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| Month | Stem Challenge | Unit |
| August | Bird’s Nest | * Mud * Straw * Grass * Twigs * String * Sticks * Leaves * Feathers   6 Hard boiled eggs for testing –how many can your nest hold?  Sticks/rulers/yardsticks  (a foot long) 3 for testing s NestArtifact sifterChallengers |
| September | Mining Resources | * 30 Chocolate Chip Cookies (2 per group/team) * 15 Small cups of water with dropper * 15 Paper plates * 30 Toothpicks * 15 Large paperclips |
| October | 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 |
| November | Reusable Object Project | * Have the students bring in recyclable items. * String * Tape |
| January | 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 |
| February | Engineering for the Three Little Pigs  [**Teach Engineering Website**](http://tinyurl.com/npsmjy8) | **Each group needs:**   * 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)   **To share with the entire class:**   * 1 permanent marker, any color * 1 watering can * a few bricks * 1 can of non-stick cooking spray * safety glasses |
| March | 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) |
| April | Heat Saving Device |  |

