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1. Grade Sheet Lesson.....6

The Grade Sheet Lesson is a resource that enables students to track their grade in a class based on points. It is also a tool used to communicate student progress to the home. Finally, it provides content practice in using fractions, decimals, and percents.

2. Squarea Project.....15

SQUAREA (a hybrid word I created which stands for “Square Area”) is a hands-on math project that helps students to discover area, volume, and surface area in a very concrete, visual manner. Students measure objects in a classroom, create square feet, draw square inches, construct cubic feet, construct square yards and cubic yards, and investigate the surface area of a cube.

3. Proportional Pictures Project.....21

Proportional Pictures is a hands-on math project that helps students to discover the relationship between the perimeter and area of two figures. Students draw a small figure, draw a similar figure three times larger, and then investigate changes in the perimeter and area of the two figures.

4. Amateur Architect Fraction Project.....27

Amateur Architect is a hands-on math project that requires students to compute fraction operations problems and use the resulting measurements to construct a house and garage. Students use pencil and ruler to draw and center parts of the house and garage. This project combines the foundational skill of solving fraction operation problems with the practical application of ruler measuring skills.

5. Discovering Pi Day Lesson.....44

Discovering Pi Day is a lesson designed to give students a hands-on experience that will help them truly grasp the concept of pi. The students use string and a ruler to measure the circumference and diameter of three different circles. They then calculate the ratio of circumference to diameter, perhaps not realizing that they are really calculating pi. Students also read and complete the Pi Basics sheet. Finally, if you celebrate Pi Day on March 14th, have students share pi jokes, pi songs, pi facts, and pi history before EATING PIE. Of course students love this last part!!

6. Likely Letters Statistics and Probability Project.....51

Likely Letters is a statistics and probability project that requires students to use experimental probability to determine the letters with the highest frequency of use in written English. The students differentiate between theoretical and experimental probability, make predictions, collect and organize data, and analyze their results to discover which letters of the alphabet are used the most.

7. The Royal Reward Geometry Project.....59

The Royal Reward is a group project given in the context of a story about King Euclid and his nobles, who have recently triumphed in their battle against the neighboring kingdom of Ignorance. The project focuses on geometry and metric measurement. Students use measurement skills to calculate the area and perimeter of polygons (plots of land) including triangles, parallelograms, a trapezoid, a rhombus, and an irregular hexagon. They also classify polygons, measure angles, investigate the sum of the interior angles of various polygons, and use the concept of scale.

8. Graphing Systems of Equations Lesson.....77

Graphing Systems of Equations is a math lesson that requires students to read sentences, translate them into equations, and use t-tables to graph at least 5 ordered pairs for each equation. Students then graph these points and draw the line that represents all of the solutions for each equation. Finally, they write the slope, y-intercept, and the solution to each system of equations.

9. Humongous Hero Proportion and Scale Project.....88

Humongous Hero is a group project that involves proportions and the use of scale. Students use proportions and the handprint of the Humongous Hero to determine its height and body measurements. Then they make a scale model of the superhero that can be drawn on poster board. Finally, students use proportions to determine the dimensions of various items owned by the hero.

10. Stock Market Contest.....97

The Stock Market Contest is designed to teach students the basics of investing in the stock market. Students read two pages for basic background knowledge, choose two companies to invest in, track and graph their stocks using the worksheets provided, and reflect upon the learning that has taken place during the year. Promote this fun and educational contest with your students and award prizes to the top investors.

11. Tipping Lesson.....114

Tipping is a lesson designed to teach students how to mentally compute common tips (10%, 15%, and 20%) that are traditionally left when dining in a restaurant. It teaches students how to figure these tips, presents them with realistic restaurant tipping exercises, and looks at the earnings of a waiter working an evening shift at a first-class restaurant.

12. What’s the Point? (Coordinate Graphing Lesson).....122

“What’s the Point?” is a fun lesson that requires students to graph points (ordered pairs) on the coordinate plane in order to create a picture. The lesson includes three different graphing assignments and answer keys, as well as a template to allow students to create and graph their own pictures using ordered pairs.