

Splash into Shapes

Sixth Grade STEM Startups



Developed by:

The teachers, students, and mentors in the
Gaming Research Integration for Learning Laboratory® (GRILL®) Summer 2015

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1. SPLASH INTO SHAPES

1.1. OVERVIEW:

Heatherwoode Village is an up-scale living community that offers a wide arrange of amenities including: a large workout facility, 4 tennis courts, a community park, and a business center. However, more and more young residents are moving in to this fine community and have urged for the creation of a waterpark. The leaders of this community have agreed to add this feature next to the park and need your help to create a large sized pool for its residence to enjoy

1.2. PROJECT REQUIREMENTS/PARAMETERS

- The main pool's surface must have an area at minimum 6000 ft²
- The pool needs to have a section set out for diving
- A third section must be created that features waterslides
- A separate kiddie pool must be created that has a maximum depth of 3ft
- Include a snack stand
- Include a restroom/changing area
- Include loungers for residents to sit/lay on while poolside
- Feel free to get creative in adding additional features!

NOTE: You only have 10,000ft³ of water to use!!!

1.3. PROJECT PRESENTATION

This project needs to be modeled using SketchUp , a similar 3D modeling program, or an accurate poster presentation with dimensions shown.

Every student/group will present their work at the end via PowerPoint, Prezi, etc.

1.4. MATH WORK

For the waterpark you must provide:

- accurate dimensions that show the minimum 6000ft²
- volumes for each section of the pool(s)

- water not used of 10000ft³ allowance
- cost of loungers (tax included) and total seating capacity
- Cost of water slide(s) (tax included)

1.5. RUBRIC

	Components	Points Earned	Comments
Math Work/Calculations	-Student includes area of main pool -Student includes volume for each section and pool -Water not used from 10000ft ³ -Cost of loungers -Total seating capacity -Cost of water slide(s)	/25	
Project Model	-Project includes all required dimensions for every pool, section, and optional add-on -Model is neat and visually appealing	/20	
Research	-Student provides sources that match costs of slide(s) and loungers -Student provides sources to meet safety standards	/10	
Presentation	- Student provides concise and detailed presentation (no more than 5 minutes)	/5	
Total		/60	