

Dear Parents and Caregivers,

Willow Oaks Third Graders just finished up a terrific science unit with teachers from the Palo Alto Junior Museum and Zoo. You can help solidify your child's learning, and foster a life-long love of science at the same time. Simply ask your child to talk about it! Use the class descriptions below, as well as our suggested questions and web links to guide your discussions, and have fun learning together!

Unit Title: Chemistry and Physics

In this introduction to chemistry and physics, students learned what all of the Earth's elements have in common, as well as how they differ. They were also introduced to a tool scientists use for classifying elements called *The Periodic Table of Elements*. By experimenting with a variety of substances, students learned to differentiate between chemical reactions and mixtures.

In the physics phase of this unit, students manipulated toy cars to learn about kinetic energy (the energy of motion) and potential energy (stored energy). They also made rubber band cars, harnessing elastic potential energy in the process.

Questions:

Visit the following website to view *The Periodic Table of Elements*: www.phtable.com. Do you see any elements you recognize (oxygen, aluminum, carbon, sodium, potassium, calcium, etc..)? What in your house do you think might contain some of these?

In a chemical reaction, two substances combine to create a totally new substance (ex: Vinegar + Baking Soda → Carbon Dioxide Gas). In a mixture, two substances combine, but remain unchanged (ex: sand and water). Play with items in your kitchen. Can you combine two substances to make a chemical reaction? Can you make a mixture?

Remind your child of their work creating rubber band cars, and how they harnessed elastic potential energy by doing so. Help them find toys or tools in your house that also use elastic potential energy to do their work.

Web Links:

www.phtable.com

www.visionlearning.com/library/module_viewer.php?mid=54

www.chem4kids.com

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The Palo Alto Junior Museum and Zoo (JMZ), located at 1451 Middlefield Road in Palo Alto, is a small children's museum with educational exhibits and live animals. Daily admission to the Museum is free, and they also offer many science classes for families and schools. Each year, JMZ science teachers teach approximately 180 classes in Willow Oaks Elementary School (provided at no cost). Lessons include close encounters with live animals or authentic artifacts, hands-on exploration of science concepts, and work with real scientific tools and equipment. We encourage you to take advantage of this important learning resource by visiting the JMZ often with your child.

Enjoy!

Sincerely,

Willow Oaks Elementary School
Third Grade Teachers

