**5E Lesson Plan**

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| **Standard Addressed:**  **CC.2.3.8.A.2**  **Understand and apply congruence, similarity, and geometric transformations using various tools.**  **CC.2.1.6.D.1**  **Understand ratio concepts and use ratio reasoning to solve problems.**  **CC.2.1.6.E.3**  **Develop and/or apply number theory concepts to find common factors and multiples.**    **Lesson Name:** Scale Factors | | |
| **Author:** Ryan Mulville | | |
| **Subject area / grade level:** Math / 7th and 8th graders | | |
| **Time:** 75 minutes | | |
| **Materials:**   * Means to show the trailer for “Downsizing” * Similar shape worksheet * “Candy Bar” activity worksheet | | |
| **Lesson objective(s): Students Will Be Able To…**   1. Use scale factors to enlarge or dilate a shape. 2. Interpret a scenario to find the scale factor and use this information to find other information | | |
| **What will the Teacher be Doing** | **Elicit Questions** | **What are the Students Doing** |
| **ENGAGEMENT** | | |
| * Show the trailer for the movie “Downsizing”. * Ask elicit questions to develop the students’ understandings of scale factors. | * Can someone tell me the premise of the movie? * How can this premise be related to math? * Are all the people shrunk to the same size? If me and a student were shrunk, would the height difference still be there? * If they aren’t the same size, how did they determine how small to shrink people? | * Answering the elicit questions |
| **EXPLORATION** | | |
| * Handout worksheet with similar geometric shapes to pairs of students * Instruct students to answer the questions and use what was learned from the trailer |  | * Working with their partner to answer the questions and figure out the scale factor of the problem. |
| **EXPLANATION** | | |
| * Have student pairs explain their answer, how they came up with the answer, and what the scale factor is for each problem. * Address any misconceptions the students might have. |  | * Presenting their solutions to the problems on the worksheet |
| **ELABORATION** | | |
| * Instruct the students to complete the “Candy Bar” activity. * Here, students will not only use scale factors to change the size of a candy bar, but also to figure out the new nutritional information for the candy bar. | * So we have used scale factors to enlarge or shrink some sort of shape or person, but scale factors be used to do other stuff? * Are the candy bars going to have the same nutritional values? | * Use scale factors to change the size of a candy bar, * In addition, they will extend their knowledge of scale factors to calculate the nutritional value of the bigger candy bar. |
| **EVALUATION**   * Submission of their “Candy Bar” worksheet activity | | |