Joan E. LeFebvre
Family Living Agent

Parenting the Preschooler

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Science Explorations for the Young Child

Your preschooler is a curious child... discovering, observing, and questioning. Your child is a natural scientist. As a parent, you have the good fortune to assist your child in scientific discoveries.

Learning through *observation* and *experimentation*, which are at the heart of science, come naturally to preschool children. Science that gives immediate feedback allows children to see the results of their own actions, work out their own answers and build self-esteem, often expressed as a jubilant cheer, *"I did it!"*

Children are concrete, not abstract, thinkers who learn by acting on objects. They learn by exploring, observing, and manipulating.

Successful Science Activities for Preschoolers

- Put the child in control of the action.
- Have an immediate reaction.
- Allow the child to see the results of their action.
- Let them try different actions.

Some of the actions preschoolers can take are:

Sucking	Blowing	Pulling
Balancing	Tilting	Tossing
Pushing	Dropping	Swinging (objects)
Sliding	Rolling	Spinning (objects)

Air Expansion Science Experiment
(for you to try with your preschooler)

Objective: To see the "unseeable."

You need: Plastic bottle (6 to 20 oz.), two medium size bowls (one with ice water, the other with very warm water), 5" to 9" balloon attached to mouth of bottle.

What to do: Put the bottle with the balloon attached in the freezer for a few minutes. Meanwhile fill each bowl–one with ice water and the other with very warm water. (Safety first? Water should be very warm, not dangerously hot.) Get the bottle. Notice any change in the balloon? Place the bottle in one of the bowls. Switch to the other bowl. You will see the balloon getting bigger and smaller. Keep switching back an forth as long as your child is interested. (You may need to replace the warm water when it cools down.)

What to say: Oh, look at that. Be amazed with your child. Direct your child's attention to the temperature of the water. Ask open-end questions: What do you see? How do you think that happened? What do you think? Later on, you can always say, "We can't see the air in the bottle, but when air gets warm it gets bigger and when air gets cold it gets smaller. See how it fills up and leaves the balloon."

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Suggested Supplies:

Funnels	Rubber bands	Eggbeaters
Magnets	Eyedroppers	Plastic mirrors
String	Feathers	Squeeze bottles
Basters	Cotton balls	Table tennis balls
Sponges	Big spoons	Boxes (all sizes)
Straws	Siphons	Small plastic tubing
Blocks	Flashlights	Small buckets
Ribbons	Bubbles	Ramps and inclines

Look for materials that are:
- Colorful and/or interesting in some way
- Stimulate the senses–texture, fragrance, movement, sound, weight, flexibility, etc
- Can be changed or moved
- Promote problem-solving by answering "What?" "Where?" "Which?" "When?" "How?" "What if?" (Because preschoolers often answer the "Why?" question with, "Because," try to avoid it.)

Ideas for Preschooler Science Experiments

Air and Movement
- Drop small parachutes.
- Blow bubbles. Have your preschooler predict where the wind will take them.
- Play with things (such as a crepe paper length) in a stream of air (breeze outside or shielded fan under close supervision).

Light and Optics
- Play with shadows and flashlights.
- Look in mirrors, including convex and concave mirrors.
- Look through binoculars and magnifying glasses.

Heat
- Feel water and ice.
- Alternate putting your hand under a black cloth and white cloth in the sun.
- Rub your hands together very fast.

Sound
- Strum a rubber band box (rubber band over closed or open box).
- Drop things into different containers (plastic, metal, wood, cardboard).
- Listen and identify sounds (in environment or use a CD with different sounds on it).

Chemistry and Mixtures
- Mix vinegar and baking soda.
- Make pennies shine with vinegar.
- Make Glurch (stretch it, bounce it, hold it, push it).

Glurch

Ingredients:

Water
2 cups of Elmers glue
1 level teaspoon or Borax (detergent)

Instructions:

Mix together in a large bowl - 1 1/2 cups of water and 2 cups of Elmers glue. In another bowl dissolve - 1/3 cup of water and 1 level teaspoon of Borax. Add the Borax mixture slowly to the glue mixture. Stir until it coagulates. Press out extra liquid with your hands. You will have extra liquid leftover. If you want to make more Glurch, add more of the Borax solution to the leftover glue mixture and proceed as before. For a twist add glitter or food coloring!

Glurch exhibits characteristics of both solids and liquids. Though it seems solid, it will actually "pour" very slowly and it will take the shape of its container. Yet it sticks together and can all be picked up at once.

Encourage your child to keep wondering. Adopt an attitude of scientific curiosity about everything and anything. It's up to you to nurture, enjoy, and treasure your child's sense of wonder.

Sources:

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Author: Joan E. LeFebvre, Professor, Department of Family Development, University of Wisconsin-Extension
Reviewer: Dave Riley, Extension Specialist, Child Development and Early Education, UW-Madison
Layout: Penny Otte, Program Assistant I, Family Living Area Office, Vilas County

For more information on Parenting and Child Development, contact: Joan E. LeFebvre, Area Family Living Agent, University of Wisconsin, Extension, 330 Court Street, Courthouse, Eagle River WI 54521-8362, 715-479-3653, FAX 715-479-3605, E-Mail joan.lefebvre@ces.uwex.edu
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