**Hurricane data set lesson plan**

**Key ideas:**

1. *Science begins with asking questions*
2. *Kinds of questions often encountered are about variability, group comparison, correlation, time-series.*
3. *Choice of graph type depends on the kind of question asked.*
4. *A Graph Choice Chart can help students chose in a reasoned way what kind of graph to use based on the kind of question asked.*

Handouts:

Hurricane data set

Graph Choice Chart (and graph choice table if desired)

Electronic files:

*Anatomy of a box-plot* presentation

*kWh data story?*

**Activity:**

1. Hurricanes [Ideas 3, 4, 5]

Hand out **Hurricane data set**

*KEY IDEA #1: Science begins with asking questions*

Group: Brainstorm questions that could be answered with the data as evidence. Record list on small white boards or sticky poster papers. *(Spike the questions if needed to ensure all types are represented)*

Possible spikes:

**Variability**: How variable are hurricane wind speeds in a given year?

**Compare groups**: Are hurric. w/male names stronger than ones w/female names?

**Correlation**: Is wind speed related to deaths? Wind speed x barometric pressure?

**Time series**: Are hurricanes getting stronger?

Put questions aside.

Group: Brainstorm & list graph types: sketches on white board.

Think/pair/share: Assign a graph type that would be the best way to display the evidence for each question. Describe your reasoning for why you picked that graph type for the question.

*KEY IDEA #2: Kinds of questions often encountered are about variability, group comparison, correlation, time-series.*

*(If no one suggested a frequency plot, it should become evident at some point that there is no graph that shows distribution and variability of a group. Let this problem stand and do the Old Faithful activity)*

3. Instruction about frequency plots

If many are not familiar with dot/box/histograms, options:

* kWh – frequency plot data story
* Introduce *Anatomy of a box-plot* mini-lesson.

*KEY IDEA # 3: Choice of graph type depends on the kind of question asked.*

4. Hand out Graph Choice Chart and revise the graph types as a group (or use Think/pair/share approach)

*KEY IDEA #4: A Graph Choice Chart can help students chose in a reasoned way what kind of graph to use based on the kind of question asked.*