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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
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| 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
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| 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
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| 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
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| 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)
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| 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
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