MATHEMATICS – GRADE 5

Grade: 5
Academic Standard: 5.1
Academic Standard Indicator: 5.1.3
Core Standard: Yes

Standard Description (Academic or Indicator): Arrange in numerical order and compare whole numbers or decimals to two decimal places by using the symbols for less than (<), equals (=), and greater than (>).

Suggestion for Integrating International Content: Have students use international stock market results as the raw data for arranging whole numbers and decimals in numerical order and for making comparisons among them, such as which stock is worth more or which one is worth less. ***Suggested resource***: http://money.cnn.com/data/world_markets/.

Grade: 5
Academic Standard: 5.2
Academic Standard Indicator: 5.2.2
Core Standard: Yes

Standard Description (Academic or Indicator): Add and subtract fractions (including mixed numbers) with different denominators.

Suggestion for Integrating International Content: Have students consider international flags with differently colored sections of the flags representing the fractions. ***Example***: If students add the red sections of Poland and Paraguay's flags, how much is red altogether? (Answer: 1/2 + 1/3 = 5/6) For mixed numbers, use multiples of the same flags. ***Example***: If students add the yellow sections of 4 Romanian flags and 3 Ukrainian flags, how much is yellow altogether? (Answer: 1 1/3 + 1 1/2 = 2 5/6) ***Extension***: Give students an 'answer' first and then have them find flags to make the fraction word problem. ***Extension***: Using the flags, have pairs of students create new word problems for the class to solve. ***Suggested resource***: http://www.worldclassflags.com.

Grade: 5
Academic Standard: 5.2
Academic Standard Indicator: 5.2.2
Core Standard: Yes

Standard Description (Academic or Indicator): Add and subtract fractions (including mixed numbers) with different denominators.

Suggestion for Integrating International Content: Supply, or have students bring in, international recipes, perhaps ones from their family's ancestral heritage. Using the recipes and their fractional amounts as the raw data, have students calculate how much of like ingredients would be needed if several of the recipes were made for one dinner or event. ***Example***: If the Italian lasagna takes 1/3 lbs. of hamburger and the Swedish meatballs take 2/3 lbs. of hamburger, how much hamburger will we need to buy if we want to make both? For subtraction, have students calculate how much more of an ingredient is needed for one recipe than another. ***Example***: How much more hamburger is needed for the Swedish meatballs than the Italian lasagna?

Grade: 5
Academic Standard: 5.2
Academic Standard Indicator: 5.2.4
Core Standard: No

Standard Description (Academic or Indicator): Multiply and divide fractions to solve problems.

Suggestion for Integrating International Content: Supply, or have students bring in, international recipes (perhaps ones from their family's ancestral country). Using the recipes and their fractional amounts as the raw data, calculate how much of a specific ingredient would be needed if the recipe was doubled, tripled, halved, etc.

Grade: 5
Academic Standard: 5.2
Academic Standard Indicator: 5.2.5
Core Standard: Yes

Standard Description (Academic or Indicator): Add and subtract decimals and verify the reasonableness of the results.

Suggestion for Integrating International Content: Have students use international stock market results as the raw data for adding and subtracting decimals. ***Suggested resource***: http://money.cnn.com/data/world_markets/.

Differentiated Instruction- Special Needs Accommodations: Have students use graph paper when adding and subtracting data to assist with correct alignment.

Grade: 5
Academic Standard: 5.4
Academic Standard Indicator: 5.4.1
Core Standard: Yes

Standard Description (Academic or Indicator): Measure, identify, and draw angles, perpendicular and parallel lines, rectangles, triangles, and circles by using appropriate tools (e.g. ruler, compass, protractor, appropriate technology, and media tools).

Suggestion for Integrating International Content: Show examples of Greek, Islamic, and Mayan geometric art. Have students identify different geometric shapes in the art. Then have students practice making simple geometric shapes by drawing their own geometric art designs, using the appropriate tools.

Grade: 5
Academic Standard: 5.4
Academic Standard Indicator: 5.4.4
Core Standard: Yes

Standard Description (Academic or Indicator): Identify, describe, draw, and classify polygons, such as pentagons and hexagons.

Suggestion for Integrating International Content: Show examples of Greek, Islamic, or Mayan geometric art and have students practice identifying the polygons within the art. Then have them practice making polygons by drawing their own tessellating geometric art designs, using the appropriate tools to do so. ***Suggested resource***: http://www.metmuseum.org/toah/works-of-art/1993.67.2, showing pentagons and octagons tessellating on a sandstone screen at the Metropolitan Museum of Art.
