

5<sup>th</sup> Grade Math:

Students will work on adding and subtracting fractions.

To review adding and subtracting fractions with like and unlike denominators.

Students apply their understanding of the greatest common factor to solve real-world problems.

Students are expected to know how to find common factors and the greatest common factor of pairs of numbers. Convert between fractions and mixed numbers. Use multiplication and division rules to simplify fractions.

6<sup>th</sup> Grade Math:

Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. How do you compare two sets of data displayed in dot plots?

Compare the shapes, The centers, the spread of the dots in the two plots. You can also compare the median and the range of the dot plots numerically.

Focus on Modeling: Point out the shape of the dot plot is used to visualize whether the values in the data set are evenly distributed or grouped on one side. The mean, median, and range of the data help describe the spread of the data. Practice working on time-line examples and determine how the median, range, and mode.

7<sup>th</sup> Grade Math:

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8<sup>th</sup> Grade Math:

Solve quadratic equations by inspection (e.g., for  $x^2 = 49$ ), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as  $a \pm bi$  for real numbers  $a$  and  $b$ .

Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.

- Construct and compare linear and exponential models and solve problems

- Interpret expressions for functions in terms of the situation they model

Introduce the quadratic equation and solve examples:

$$x = -b \pm \sqrt{(b^2 - 4ac)} / 2a$$

Where the + and – mean there are two answers when solving examples:

$$x = -b + \sqrt{(b^2 - 4ac)} / 2a$$

$$x = -b - \sqrt{(b^2 - 4ac)} / 2a$$

Enter the coefficients for the  $Ax^2 + Bx + C = 0$  equation and Quadratic Equation will output the solutions (if they are not imaginary).

For the Quadratic Formula to work, you must have your equation arranged in the form "(quadratic) = 0". Also, the "2a" in the denominator of the Formula is underneath everything above, not just the square root. And it's a "2a" under there, not just a plain "2". Make sure that you are careful not to drop the square root or the "plus/minus" in the middle of your calculations, or I can guarantee that you will forget to "put them back in" on your test, and you'll mess yourself up. Remember that " $b^2$ " means "the square of ALL of  $b$ , including its sign", so don't leave  $b^2$  being negative, even if  $b$  is negative, because the square of a negative is a positive.

### **5<sup>th</sup> & 6<sup>th</sup> Science:**

What are minerals? Discuss properties of minerals. Discuss Earth's crust, and how it is made of Minerals that have different properties.

Compare and contrast: What can be seen when a mineral breaks with cleavage? Why is it useful to examine

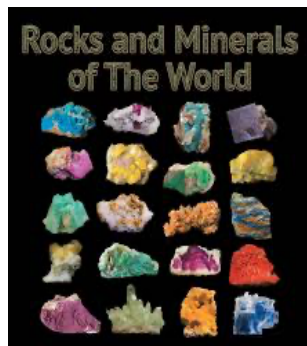
The crystal structure of an unfamiliar mineral? What is a rock made of? How do rocks differ? Discuss the

Structure of rock: crystalline, fragmental, textures of rocks, coarse, fine, glassy, shape of rock, angular, rounded.

Explain how an igneous rock that has cooled quickly differ from one that has cooled slowly?

Discuss the differences of metamorphic rock, igneous rock, and sedimentary rock.

Discuss the rock cycle



7<sup>th</sup> & 8<sup>th</sup> Grade Science:

**Behavioral biology** is the study of the biological and evolutionary bases for behavior. Modern behavioral biology draws on work from the related but distinct disciplines of ethology and comparative psychology.

- **Ethology** is a field of basic biology, like ecology or genetics. It focuses on the behaviors of diverse organisms in their natural environment.
- **Comparative psychology** is an extension of work done in human psychology. It focuses largely on a few species studied in a lab setting.

Behavioral biology also draws on many related areas of biology, including genetics, anatomy, physiology, evolutionary biology, and, of course, neurobiology—which traces the neural circuits that underlie animal behavior.

