**Robots!**

**Teacher Name: Saara Uddin\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Grade:\_\_\_\_5th\_\_\_\_\_\_\_\_\_\_Subject:\_\_\_\_Math\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date:\_\_\_\_\_\_\_4/16/2014\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| **Class Description:** Middle school teachers and math majors  (This would also describe overall and key socio/economic backgrounds of students. Also students in ELL, Special Education, Gifted, various learning styles, performance, etc.) | | | **Differentiated Instruction:**  Students who are struggling or have learning disabilities will be given can be given a card modelling and asked to construct a similar robot in 2D or 3D. These students can also choose to work with a partner. | **Modifications/Accommodations:** (referto RTI, IEP, and 504 plans) | | | |
| **Class Key Standards:**  **MCC5.MD.3** Recognize volume as an attribute of solid figures and understand concepts of volume measurement.  **a.** A cube with side length 1 unit, called a “unit cube,” is said to have “one cubic unit” of volume, and can be used to measure volume.  **b**. A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units. | | | **Essential Question(s):** What is area? What is volume?  **Key Vocabulary:** area, volume, squared, cubed | **Materials:** sugar cubes (at least 30 per student or group)  Area worksheet  Volume worksheet  Coloring pencils/crayons/markers  Paint in various colors (optional)  Glue or other substance (to stick sugar cubes together)  Prezi  http://prezi.com/mckblmj-csdh/?utm\_campaign=share&utm\_medium=copy | | | |
|  | **Monday** | **Tuesday** | | | **Wednesday** | **Thursday** | **Friday** |
| **What will students…?**  **Know, Understand and Be able to do:** |  | Students will be able to understand/refresh what area is and why it is square units and what volume is and why it is in cube units. | | |  |  |  |
| **Assessments:**  **Formative:**  **Summative:** |  | Student discourse and participation in both robot activities, answers to probing questions  Ticket out the door. | | |  |  |  |
| **Instructional/Learning Strategies:**  **Teacher Actions:**  **Student Actions:** |  | **Grouping:** Students will be allowed to work individually or in pairs. Collaboration with peers is encouraged.  **Guide lesson through Prezi.**  **Warm-up:** [**https://www.youtube.com/watch?v=DF39Ygp53mQ**](https://www.youtube.com/watch?v=DF39Ygp53mQ) **(first 50 seconds of video**  **Review: Part 1 of “Robots” worksheet to review Area** | | |  |  |  |
| **Instructional/Learning Strategies:**  **Students**  **Teacher** |  | **Grouping Strategies:** Students will be allowed to work individually or in pairs. Collaboration with peers is encouraged.  **Part of “Robots” worksheet to explore volume**  **Review and Explain Concepts of Volume using student input and Prezi.** | | |  |  |  |
| **Summarizing** |  | **In groups, then as a class in discussion:** Go over the worksheet about the activity in groups, then share thoughts and answers with class. | | |  |  |  |
| **Reflection Notes:** |  | This lesson could be adapted to include surface area.  Giving complete instructions or asking for full student attention at times during activity is important. Take enough time to discuss probing questions. | | |  |  |  |