

S.T.E.A.M. Tools & Tips

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S.T.E.A.M.

Science

Observing and exploring
Making predictions
Asking "why" questions
Wondering how things work
Creating talking opportunities

- *The Silk Worm Experience
- *Volcano/Play dough Creations
 - *Painting with Magnets
- *The Scientist's Tool Box

Technology

Way of doing
Being inventive
Identifying problems
Making this work
Building simple machines to solve problems
Playing

- *Caring for Our Gadgets
- *Building a Technology Center
 - *Photography
- *Recording - Listening Center

Engineering

Solving problems
Testing
Planning and inventing
Designing and creating
Building things that work
Collaboration

- *Designing Architectural Blueprints
 - *Duplo/Hollow Block Stories
 - *Ramps and Pathways
- *Playground Water Exploration

Art(s)

Open-ended creativity
Exercising imagination
Developing eye-hand coordination
Understanding ideas have value
Experimenting with patterns, textures, and colors
Exploring opportunities for music, drama & dance
Reading

- *The Creative Arts Center
 - *Wooden Wonders
- *Musical drama exercises with props and tools
 - *Styrofoam Buildings

Math

Ways of measuring
Spatial relations
Exploring shapes
Sequencing/patterning/volume/size
Charting, counting, sorting
Comparing & contrasting

- *Coat Hanger Balancing Machines
- *Measuring Activities
- *Fall Treasure Hunt
- *Shape Story Drama

Silk Worm Ordering Information

"Insect Lore" - www.insectlore.com

Order Silkworm eggs (20-25)

Silk Worm Chow - (Food to feed the silkworms when they hatch)
(Order the chow and have on hand before ordering the silkworm
eggs)

www.Mulberryfarms.com Tel: 760-731-6088

Powder - Ready to mix or pre-made chow

*Eggs hatch about 7 days after arrival

*25 - 30 days of growth after hatching before silkworms are
ready to form their cocoons.

*Emergence of the moth begins ten to fourteen days after
cocoon formation.

*Mating begins soon after emergence. Silkworm moths do not fly.
They live approximately 7 to 10 days.

*If the moth lays eggs and they are fertile, the eggs will hatch in
20 days and the cycle will be repeated.

Science Domains

Physical Science
Life Science
Earth and Space Science
Personal Safety and Health

Nature Equipment

Bug House
Magnifiers
Small aquarium with a screened lid
Rye grass seeds
Empty milk jug container
Child sized goggles
Large plastic container for water/sand/clay activities
Sunscreen lotion
Hats and caps

Science Vocabulary

Predict - decide what they think may happen
Experiment - Try out tools/processes
Observe - watch
Collect Data
Properties of
Characteristics
Compare - judge different effects
Measure - compare sizes/weights
Communicate - discuss results
*Inquire, question, make decisions and work cooperatively to
problem solve.

Volcano Fun

Large baby food glass container
Baking Soda
White vinegar
Tablespoon measuring spoon
Red food coloring
Eyedropper
Plastic 1 cup measuring cup
Tray with raised edge to contain liquid
Green cooked play dough
Inch round stones for decoration

Have the children cover the outside area of the baby food jar with green play dough and stones, giving the look of a grass covered hill leading to the mouth of the volcano. The children will then measure 1 tablespoon of baking soda and dump it inside of the container. Next the children, using the eyedropper, will add 5 or 6 drops of red food coloring.

Invite conversation by asking the children what they think will happen when they pour the vinegar into the container. They will surprise you with their predictions.

Now the volcano is ready to erupt. Using the measuring cup filled with white vinegar, have the children slowly pour some of the white vinegar into the container. Quickly the volcano will erupt with pinkish lava that will flow over the sides of the volcano. Repeat the process again by pouring some more of the vinegar into the container. This is a win/win activity for all ages.

Ramp Play

Invent

Design

Solve problems

Make something interesting happen

Learn how to ask questions

Identify

Solve an engineering problem

"I can do this but I need a little help!"

"I WONDER".....

Dear Parents,

We are introducing the concept of set to the children during our math circle time. They are having fun collecting sets of objects around the classroom including like members such as blocks, crayons, and scissors.

Your child may enjoy searching for a set of objects at home to share at school. This envelope will be a handy holder for the set. The filled envelope may be returned any preschool day.

Thank you for your help!

References and Resources

Discount School Supply - 800-627-2828

Lakeshore Learning Materials - www.lakeshorelearning.com or 800-421-5354

Insect Lore - www.insectlore.com 1-800-Livebug

Community Playthings - 1-800-777-4244 (Blocks, Riding Equipment-Furniture)

Hannah Lucia's Puppets and More - Contact Michael Tello to visit our showroom.

By appointment only - Cell: (713) 269-5842.

The Felt Source. Little Folks Visuals. (877) 463-1053.
www.thefeltsource.com

Oriental Trading Company - 1-800-228-2269

The Book Vine for Children - (800) 772-4220 (Great Book Reference) www.bookvine.com