**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 worksheetVolume worksheetColoring pencils/crayons/markersPaint 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 questionsTicket 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. |  |  |  |