Mad Scientist! Activities for Scientific Reasoning

John H. Funk

University of Utah / Funk Early Childhood Consulting

john@funkearlychildhood.com

[www.funkearlychildhoodconsulting.com](http://www.funkearlychildhoodconsulting.com)

*Preschool Standards, Head Start Outcomes Framework & Next Generation Science Standards for Kindergarten*

*(question, observe, predict, experiment/test, observe)*

Five Senses/Body Parts (Goals P-SCI 1, 3 – Scientific Reasoning)

1. X-Ray Print (Biocolor Paint –white, black; white paper; tray; scraper)
2. Color Mixing (Liquid Watercolor, paint, etc.)
3. Salt Crystals (Coffee filter [or Colorations BIGTEX filters]; Liquid Watercolor; salt)
4. Fluffy Goop (Colorations white school glue; shaving cream; Liquid Watercolor)
5. Biocolor Window Stickers (Biocolor; acetate or slick plastic)

Weather Patterns (Goals P-SCI 3 – K-ESS2-1; K-ESS3-2 – Scientific Reasoning – Earth’s Systems)

1. Corn Starch Fade Away (Corn starch; water; tray; Liquid Watercolor spray)
2. Tornado Tube (2 empty 1 liter bottles; tube connector; water)
3. Water Moving Fountain (2 empty 2 liter bottles; fountain connector; water)
4. Sun Print (Sun Print paper; everyday object; sun-also color-changing beads)
5. Parachute (large filters, sting, hex nut)

Life Cycles (P-SCI 4; K-LS1)

1. Life forms on light table (life forms/x-rays; light table or panel)

-Scribble Chase

1. Stamping Thumb Prints (stamp pads, paper, markers, thumbs ☺)
2. Documentation Journals (paper)
3. Collection Journal (paper bags; glue or staples)

Magnets - Push and Pull - Floating and Sinking (Goals P-SCI 5,6; K-PS2-1, 2 – Scientific Reasoning – Motion and Stability)

1. Marble Printing (Magnet; magnetic marbles; paper; Biocolor paint; tray)
2. Sand (Sand; container; water)
3. Oil is Lighter than Water (Vegetable oil; water; container; Liquid Watercolor)
4. Floating & Sinking Rafts (Colorations Craft Sticks; container of water; items to sit on raft)

Problem Solving – Engineering Design (Goals P-SCI 3,4,6; K-2-ETS1 – Drawing Conclusions/Engineering Design)

1. Building and Connecting (Building Brilliance Blocks; Light Table)
2. What Make It Cold? (Insta Sno; Water)
3. Engineering and Building

<https://eclkc.ohs.acf.hhs.gov/hslc/tta-system/teaching/practice/engage/iss/scientific-method.html>

<http://www.nextgenscience.org/>