Example Outdoor Classroom Project Plan: CARDINAL DIRECTIONS SIGN

- **Cardinal Directions Sign** – A cardinal directions sign includes a wooden post with (4) planks attached pointing in four different directions (north, east, south & west) with “North →,” “South →,” “East →,” and “West →” etched onto the planks. This is a helpful tool for students as they study weather patterns, the movement of the sun through the sky throughout the day and during different times of year, and the amount of sun and shade in the different areas of the outdoor classroom.

  **Optional Addition:** Add (4) planks pointing in four different directions (north, northeast, east, southeast, south, southwest, west or northwest). Then pick out four cities or landmarks that are in those same four different directions from your location, and etch the names of the locations along with the number of miles the locations can be found from your school. For example, if your school is in Huntsville, you could etch the following on the four planks: “Memphis (225 miles west) →”, “Washington D.C. (750 miles northeast) →”, “Montgomery (200 miles south) →” and “Atlantic Ocean (600 miles east) →”

- **Location Suggestions for the Cardinal Directions Sign:**
  - Near the Weather Station if possible

- **Example Cardinal Directions Signs:**

- **Estimated Cost:**
  - Cardinal Directions Sign (w/ 4 planks): ~$55
  - Cardinal Directions Sign (w/ 8 planks): ~$65

- **Tools, Materials & Supplies:**
  - (1) Hammer (if you are using nails) or (1) Drill (if you are using screws) to attach planks to 4”x4”
  - Shovel to dig hole for 4”x4”
  - Bucket & Stick to mix Quikrete & water
  - Level to make sure 4”x4” is straight (not leaning)
  - Compass or Smart Phone to determine N, S, E & W
  - Stencil for writing the words on the planks (optional)

*Continued on the next page…*
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<table>
<thead>
<tr>
<th>Dir. Sign</th>
<th>Letters on Sign need to be at least 4” tall to be seen from 40 ft away… And should be a different color than the planks.</th>
<th>Cardinal Directions Sign (N, E, S &amp; W): Demonstrates the four different cardinal directions (north, east, south &amp; west).</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Optional Addition: Add specific cities or locations with their distances as references such as “Washington D.C. (750 miles north) ”, “Gulf of Mexico (450 miles south) ”, etc. Base the distances on where your school is located.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Materials &amp; Supplies</th>
<th>Estimated Cost</th>
<th>Source of Materials (via Committee Member)</th>
<th>Monetary/Item Donation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dir. Sign (1) 4”x4”x10’ treated posts</td>
<td>$12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dir. Sign (4) 2”x6”x3’ treated planks</td>
<td>$8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dir. Sign (4) 2”x6”x3’ treated planks (optional)</td>
<td>$8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dir. Sign (20) 3” Outdoor Nails or Wood Screws</td>
<td>$5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dir. Sign (1) Gal Exterior Paint OR (2) Quarts of Two Different Colors of Exterior Paint</td>
<td>$30</td>
<td>(Paint the words a color that will stand out on the color of the planks.)</td>
<td></td>
</tr>
<tr>
<td>Dir. Sign Paint Brush(es)</td>
<td>$2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

☐ Construction Instructions:

1) Dig hole 12-16 inches deep and 6 inches wide where you want to place the 4”x4” post for the sign.

2) Cut the 4” x 4” post to the height you want (typically no more than 4-6 ft tall) allowing for 12-16 inches to be underground in the hole.

3) Optional: Paint or stain the 4”x4” post along with all of the 2”x6”s.

4) Paint “North”, “South”, “East” and “West” on four (4) of the 2”x6”s (using a color that will stand out from the color of the 2”x6”s). You may want to use stencils first to layout the words before painting them.

5) Attach the (4) 2”x6”s to the top portion of the 4”x4” post. These will be the planks pointing North, South, East & West.

6) Optional: Paint the cities’ names or other locations’ names along with their mileage (discussed above) on the other four 2”x6”s and attach them to the 4”x4”.

7) Determine which direction is North, South, East & West in your Outdoor Classroom area using a compass. (Some smart phone compasses require you to move the phone in a “figure 8” to help set the magnetic sensors). Then place the 4” x 4” post in the hole, making sure that the planks point to the appropriate direction (N, E, S & W). Also use a Level to make sure that the post is straight (not leaning).

   Note: If the post begins to lean, then support the 4” x 4” post with string and/or 2” x 4”s until the Quikrete dries.

8) Backfill the hole with dirt or concrete  If concrete, mix a portion of the bag of Quikrete with water (per the directions on the bag) in a bucket, and then pour the Quikrete around the post until it is two inches above the surrounding ground. You may need to use a stick to get rid of any bubbles in the Quikrete.