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| Stem Challenge | Unit |
| Bird’s Nest | * Mud * Straw * Grass * Twigs * String * Sticks * Leaves * Feathers   Hard boiled eggs for testing –how many can your nest hold?  Sticks/rulers/yardsticks  (a foot long) for testing s NestArtifact sifterChallengers |
| Mining Resources | * Chocolate Chip Cookies * Small cup of water with dropper * Paper plates * Toothpicks * Large paperclips |
| Water Filter | * 2 – liter soda bottle cut in half (by an adult) * napkins or paper towels * gravel, sand, and cotton balls for you filter * rubber bands * coffee filters   dirty water – you can make it by adding cooking oil, food coloring, pieces of paper, and tiny pieces of Styrofoam to water |
| Reusable Object Project | * Recyclable items. * String * Tape |
| Erosion | * Large aluminum pans/trays * Sand, sandbox quality * Toy monopoly houses * Fabric strips, 8” X 1” strips * Wire mesh strips, 8” X 1” strips * Clay * Pipe cleaners * Pantyhose, 8” X 1” strips |
| Engineering for the Three Little Pigs | * 6 bathroom-sized paper cups ("Dixie" cups) * 1 small bowl for mixing ingredients * 4 cups of sand * 5 tsp. white glue * 1 cup water * 2 plastic spoons (about teaspoon-sized   1 permanent marker, any color   * 1 watering can * 1 can of non-stick cooking spray * safety glasses |
| Invisible Forces | * Paper cup (6- to 8-ounce) * Strip of index card (2.5 x 12.5 centimeters) [1 X 5 inches]) * 30-centimeter (12-inch) length of flexible rope (e.g., clothesline) * 1 steel ball (e.g., 60-millimeter [quarter inch] ball bearing) * 1 strong magnet * 1 target (e.g., “X” of tape on the table or an object to hit) * Tape (any kind) |
| Heat Saving Device | * Large plastic Ziploc bag * Small plastic Ziploc bag * Cup of pre-made instant oatmeal * Three sheets of newspaper or three sheets of aluminum foil * Thermometer |