

Math, Science & Sensory Play (PreK) WORKSHOP HANDOUT

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Find FREE Smart Art Ideas at www.ArtandCreativity.blogspot.com

Smart Art Lesson	Science Outcomes (PreK)	Math Outcomes (PreK)
	1.Explores elements of nature (salt) 2.Learns to predict outcomes	1.Creates patterns 2.Recognizes basic shapes
Salt Crystal Coffee Filters Lesson #28 / Yellow Book Complete Lesson Plan in Smart Art, page 28	Salt is a highly absorbent mineral and a type of crystal. Add salt while paint is wet, and watch it quickly absorb the liquid paint. As it absorbs the liquid, it absorbs the color, leaving behind plain white "dots" on the painted coffee filter. Find more fun facts about salt on the internet.	Patterns and shapes are easily taught with coffee filter art. Use same techniques on paper towel squares to make paper towel art. Paint coffee filter circles one week, and paper towel squares another week. Make a colorful collaborative paper quilt by gluing circles and squares onto butcher paper or Liquid Watercolor Material.
Super Colored Snow Lesson #19 / Blue Book Complete Lesson Plan in Smart Art 2, page 19	1.Recognizes cause & effect 2.Learns to predict outcomes Snow powder is super absorbent and expands to 100 times its original volume! It's a completely safe, non-toxic chemical called a polymer. The colored water moves inside of the polymer and causes it to swell. Find more scientific facts about polymers on the internet and inside the snow powder container.	1. Classifies by attributes 2. Experiments with measuring Polymers are an exciting way to explore measurements and compare attributes. Compare big with small, soft with hard, warm with cool. Mix 1 tsp of polymer with 2 ounces water (add a few drops of liquid watercolor to water first). It will puff up into a handful of colorful "snow"- is it warm or cool after it expands?
Magnet Wand Painting Lesson #39 / Blue Book Complete Lesson Plan in Smart Art 2, page 39	Develops observational skills Recognizes cause and effect A magnet is a material that exerts a force on other materials without actually contacting them. This force is called "magnetic force" and may either attract or repel. All magnets have two points, or "poles," where the magnetic force is greatest. Find more scientific facts about magnets on the internet.	1.Explores new materials 2.Develops spatial relationships Explore the mystery of magnets and develop spatial relationship skills by dragging magnet wand under the table and watching magnet balls roll in paint on top of table. Create dynamic art based on the science of magnetic force! Label your art display with a description of the science of magnet wand painting.
X-Ray Handprint Lesson #44 / Blue Book Complete Lesson Plan in Smart Art 2, page 44	Explores individual body parts Describes & records information Trays help us explore body parts and health/nutrition. An X-ray is really a picture of the shadows cast by the bones in your body Purchase actual xrays or ask your doctor to donate outdated ones. This "pretend" xray art mimics the real thing. Check the internet for more fun facts and remind children that we drink milk for healthy bones.	Explores 1:1 Correspondence Develops spatial relationships The spatial relationships XRay handprints are an application of BioColor Scraper Art and can reinforce early 1:1 correspondence. How many hands do you have, and how many are printed? How many fingers on each hand, and how many printed?
Ocean in a Bottle Lesson #28 / Yellow Book Complete Lesson Plan in Smart Art, page 28	Explores elements of nature (water) Develops observational skills Explore the material properties of water by "tagging" H20 molecules with shimmer power (a micro-fine glitter) and liquid watercolor. Shake up your "ocean bottle" and see how fast water molecules move and how long they stay in motion. Use recycled water bottles for this project and glue caps on tight so you can leave bottles out in you science center along with magnifying glasses and color paddles.	1. Classifies and sorts by attribute 2. Experiments with measuring Add liquid watercolor with an eyedropper, squeezing out a few drops for a pastel color, or more drops for a deeper color. Compare finished "ocean bottles" by size, color, and whether they have gold or silver shimmers. Gold shimmer powder creates a warm color, and silver creates a cool undertone.

SCIENCE OUTCOMES*

1) Displays Observation Skills.

The child demonstrates attention skills and makes appropriate comments when given science objects to observe

Collects, Describes and Records Information.

The child is able to collect and describe natural evidence, and record the information in pictures or graphing

3) Recognizes Individual Body Parts.

4) Understands the Functions of the 5 Senses.

The child can identify the five senses and can describe the use of each

5) Shows Awareness of the Natural World and Living Things.

The child shows interest in the world of nature and appreciates living things on Earth.Includes Structure and property of matter (e.g., characteristics that include concepts like hard and soft, floating and sinking) and behavior of materials (e.g., transformation of liquids and solids by dissolving, melting, or changing state like BioPutty or polymers).

6) Recognizes Cause and Effect and Can Predict Outcomes.

The child can describe the changes that occur when time or elements are introduced, such as "What happens when the color blue is mixed with yellow?"

From Earlychildhood News, Teacher Quicksource*

*QuickSource® is a FREE and comprehensive resource from Earlychildhood News that is tailored to meet educators' needs. Find step-by-step activities, materials lists and outcomes all in one, convenient place at:

www.teacherquicksource.com

MATH OUTCOMES*

- 1. Explores with Materials. The child is able to freely explore the many uses of manipulatives, such as blocks,
- 2. Recognizes Spatial Relationships. The child is able to understand positions and direction, such as right-left, top-bottom, behind-in-front, between, under, over, etc.
- 3. Classifies and Sorts by Attributes. The child can classify and group objects based on the similarities and differences of the attributes of each object, such as color or size
- 4. Creates Patterns by Extending and Comparing. The child can copy, extend or create a pattern, such as colored blocks: black.red. black, red. black
- 5. Shows 1-to-1 Correspondence and Recognizes Sets. The child can match or pair items in a one-toone relationship, such as counting individual items. The child can also compare sets and choose larger or smaller sets.
- 6. Understands Ordering. The child recognizes the order of certain items, such as days of the week, months of the year, numbers (0-10) or smallest to largest.
- 7. Demonstrates Understanding and Recognition of Numerals 0-9. The child can understand the 'manyness' of sets and recognize the numerals 0-9. The child can understand basic addition and subtraction of manipulatives to create the correct number of items.
- 8. Recognizes and Manipulates Basic Shapes. The child can identify basic shapes by distinguishing similarities and differences among attributes
- 9. Understands the Concept of Measurement. The child understands that objects can be measured using

EXERCISE: Coffee Filter Hat

Evaluate a new activity for its potential to teach math or science, and practice your analytical skills. Even an activity that doesn't SEEM to be math/science oriented, often teach some of these skills.

What about the Coffee Filter Hat at right? Read Lesson Plan Steps 1 through 4, and try to find TWO OUTCOMES for both Math & Science. Refer to the Outcomes Chart above. Have fun and stretch your thinking!

Coffee Filter Hat: Science Outcomes:

1)

2)

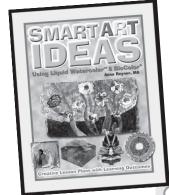
Coffee Filter Hat: Math Outcomes:

3)

4)

Nearly any activity can build math/science skills if emphasize these skills areas you present it. How could you increase or add to the Math/Science focus with this hat activity?

5)



Smart Art is a creative collection of easy, fun art experiences for children of all ages. Children will love the art projects and directors will love the learning outcomes and staff development. -Mac Johnston

Associate Executive Director

"Art is a central piece of quality afterschool programming and a skill professionals in the field can hone with the innovative activities suggested in Smart Art. With clear child and youth development outcomes spelled out for providers to see the value of each project. this book supports unique enrichment activities in afterschool programs."

-Darci Smith, Executive Director California School-Age Consortium

"Smart Art is a great new resource on the use of art in education, therapy

> —Dr. Linda Fazio Professor of Occupational Therapy University of Southern California



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Or, order off our user-friendly website at www.discountschoolsupply.com

Sample Lesson from **SMART ART IDEAS**

About This Book

Smart Art Ideas is a unique collection of exciting art activities that helps children meet important developmental goals, while helping adults understand the learning that takes place through art. Developmental outcomes are clearly outlined in each lesson, describing the cognitive, emotional, social, physical and language benefits provided by the activities. Includes 36 lesson plans three illustrated articles on art in child development and three delightful mini-posters." Item #: SMARTART



Questions? Email Areyner@DiscountSchoolSupply.com

Coffee Filter Hat



STEP 1:Make Hat Shape Working in pairs, place 1 Texas snowflake filter on head. Pull down gently near ears. Wrap colored tape at brim line to fit head. Flip brim up.



STEP 2:Optional SIEP 2:Optional Using a small coffee filter, create a "flower" by pinching filter in middle. Wrap 1" tape at middle/stem. Attach flower at brim with tape.



STEP 3:Color Your Hat Decorate hat with Liquid WatercolorTh in bingo bottles, making dots, lines and



STEP 4:Optional Add feathers, trim brim or designusing Liquid Watercolor™ and Grip Stampers.



CLASSROOM TIPS

Extensions

Great for carnivals and "crazy hat" days. Limited drying time and immediate gratification! Make this into a 2-day project by completely saturating filters with color one
day, drying completely, then assembling next day. Hats for boys and men? Use your
imagination and create a baseball cap, fishing hat, cowboy hat, etc.—by adding more
colored tape or decorations and trimning brim with scissors.

13)=

Vocabulary Gather, Rotate, Saturate, Compose, Pattern, Design, Adapt



(MATERIALS) ✓Texas snowflake filters 18" dia.

✓ Liquid Watercolor^T

✓Bingo bottles (pre-filled)
✓Colored masking tape

Optional: Small coffee filters

✓ Easy Grip Stampers
✓ Stamp pads
✓= in Discount School
Supply catalog

OUTCOMES

Art is good brain food! This art idea helps children develop: Cognitive/Thinking Skills

Spatial relations Visual thinking

Emotional/Feeling Skills Self-expression Sensory pleasure

Dramatic play Cooperation, works in pairs

Physical/Coordinating Skills

Fine and gross motor skills Eye/hand/brain coordination

Literacy & Language Development
Fantasy/imagination
Communicates with partner



