Mad Scientist! Activities for Scientific Reasoning

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

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

Most KDIs can be represented in all of the science activities below. The most prominent KDIs are listed in each section. KDI 50 – Communicating Ideas will be used in every area.

Five Senses/Body Parts – (KDI45-Observing, KDI 46 – Classifying, KDI 47 – Experimentation, KDI 48 – Predicting)

1. X-Ray Print (Biocolor Paint –white, black; white paper; tray; scraper)
2. Color Mixing (Liquid Watercolor – red, yellow, blue; water; container)
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 (KDI 48 – Predicting, KDI 49 – Drawing Conclusions, KDI 51 – Natural and Physical World, KDI 52 – Tools)

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)

Life Cycles (KDI 45 – Observing, KDI 46 – Classifying, KDI 51 – Natural and physical world)

1. Life forms on light table (life forms/x-rays; light table or panel)
2. Stamping Thumb Prints (stamp pads, paper, markers, thumbs ☺)
3. Documentation Journals (paper)
4. Collection Journal (paper bags; glue or staples)

Magnets - Push and Pull - Floating and Sinking (KDI 45 – Observing, KDI 46 – Classifying, KDI 47 – Experimenting, KDI 48 – Predicting)

1. Marble Printing (Magnet; magnetic marbles; paper; Biocolor paint; tray)
2. Slick Sand (Slick 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 (KDI 47 – Experimenting, KDI 48 – Predicting, KDI 49 – Drawing conclusions)

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/>