

Northland Public Library

Take Home Science in a Box

- ☐ 1. **Air on the Go:** demonstrates how air moves toward low pressure and the relationship between air pressure and wind.
- ☐ 2. **Bubble Trouble:** demonstrates how bubbles are formed.
- ☐ 3. **Crystal Snowflakes/Stars:** demonstrates how crystals are formed.
- ☐ 4. **Drip Drop:** demonstrates how molecules move.
- ☐ 5. **The Eyes Have It:** demonstrates how some animals see the world.
- ☐ 6. **Fire Extinguisher:** demonstrates that fire needs air/oxygen to burn.
- ☐ 7. **I Am the Walrus:** demonstrates how some animals keep warm when the temperature is below zero.
- ☐ 8. **Invisible Ink:** Invisible ink is fascinating and cool. Sending secret messages only you and your friends can read is so much fun. Learn how an acid reacts to heat for some secret fun.
- ☐ 9. **Marshmallow Builders:** demonstrates how various shapes are used in architecture and which shapes are the strongest for construction.
- ☐ 10. **Mix It Up:** demonstrates how water does not mix with oil unless an emulsion is formed.
- ☐ 11. **Pop Up Ball:** demonstrates separation of solids.
- ☐ 12. **Print Those Fingers**—to have a look at the tip of your fingers. Look at the grooves in your skin. They make a pattern called a fingerprint.
- ☐ 13. **Rainbow In A Glass:** demonstrates how various concentrations of a sugar solution can create a density column going from the least densely concentrated sugar solution to the greatest concentrated sugar solution.
- ☐ 14. **Rising Colors:** demonstrates how plants absorb water through its stem and into its leaves and petals.
- ☐ 15. **Shiny Coins:** demonstrates how different substances and solutions can react with the oxidation on pennies.
- ☐ 16. **Small Rockets:** demonstrates how the expansion of a gas propels an object through the air.
- ☐ 17. **Surface Tension:** Make a Paperclip Float—demonstrates how molecules in a liquid hold together at the surface.
- ☐ 18. **Surface Tension:** Swimming Fish, demonstrates how the bond between water molecules can be broken.
- ☐ 19. **Trick Your Eyes:** demonstrates how our eyes sometimes trick us into seeing things that are not correct.
- ☐ 20. **Walking Water:** demonstrates how capillary action moves liquids from one place to another.
- ☐ 21. **Air Cannon:** demonstrates air occupies space.
- ☐ 22. **Bending Pencil:** demonstrates how light can be bent or refracted
- ☐ 23. **Cave Adventure:** demonstrates how stalactites and stalagmites are formed.

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- ☐ 24. **Check Your Heart Rate:** demonstrates how a stethoscope works.
- ☐ 25. **Cloud in a Bottle:** demonstrates how clouds are formed.
- ☐ 26. **Cooking with the Sun:** demonstrates how the sun's rays can change food.
- ☐ 27. **Cup of Lava:** demonstrates density.
- ☐ 28. **Fizz Inflator:** demonstrates an acid-base reaction.
- ☐ 29. **Ice Cream in a Bag:** demonstrates how liquids change when you cool them.
- ☐ 30. **Lincoln's High Dive:** demonstrates Newton's First Law of Motion.
- ☐ 31. **Magical Marbles:** demonstrates the Law of Inertia
- ☐ 32. **Mesmerizing CD:** demonstrates persistence of vision.
- ☐ 33. **Overflow:** demonstrates the properties of cohesion and surface tension.
- ☐ 34. **Rubber Bone:** demonstrates how calcium gives bones strength, and without it, the bones can be bent right in half.
- ☐ 35. **Splitting Light:** demonstrates how white light is made up of many colors of light
- ☐ 36. **Stop the Drop:** demonstrates how friction acts upon an object to stop that object.
- ☐ 37. **Wash Your Hands:** demonstrates why everyone should wash their hands even though they look clean.
- ☐ 38. **Water Pollution:** demonstrates how bodies of water, such as streams, lakes, rivers, and oceans, are connected to one another and how easily water pollution travels from one area to another.
- ☐ 39. **Whale Watching:** demonstrates the difference between whales that have teeth and whales that have baleen.
- ☐ 40. **What's the Attraction:** demonstrates how a magnet doesn't necessarily have to touch a magnetic object for the object to be attracted to it.
- ☐ 41. **Anti-Gravity Beads:** demonstrates the concept of momentum.
- ☐ 42. **Diving Sub:** demonstrates a chemical reaction and its products while teaching how density effects the behavior of an object in water.
- ☐ 43. **Changing Colors:** demonstrates what color a leaf would be without chlorophyll.
- ☐ 44. **Magnetic Geometry:** demonstrates how magnetic field lines repulse each other with equal force.
- ☐ 45. **Rock On:** demonstrates the properties of 4 types of rocks—dolomite, tumbled quartz, pumice and lodestone.
- ☐ 46. **Catapult Me:** demonstrates elasticity, kinetic and potential energy.
- ☐ 47. **Shrunk Head:** demonstrates how a desiccant removes water from an object without spoilage.
- ☐ 48. **Sound Matters:** demonstrates that sound has physical matter.
- ☐ 49. **Rock Eater:** demonstrates the effects of acid rain.
- ☐ 50. **Sock Seeds:** demonstrates how seeds travel and germinate.
- ☐ 51. **Don't Lose Your Cents...:** demonstrates the expansion and contraction of air.
- ☐ 52. **What's the Deal About Pinecones?:** demonstrates adaptation in nature.

- 53. **Test Pilots:** demonstrates aerodynamic principals—how design effects how an airplane flies.
- 54. **Let Go of My Legos:** introduces the Engineering Design Process.
- 55. **It's Stuff in Here:** demonstrates how gases always move from an area of high pressure to an area of low pressure.
- 56. **Frankenworms—It's Alive!:** demonstrates absorption and the chemical reaction between an acid and a base.
- 57. **A-Maze-Ing Storm Water:** demonstrates how storm water travels and what travels with it.
- 58. **It's Electric:** demonstrates the strength of static electricity.
- 59. **Bells in Your Ears:** demonstrates the clarity of sound as it travels through metal.
- 60. **What a Swell Creature:** demonstrates what happens when a liquid is taken up or absorbed by a solid.
- 61. **Glacier GAK:** demonstrates the movement of glaciers using the unique, slow moving properties of GAK.
- 62. **Don't Shake Me So!:** demonstrates how our brains are protected by Cerebrospinal Fluid (CSF).
- 63. **Ping, Pong, Float:** demonstrates how the forces of gravity and air pressure work.
- 64. **Bedroom Planetarium:** learn to recognize the constellations.
- 65. **Plastic from Milk?:** demonstrates the chemical reaction between the protein in milk and the vinegar.
- 66. **Rising Water:** demonstrates how high air pressure moves to equalize low air pressure.
- 67. **Black Magic Marker:** demonstrates how chromatography (the separation of ink colors) works.
- 68. **That's Insulating!:** demonstrates how heat flows from warmer areas to colder areas until it is equally distributed.
- 69. **You're Very Attractive:** demonstrates the properties of static electricity.
- 70. **Bean Dissection:** demonstrates what the inside of a bean seed looks like.
- 71. **The Force is With You:** demonstrates how an inclined plane makes it easier to move objects from one level to another.
- 72. **Slime Me:** demonstrates what happens when a polymer is formed.
- 73. **Hovering Potato:** demonstrates the relationship between the density of a fluid, and the weight of an object.
- 74. **Color Mixing With Light:** demonstrates how different colors of light can interact and mix to produce new colors.
- 75. **Extracting DNA:** demonstrates a simple process for extracting DNA from plants.
- 76. **A Battery That Makes Cents:** demonstrates how to make a voltaic pile, the first electric battery discovered in 1800 by Alessandro Volta.
- 77. **Bouncing Egg:** demonstrates how calcium gives strength t egg shells and Bones.
- 78. **Bust That Rust:** demonstrates oxidation.

- ☐ 79. **Can the Ocean Freeze?:** demonstrates how salt lowers the freezing point of water.
- ☐ 80. **Can You Make it Roll?:** demonstrates potential and kinetic energy.
- ☐ 81. **Color Changing Coins:** demonstrates the oxidation of semi-precious metals.
- ☐ 82. **Electric U.F.O.:** demonstrates how objects with similar charges repel each other.
- ☐ 83. **Hovercraft:** demonstrates how air reduces friction to allow an item to move easily across a surface.
- ☐ 84. **How Degrading:** demonstrates biodegradation.
- ☐ 85. **Liquid Switcheroo:** demonstrates how different densities of fluid move.
- ☐ 86. **Making Fossils:** demonstrates how fossils are made.
- ☐ 87. **Mini Water Cycle:** demonstrates evaporation, condensation, precipitation and collection of water.
- ☐ 88. **Reversing Arrow:** demonstrates the refraction of light.
- ☐ 89. **Solar Chimney:** demonstrates how solar power can be used to turn a pinwheel.
- ☐ 90. **Space Bag:** demonstrates the importance of air pressure.
- ☐ 91. **Tennis Ball Tumble:** demonstrates Newton's First Law of Motion.
- ☐ 92. **Tiny Neighbors:** demonstrates that mold is all around us.
- ☐ 93. **Whale Eyes:** demonstrates how whales and other sea creatures see their world as they dive through the layers of the ocean.
- ☐ 94. **Geoboard:** explores basic concepts in plane geometry.
- ☐ 95. **Trampoline Challenge:** explores engineering challenges using the Engineering Design Process
- ☐ 96. **Umbrella Challenge:** explores engineering challenges using the Engineering Design Process—try this challenge with a group of friends
- ☐ 97. **Tangram Fun:** develops spatial skills and an understanding of geometric ideas
- ☐ 98. **Potato Chip Patina:** demonstrates how the natural weathering process of oxidation occurs when air and water react with copper
- ☐ 99. **Straw Fountain:** demonstrates how centrifugal forces work
- ☐ 100.