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**Findley Oaks STEM Connect**

**4th Grade Design Brief**

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| **Month**  **September** | **Challenge**  Blowing in the Wind | **Unit**  Weather |

**Standard:**

Students should follow the **Engineering Design Process.**

**Background/Problem:** In our science unit on weather , we have been studying wind and how it affects weather changes across our country. We have learned how wind creates fronts, high and low pressure systems, hurricanes and tornadoes. We have also studied the different types of instruments used to measure wind speed and direction, like anemometers, wind vanes, and wind socks. We’re going to put our knowledge to use by creating a weather station outside our school.

**Design Challenge: Your challenge is to design a windsock that can detect wind direction and speed when placed in our weather station.**

**Criteria: Your windsock must:**

* **be weather proof.**
* **move freely around pole.**
* **stand up to winds around 10 MPH.**
* **correctly identify wind direction when tested on five different days.**
* **maintain attractive colorful appearance for more than one week outdoor.**

Constraints:

You must work with a partner (or in a group of 3) teacher discretion.

Make sure you have a design plan before you start.

You may use some or all of the materials listed.

Materials: (per team or group) 2,3 (teacher discretion)

Construction paper

Fabric strips

Trash bags

Dry cleaner bags

Tissue paper

Crepe paper

String

Yarn

Paper clips

Pipe cleaners

Wire bag ties

Thread

Glue

Washers

12 inches’ tape

Tools:

Scissors

Crazy scissors

Staplers

Hole punch

Rulers

Paper/pencil for design planning

Options: Brainstorm ideas…. make sure the students have time to plan.