**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per. \_\_\_\_\_\_\_**

**8th Grade End of Year Math Project**

For the End of the Year Project each student will choose one topic we have covered this year and present it to the class. Students will be able to choose their topic from a specific list and then choose how they would like to present the concept in a 3-4 minute presentation to the class.

Students will earn 2 grades for this project. One for the presentation and one for their participation during the presentation of the class. Grades will be earned according to the rubrics included.

Directions: Each student will pick one concept from the list to present as their final project. The first to choose gets the topic so think of 3-4 you might want to do and then sign up on the class list. Then sign up for a presentation slot.

Students will then brainstorm how they want to prepare and present the math concept. Students may present their work in any format they choose. Examples are provided, but not the only options. If you are unsure that your choice of presentation is acceptable, get teacher approval first. Students will have some time in class to prepare, but might need to gather materials and/or work at home to ensure completion.

All students will be required to turn in their final project and their plan sheet at the time of presentation.

**Presentation Choice Options** –

All options should include detailed instruction of the concept, examples, hints and tips. They should be neat and organized and accurate! Your presentation should be informative.

* Create a Cheat-Sheet or notes to study from.
* Create a poster giving instruction.
* Create and preform a rap, poem, or song explaining the idea.
* Make a PowerPoint or Slides presentation.
* Make a commercial to advertise the topic.
* Make a video explaining the idea.
* Create a Podcast for your class to listen to.
* Present a mini lesson with practice problems, include answers.

**Concept Choice Options -**

* Expressions – combing like terms
* Translating Expressions from Context
* Standard form of Equation to slope-intercept form
* Equations – With Distributive Property
* Equations - With Variables on Both Sides
* Equations – With Distributive Property on Both Sides
* Solving one Variable Equations - with different outcomes (patterns)
* Solving Equations with absolute value
* Solving a System of Equations with One solution
* Solving a System of Equations with Many solutions
* Solving a System of Equations with No Solutions
* Solving a System of Equations – WITHOUT graphing what type of outcome (patterns)
* Inequality - With Distributive Property on Both Sides
* Triangle Sum Theorem – the rule and missing angle measure
* Prove Similar Triangles
* Transversals
* Angle Relationships
* Linear vs. Non-Linear
* Slope vs. Rate of Change vs. Unit Rate
* Y=mx+b (slope intercept form)
* Writing the Equation of a Line – from Graph
* Writing the Equation of a Line – from Slope and a point
* Writing the Equation of a Line – from Two Points
* Writing Equation of Lines from Real World Situations
* Scatterplot – create one and describe association
* Scatterplot with Trend line – interpret m and b
* Two-Way tables – Create
* Two-Way tables - associations
* Relative Frequency on Column and Row (Two-way Tables)
* Coordinate Grid and Plotting Points (x,y)
* Square Root- perfect and non-perfect
* Simplifying Non-Perfect Squares
* Rational Number vs. Irrational Number
* Scientific Notation
* Converting Repeating and Terminating Decimal to Fraction
* Converting Fractions to Decimals
* Exponents – Intro (definition)
* Exponents - Product of a Power and Quotient of a Power
* Exponents – Power Rules
* Exponents – Zero and Negative Rules
* Operations with Radicals ( + and - )
* Definition of a Function
* Identifying a function from multiple representations.
* Comparing Functions
* Interpreting Functions – meaning of m and b
* 3D Volume – finding volume of cylinder, cone and sphere
* 3D Volume with missing radius
* Pythagorean Theorem
* Converse of the Pythagorean Theorem
* Apply the Pythagorean Theorem
* Finding Distance between Two-Points on a Graph
* Congruence **Define in 8th Grade –** example by describing the series of transformations
* Congruence Notation – Congruence statement and list corresponding parts
* Similarity **Define in 8th Grade -** example by describing the series of transformations
* Similarity Notation – Similarity statement and list corresponding parts
* Translation
* Reflection
* Rotation
* Dilation
* Rigid vs Non-Rigid transformations
* Comparing and Ordering Real Numbers
* Classifying Real Numbers
* Proportional vs. Non-Proportional Graphs

Final Project Rubrics Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per: \_\_\_\_\_\_

Presentation Rubric:

Concept: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| --- | --- | --- | --- |
| **4** | **3** | **2** | **1** |
| Concept is accurately presented.  All required elements are included.  The presentation is organized, clear, and creative. | Concept is presented with minor errors.  All required elements are included. | Concept is incomplete and contains errors.  Not all elements are included.  Presentation is difficult to understand. | Concept is unclear or incorrect.  Task is incomplete and minimal effort is shown. |

Listening / Participation Rubric:

|  |  |  |  |
| --- | --- | --- | --- |
| **4** | **3** | **2** | **1** |
| Respected others and self.  Attentively listened and did not distract from any presentation from peers. | Respected others and self.  Listened with minimal redirections for behavior or talking during the presentation from peers. | Did not respect self but did show respect to others.  Did not listen or pay attention. Minimal redirections or behavior or talking during the presentation from peers. | Did not respect others or self.  Did not listen. Required multiple redirections for behavior or talking during the presentation of peers. |

Scores circled above.

Teacher Comments:

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| --- | --- |
| Topic/Concept |  |
| Brainstorming |  |
| Materials needed (if any) |  |
| Plan |  |