UNIT 3: WIND AND WATER / WEEK 1

Stability Challenge

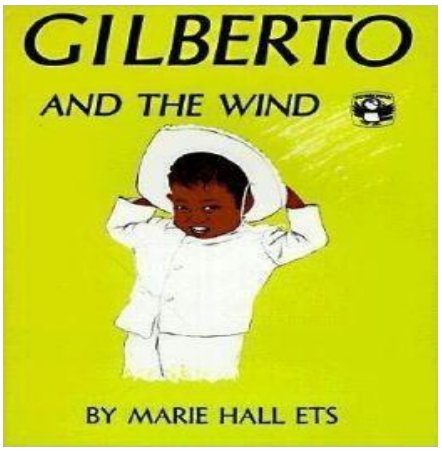
Standard Connection:
ELA.RL.PK4.4a
ELA.RI.PK4.9
M.CC.PK4.1
M.MD.PK4.1
S.ES.PK4.2b
PD.FM.PK4.4
PD.FM.PK4.5

Enduring Understanding(s):

- Living things respond in different ways to different kinds of weather.

Essential Question(s):

- How do you develop the skills, strategies, and capacity to respond appropriately to varied situations?

Materials	Vocabulary	Books
• *Gilberto and the Wind* • Beautiful Stuff (boxes of different sizes, popsicle sticks, sticks, straws, bottle caps, wood, etc.) • clipboards • paper • writing utensils • images of structures (see Resource) • images of children's *Block Towers* built during Unit 1 • tabletop fan and/or hair dryer	**structure:** something built **stability/stable:** not easy to move **sturdy:** strong **topple:** fall over **results:** what happens after an action	

Intro to Centers	
Preparation: *Set up materials*	
"In *Gilberto and the Wind*, the wind blew Gilberto's balloon and the gate that he sat on. What do you notice?"	Show illustrations. **Children respond.**
"What else did the wind blow in *Gilberto and the Wind*?"	**Children respond.**
"Today in Blocks, you can use Beautiful Stuff to build **stable structures** that the wind can't **topple**."	Show Beautiful Stuff. Build simple structure.
"After you build your **structure**, test its **stability** using these materials. I'm going to test this **structure**. How **sturdy** - strong - was it? How can I record my **results**?"	Show hair dryer and/or fan. Model testing. **Children respond.**

During Centers:

Encourage children to create plans before building their structures. Encourage children to collaborate (one child could draw the plan, and another child could build the structure).

Encourage children to illustrate and label their structures. Support children in using measurement vocabulary to describe their structures ("Whose structure is taller, _____'s or _____'s? How do you know?", "Whose structure is longer, _____'s or _____'s? How do you know?").

Encourage children to make predictions and record results of stability testing. Compare and contrast the Beautiful Stuff that children are testing to the objects in *Gilberto and the Wind*.

Guiding Questions During Centers:

- How does the position (closer, farther away) and/or the velocity (faster, slower) of the wind source affect your structure?
- How is the Beautiful Stuff in your structure similar to or different from the objects in *Gilberto and the Wind*?
- Why do you think this material will be useful to create a stable structure?

Thinking and Feedback:

Invite children to share their processes. Encourage children to describe any challenges they might have encountered.

Documentation:

Collect samples of the children's work as well as photographs of their process; use the documentation to launch a discussion during Thinking and Feedback.

Provocation:

- If there is construction happening in the neighborhood, visit the site with children and invite them to sketch and photograph what they notice about materials, design, process, etc.
- Encourage children to think about the structure of their school and what about the construction makes their school a stable structure.
- Invite an architect or construction worker to the classroom to speak to the class about the design/construction process.

Differentiation/Accommodation:

For Intro to Centers, children with limited verbal skills can use a pre-programmed voice output device to answer questions about the story. (Keep in mind these will likely be closed-ended questions, as those are easiest to program into devices.) This can also be used to help children answer Guiding Questions. During Centers, provide a variety of materials for children to use to plan and build their structures. Provide picture cards of measurement vocabulary as needed for support.