 6.2.10

**Core Standard:** No

**Standard Description (Academic or Indicator):** Use mental arithmetic to add or subtract simple fractions and decimals.

**Suggestion for Integrating International Content:** Have students convert data on global topics into fractions and decimals, using mental math. *Suggested resource:* *If the World Were a*

*Village: A Book about the World's People* by David Smith (Kids Can Press, 2002), which condenses world statistics to a village of 100 people.

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**Grade:** 6  
**Academic Standard:** 6.4  
**Academic Standard Indicator:** --  
**Core Standard:** No

**Standard Description (Academic or Indicator):** Students identify, describe, and classify the properties of plane and solid geometric shapes and the relationships between them.

**Suggestion for Integrating International Content:** Have students explore architecture and consider why some cultures build round buildings. *Example:* Why do traditional Inuits live in hemisphere-shaped homes (igloos)?

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**Grade:** 6  
**Academic Standard:** 6.4  
**Academic Standard Indicator:** 6.4.1  
**Core Standard:** Yes

**Standard Description (Academic or Indicator):** Identify and draw vertical, adjacent, complementary, and supplementary angles and describe these angle relationships.

**Suggestion for Integrating International Content:** Have students observe tessellations found in Greek or Islamic patterned mosaics or Mayan art and then design their own.

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**Grade:** 6  
**Academic Standard:** 6.4  
**Academic Standard Indicator:** 6.4.6  
**Core Standard:** No

**Standard Description (Academic or Indicator):** Draw the translation (slide) and reflection (flip) of shapes.

**Suggestion for Integrating International Content:** Have students use patterned African kente cloth, Eastern European embroidery, or Mexican *papel picado* as inspiration. Similarly,

world landmarks can be viewed for their symmetry. *Examples:* Eiffel Tower; Taj Mahal.

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**Grade:** 6  
**Academic Standard:** 6.5  
**Academic Standard Indicator:** 6.5.2  
**Core Standard:** No

**Standard Description (Academic or Indicator):** Understand and use larger units for measuring length by comparing miles to yards and kilometers to meters.

**Suggestion for Integrating International Content:** Use an Internet search engine such as Google Images to find photos of road mileage markers from around the globe. Then have students convert kilometers to miles.

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**Grade:** 6  
**Academic Standard:** 6.5  
**Academic Standard Indicator:** 6.5.9  
**Core Standard:** No

**Standard Description (Academic or Indicator):** Use a formula to convert temperatures between Celsius and Fahrenheit.

**Suggestion for Integrating International Content:** Have student use today's weather forecasts around the world and convert temperatures of major world cities.

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**Grade:** 6  
**Academic Standard:** 6.6  
**Academic Standard Indicator:** 6.6.3  
**Core Standard:** No

**Standard Description (Academic or Indicator):** Compare the mean, median, and mode for a set of data and explain which measure is most appropriate in a given context.

**Suggestion for Integrating International Content:** Have students explore mean, median, and mode for data from different countries. *Examples:* Area; population density; per capita income; daily caloric intake; life expectancy; literacy rate. *Suggested resource: Material World: A Global Family Portrait* by Peter Menzel (Sierra Club Books, 1995).