Child Care Council of Westchester, Inc.
INVESTING IN OUR CHILDREN'S FUTURE

CHILDRENS' CORNER

THE WHO, WHAT, WHY, WHERE, AND WHEN of SCIENCE –PART 2

CHEMISTRY – The Science of Changing Things

Let's continue to explore science and young children.

What is science? Science is learning about the world and everything in it. Everything young children do is science – touching, tasting, exploring, and even testing limits. Doing science comes naturally to children. Children learn science by exploring and acting on their environment.

Science is a way of thinking about the world. Science is wonder, exploration, and discovery. Science is making observations, comparing, questioning, making hypotheses, and describing. Science is critical & analytic thinking, problem solving, questioning, experimenting, and observing the results.

A scientist is someone trying to find an answer. A scientist asks, "What do you think will happen if….?" An infant shaking a rattle is a scientist. A toddler stacking blocks is a scientist. A preschooler digging in the mud is a scientist.

Remember what we said last month – Science is not parent-directed one-time "science experiments" or units. Science is all around us. We just have to be open to seeing it. The parent is not the "sage on the stage" but "the guide on the side." The adult's role is to help children to be curious and to think, to listen to the children, to follow children's leads, not to answer too quickly, and to ask genuine questions. Recognize the science moments and see what happens.

Chemistry - The Science of Changing Things

Chemistry is not smelly test tubes and difficult experiments. Chemistry is investigating the properties of things in our world. A property is something essential or distinctive about something.

Chemistry is exploring solids, liquids, and gasses. Chemistry is mixing different substances to see what happens.

Chemistry is all about – What do you think will happen if we….

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Chemistry is –

- Physical reactions – We are all familiar with mixing baking soda and vinegar to make a volcano. Don't call it a volcano. What children see is the reaction of combing a solid and a liquid. Volcanoes are very different. It is a much better science exploration to give children a tray of baking soda, a cup of vinegar, and an eye dropper. Let them create the reaction. Add food coloring to different cups of vinegar to add to the experiment.
- Mixing – flour, sand, baking soda, paint, water, and oil. Let the children explore different mixtures. What happens when we put things together?
- Ice – water to ice and then ice to water. Freeze water in all sizes of containers – ice cube trays, large bowls, milk cartons, tall glasses. Once frozen put the ice in a water table or bin. What happens over the hours of the day? Which lasts the longest? Which melts quicker? Give children cups of water with food coloring and eye droppers. What does water do to the ice? What happens if you sprinkle a little salt on the ice?
- Potions – What happens when different colors of paint and different liquids are mixed together?
- Playdough – Making playdough is chemistry. Add molds and a variety of tools to expand the explorations.
- Goop – In a large plastic bowl or deep tray, mix 2 cups of cornstarch with enough water so that it feels like clay – not too dry and powdery and not too wet. Now pick up the good and squeeze it. It's crumbly. Hold it loosely and it oozes through your fingers. It feels hard in the tray but put fingers into it and it is a liquid. Solid and liquid at the same time. MAGIC! And it can't stain clothes and is easy to clean up.
- Slime – Add two ingredients and create something very different. Slime is easy to make and provides many learning opportunities when children play with it.
  For receipts and more about slime go to:
  http://www.funathomewithkids.com/2014/06/the-ultimate-guide-to-slimes.html
- Cooking is always chemistry. You are putting things together and in the process change them into something else. Cooking teaches process and procedures.

Chemistry happens everywhere – in puddles, sandboxes, and at lunch time. Look for chemistry with your young scientists. Ask the important questions – what do the children observe, why do they think it happened?

Have fun!! A little mess will lead to great explorations.