



**CALIFORNIA STATE SCIENCE FAIR  
2014 PROJECT SUMMARY**

<b>Name(s)</b> <b>Joseph F. Silva</b>	<b>Project Number</b>  34090
<b>Project Title</b> <b>How Water Erosion Affects Dirt and Sand on Hillsides</b>	
<b>Objectives/Goals</b> To learn how much soil can be carried away by water from a hillside <b>Abstract</b> <b>Methods/Materials</b> 1 large sheet of wood; 2 long pieces of wood; miter box; Saw; Power Drill; Hot Glue Gun & Glue; Spray paint; Screws; Square; Tape measure; Grass seed; Paint pan; Sand; Dirt; Buckets; Water; 16 ounce container; 3 Tupperware bowls; Stopwatch; Spatula; Shovel; Pie tins; Wire Hole poker; Measuring cups. Method: Build a model hillside with 3 slots. Pack each slot with a soil type. Pour 16 ounces of water over the soil types: sand, plain dirt and planted grass. Vary the length of pouring, 20 seconds; 40 seconds; 60 seconds. <b>Results</b> Water, 20 seconds: Plain soil: I had to get the dirt out from the Tupperware bowls and the bottom of the hillside and drain off all the water. I put my dirt into the tins. I drained off more water. Then I measured the dirt in a measuring cup. There was 1/4 cup of dirt lost from the hillside. Sand: Sand and water went everywhere. It went out the model and over the sides. I measured the amount of sand left in the model. I used a spatula to get all the sand into a measuring cup. There was 3 3/4 cups of sand lost. Grass Soil: There was no dirt runoff. Water, 40 seconds: Plain soil: lost 1/4 cup. Sand: lost 3 1/2 cups. Grass Soil: There was no dirt runoff. Water, 60 seconds: Plain soil; While the water was running down the dirt on this test I saw a channel start to form and pick up a lot of soil in the run-off, lost 1 1/3 cups. Sand lost 3 1/4 cups. Grass Soil, no runoff. <b>Conclusions/Discussion</b> I think my experiment went really well. I had a lot of fun building my model hillside. My hypothesis; Sand will be most affected by water erosion was correct. Observing hillside erosion I learned it is important to also watch how water travels downhill, it can cause a large increase in erosion if water can form a channel or stream. The grass was the least effected by erosion. I do not want a beach house.	
<b>Summary Statement</b> How Water Erosion Effects Dirt and Sand on Hillsides	
<b>Help Received</b> Mom helped type the report and take pictures. Dad taught me how to use a miter box.	