**7th grade Yearlong UbD**

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| **Stage 1 Desired Results** | | | |
| **Directions:** Choose multiple CCSS (or other standards), copy and paste them here, and unpack them for big ideas and assessment verbs by highlighting.  **Common Core State Standards (**[**www.corestandards.org**](http://www.corestandards.org)**),**  [**CCSS.MATH.CONTENT.7.RP.A.1**](http://www.corestandards.org/Math/Content/7/RP/#CCSS.Math.Content.7.RP.A.1)**,**[**CCSS.MATH.CONTENT.7.RP.A.2**](http://www.corestandards.org/Math/Content/7/RP/#CCSS.Math.Content.7.RP.A.2)**,**[**CCSS.MATH.CONTENT.7.RP.A.3**](http://www.corestandards.org/Math/Content/7/RP/#CCSS.Math.Content.7.RP.A.3)**. Analyze proportional relationships and use them to solve real-world and mathematical problems.**  [**CCSS.MATH.CONTENT.7.NS.A.1**](http://www.corestandards.org/Math/Content/7/NS/#CCSS.Math.Content.7.NS.A.1)**,** [**CCSS.MATH.CONTENT.7.NS.A.2**](http://www.corestandards.org/Math/Content/7/NS/#CCSS.Math.Content.7.NS.A.2)**,** [**CCSS.MATH.CONTENT.7.NS.A.3**](http://www.corestandards.org/Math/Content/7/NS/#CCSS.Math.Content.7.NS.A.3) **Apply and extend previous understandings of operations with fractions.**  [**CCSS.MATH.CONTENT.7.EE.A.1**](http://www.corestandards.org/Math/Content/7/EE/#CCSS.Math.Content.7.EE.A.1)**,**[**CCSS**](http://www.google.com/url?q=http%3A%2F%2Fwww.corestandards.org%2FMath%2FContent%2F7%2FEE%2F%23CCSS.Math.Content.7.EE.A.2&sa=D&sntz=1&usg=AFQjCNGe3CO3YQthUxI1vHJ3EgjC0qCiTA)[**.MATH.CONTENT.7.EE.A.2**](http://www.corestandards.org/Math/Content/7/EE/#CCSS.Math.Content.7.EE.A.2)**,**[**CCSS.MATH.CONTENT.7.EE.B.3**](http://www.corestandards.org/Math/Content/7/EE/#CCSS.Math.Content.7.EE.B.3)**,**[**CCSS.MATH.CONTENT.7.EE.B.4**](http://www.corestandards.org/Math/Content/7/EE/#CCSS.Math.Content.7.EE.B.4) **Use properties of operations to generate equivalent expressions. Solve real-life and mathematical problems using numerical and algebraic expressions and equations**  [**CCSS.MATH.CONTENT.7.G.A.1**](http://www.corestandards.org/Math/Content/7/G/#CCSS.Math.Content.7.G.A.1)**,**[**CCSS.MATH.CONTENT.7.G.A.2**](http://www.corestandards.org/Math/Content/7/G/#CCSS.Math.Content.7.G.A.2)**,**[**CCSS.MATH.CONTENT.7.G.A.3**](http://www.corestandards.org/Math/Content/7/G/#CCSS.Math.Content.7.G.A.3)**,**[**CCSS.MATH.CONTENT.7.G.B.4**](http://www.corestandards.org/Math/Content/7/G/#CCSS.Math.Content.7.G.B.4)**,**[**CCSS.MATH.CONTENT.7.G.B.5**](http://www.corestandards.org/Math/Content/7/G/#CCSS.Math.Content.7.G.B.5)**,**[**CCSS.MATH.CONTENT.7.G.B.6**](http://www.corestandards.org/Math/Content/7/G/#CCSS.Math.Content.7.G.B.6) **Draw construct, and describe geometrical figures and describe the relationships between them. Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.**  [**CCSS.MATH.CONTENT.7.SP.A.1**](http://www.corestandards.org/Math/Content/7/SP/#CCSS.Math.Content.7.SP.A.1)**,**[**CCSS.MATH.CONTENT.7.SP.A.2**](http://www.corestandards.org/Math/Content/7/SP/#CCSS.Math.Content.7.SP.A.2)**,**[**CCSS.MATH.CONTENT.7.SP.B.3**](http://www.corestandards.org/Math/Content/7/SP/#CCSS.Math.Content.7.SP.B.3)**,**[**CCSS.MATH.CONTENT.7.SP.B.4**](http://www.corestandards.org/Math/Content/7/SP/#CCSS.Math.Content.7.SP.B.4)**,**[**CCSS.MATH.CONTENT.7.SP.C.5**](http://www.corestandards.org/Math/Content/7/SP/#CCSS.Math.Content.7.SP.C.5)**,** [**CCSS.MATH.CONTENT.7.SP.C.6**](http://www.corestandards.org/Math/Content/7/SP/#CCSS.Math.Content.7.SP.C.6)**,** [**CCSS.MATH.CONTENT.7.SP.C.7**](http://www.corestandards.org/Math/Content/7/SP/#CCSS.Math.Content.7.SP.C.7)**,**[**CCSS.MATH.CONTENT.7.SP.C.8**](http://www.corestandards.org/Math/Content/7/SP/#CCSS.Math.Content.7.SP.C.8) **Use random sampling to draw inferences about a population. Draw informal comparative inferences about two populations.**  **Mathematical Practices**  **Practice 1: Make sense of problems and persevere in solving them.**  **Practice 2: Reason abstractly and quantitatively.**  **Practice 3: Construct viable arguments and critique the reasoning of others.**  **Practice 4: Model with mathematics.**  **Practice 5: Use appropriate tools strategically.**  **Practice 6: Attend to precision.**  **Practice 7: Look for and make use of structure.**  **Practice 8: Look for and express regularity in repeated reasoning.** | | | |
| Other than the big ideas explicitly in the standards you chose, what big ideas might frame this yearlong curriculum?   1. *Form and Function of natural and designed objects are intimately related* 2. Proportional relationships show how Quantities change in relationships to one another. 3. Proportional reasoning can be used to predict future events. 4. Patterns and relationships can be represented graphically, numerically, symbolically, and verbally. 5. Ratios, fractions, and proportions can be used to make intelligent comparisons of quantitative information. 6. Relations can be used to find surface area and volume. 7. Statistics can be used make conjecture about populations 8. … | | | |
| CHOSEN BIG IDEAS(S):  Ratios, fractions, and proportions can be used to make intelligent comparisons of quantitative information. | ***Transfer*** | | |
| *I want my students to have the confidence in their ability to solve math problems, so that in the long-run, on their own, they will be able to persevere and they will have the tools to start and solve problems they are presented with.* | | |
| ***Meaning*** | | |
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| UNDERSTANDINGS  *Students will understand that…*   * Persevering and making sense of a math problem will help them become proficient math student | | ESSENTIAL QUESTIONS  How can I use what I have learned to make sense of a problem and persevere in solving that problem |
| ***Acquisition*** | | |
| *Students will know…*   * Unit 1: rational numbers * Unit 2: 2 and 3 dimensional geometry * Unit 3 Similarity/Ratios * Unit 4: Linear relationships * Unit 5: Volume and Surface Area * Unit 6 : Data and Probability * … | | *Students will be skilled at…*   * Unit 1: operations with rational numbers and their properties * Unit 2: measurement of angles/ sum of all angles   Area circumference of circles, volume and surface area rectangular prisms, cones, pyramids   * Unit 3:To use ratios, fractions, decimals, rates, unit rates, and percents to make comparisons of quantitative information * Unit 4: Recognize linear relationships from a table, graph, and an equation Find the rate of change in a table graph and equation. Find the slope and y-intercept from a table, graph, and an equation. Solve for x when given y. * Unit 5: Draw construct, and describe geometrical figures and describe the relationships between them. Solve real-life and mathematical problems involving angle measure, area, surface area, and volume. * Unit 6:Use random sampling to draw inferences about a population. Draw informal comparative inferences about two populations. * … |
| **Stage 2 - Evidence** | | | |
| **Evaluative Criteria** | | **Assessment Evidence** | |
| Standards-based A+ Rubric in Student-friendly Language   |  |  |  | | --- | --- | --- | | Performance Assessment Criteria and Standard Alignment | Complete | Needs Revision | | *Ex. CCSS.ELA-LITERACY.W.8.1.B*  *I can use relevant, accurate information to support a claim.* |  |  | |  |  |  | |  |  |  | |  |  |  |   Must consist of equations, graphs and tables for each company. Choice of company clearly stated and why in paragraph and backed up by the math. Presented in a format easily read, colorful and neat.  20 points for each part.  200 points total. | | PERFORMANCE TASK(S):    What (cognitive verb + big idea):   * Develop an understanding of and apply proportional relationships * Solve expressions and linear equations using rational numbers * Solve problems involving scale drawings and informal geometric drawings and 2-3 dimensional shapes to solve problems involving area, surface area and volume * Draw inferences about populations and samples   Why (copied and pasted EUs from Stage 1):  Persevering and making sense of a math problem will help them become proficient math student  How (GRASPS, written to and for students):  Choose a Company  **Goal:**  **Students will construct a viable argument for choosing a company**  **Role:**  **Consumer/ business owner**  **Audience: Consumer/ business owner**  **Situation: Each student will have to research 2 companies and present a bid for a consumer to choose which company is the better deal.**  **Product, Performance, and Purpose:**  Prove which company is better, proof must include graph, table, and equation for each company  **Standards and Criteria for Success:**  **Mathematical Practices**  **Practice 1: Make sense of problems and persevere in solving them.**  **Practice 2: Reason abstractly and quantitatively.**  **Practice 3: Construct viable arguments and critique the reasoning of others.**  **Practice 4: Model with mathematics.**  **Practice 5: Use appropriate tools strategically.**  **Practice 6: Attend to precision.**  **Practice 7: Look for and make use of structure.**  **Practice 8: Look for and express regularity in repeated reasoning** | |
| <type here> | | OTHER EVIDENCE:  Unit assessments, unit projects, MAPs test | |
| |  | | --- | | **Stage 3 – Learning Plan** *What units will you teach, and what skills will students master, as a result of this yearlong curriculum?* |   \_\_\_2015 - 2016\_\_\_\_\_\_\_\_\_ Academic Year Curriculum Map Template   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Unit Big Idea (Title) | Unit Essential Question(s) | Unit Standard(s) | Assessment(s) | Time Frame | | What big idea anchors this unit? | What EQ will anchor conceptual, critical thinking related to the big idea? | What core standard(s) anchors this unit, and therefore what observable skills will you evaluate ? | What summative assessment will provide you evidence of skills and understanding? | What is the approximate time frame for the teaching and learning in this unit? | | 1. Using Patterns to make conjectures about relationships. | 1. How can the number line be extended to include rational numbers? 2. How can number lines or chip boards help make an algorithm (rule) for operations with integers? | **7.NS.A.1, NS.A.1a, 7.NS.A.1b, 7.NS.A.1c, 7.NS.A.1d, 7.NS.A.2, 7.NS.A.2a**, **7.NS.A.2b, 7.NS.A.2c, 7.NS.A.2d, 7.NS.A.3, 7.EE.B.3, 7.EE.B.4, 7.EE.B.4b** | Unit test and check ups. Number line and chip board quizzes. | 4 weeks August 24 – September 21 | | 1. *Form and Function of natural and designed objects are intimately related* | What Properties of Polygons Affect their shape?  What are the special relations among angles?  What properties are needed to construct polygons? | **7. EE.A.2 ,7.EE.B.4**, **7.G.A.2**  **7.G.B.5** | Checkups (quizzes) after each investigation.  Unit Test  Final Project (Students creating a book or poster or mobile)that demonstrates what they have learned about the properties and uses of polygons  “What I know about Shapes” | 3 weeks September 21 to October 9 | | Ratios, fractions, and proportions can be used to make intelligent comparisons of quantitative information. | In what ways can you use proportional relationships to find the change in an object to another object? | 7.RP.A.1, 7.RP.A.2, 7.RP.A.2a, 7.RP.A.2b, 7.RP.A.2c, 7RP.A.2d,7RP.A.3, 7NS.A.3, 7.EE.B.3, 7.EE.B4, 7.EE.B4a | Checkups (quizzes) after each investigation.  Homework, Class work  Stretching and Shrinking Project: The project has two parts. Students are asked to enlarge or shrink a picture using the coordinate graphing system and to identify their scale factor, compare a pair of corresponding angles, and compare two corresponding areas within the drawings. Then they are asked to write a report that describes techniques they used and compares the original picture to its image.  Unit Tests | October till December  3 weeks in stretching & Shrinking,  5 weeks Comparing and Scaling | | 1. Patterns and relationships can be represented graphically, numerically, symbolically, and verbally. | How are patterns and relationships represented in a table, graph, or equation?  What is the value of recognizing patterns and relationships in problems, and who might benefit from these skills? | **7.RP.A.2**, **7.RP.A.2a, 7.RP.A.2b, 7.RP.A.2c, 7.RP.A.2d, 7.EE.A.1**., **7.EE.A.2, 7.EE.B.3**, **7.EE.B.4, 7.EE.B.4a**.*,* **7.EE.B.4b** | Checkups (quizzes) after investigation 1, investigation 2 and 3,Unit test,  Stained glass project.   * Students will graph a series of lines from equations and then color to make it look like stained glass.   Final year project compare 2 companies to find better company must prove with graph, tables, equations | 2 months  January -February | | *Form and Function of natural and designed objects are intimately related* | how are surface areas and volumes of prisms and cylinders related?  how are the areas and circumferences of circles are related?  What are the relationships between the volumes of cylinders and the volumes of cones and sphere?s | 7.RP.A.2, 7.NS.A.3, 7.EE.A.1, 7.EE.A.2, 7.G.A.1,7.G.A.3, 7.G.B.4, 7.G.B.6 | Check ups, Unit Test  Unit Project Design A package contest. | 6 Weeks March -April  PARCC in March built in | | 1. How can a random sample help make inferences about a population? | What is the process of statistical investigation and how do you apply this understanding to samples?  How can simulations be used to model real-world situations? | 7.RP.A.2, 7.NS.A.1, 7.NS.A.17.SP.A.1, 7.SP.A.2,7.SP.B.3, 7.SP.B.4 , 7.SP.C.5  7.SP.C.7, 7.SP.C.7a | Check ups, Unit Test | April -May | |  |  |  |  |  | |  |  |  |  |  | | | | |