



**CALIFORNIA STATE SCIENCE FAIR
2010 PROJECT SUMMARY**

Name(s) Chen (Amy) Zhang	Project Number S0222
Project Title What Affects the Speed of a Floating Object?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals I mainly want to find out if the floating speed of an object depend only on the object volume or also on some other factors when the object is floating across a certain depth in water.</p> <p>Methods/Materials</p> <ol style="list-style-type: none">1. Use wood material to make floating blocks2. Cut the wood blocks into different shapes: cubic, rectangular, and triangular prism, with different dimensions and volumes3. Measure and record the volume and mass of each object4. Label each objects according to its material, shape, and size in order to keep track of all the data5. Make sure that the bigger side of the object is facing up at each reference point6. Push the object into the bottom of the swimming pool at its reference point with a net in order to secure its position7. the timer starts the stop-watch when the net is being released8. The timer then time the amount of time it takes for the object to float to the surface of the water9. Repeat the procedures 6-8 at the other reference point in the swimming pool and with different objects <p>Results The measurements from the experiments demonstrate the objects# relationships between their floating time and their sizes and masses. Meanwhile, the paths of the objects floated upward depended greatly upon their shapes and sizes. Larger rectangular blocks floated in almost straight lines and kept same sides (bigger side) facing up until they reach the surface of the water. Smaller rectangular and triangular blocks were not stably moving upward with the same face facing up; instead, they changed their floating orientations, rotated from side to side, or slid in zigzag path while floating in water.</p> <p>Conclusions/Discussion The results of this project clearly show that the objects# floating time depends on not only their sizes, but also on their orientations, and their stability. More strictly speaking, the greater the volume of an object, the faster it floats. The more stable movement of an object, the faster it floats. The smaller the side of an object facing the sky, the faster it floats.</p>	
Summary Statement I want to find out the various factors that affect the floating speed of a floating object, while it floats upward.	
Help Received My mom was the second timer during the experiment; my dad was pushing down the blocks toward the bottom of the pool. In addition, both of my parents helped me with building the board.	