Breaking Down a Mathematics Standard

KAS: KY.5.MD.2

What is the domain/conceptual category/big idea? Measurement and Data

Standards for Mathematical Practice

MP.1. Make sense of problems and persevere in solving them.	MP.5. Use appropriate tools strategically.
MP.2. Reason abstractly and quantitatively.	MP.6. Attend to precision.
MP.3. Construct viable arguments and critique the reasoning of others.	MP.7. Look for and make use of structure.
MP.4. Model with mathematics.	MP.8. Look for and express regularity in repeated reasoning.

Cluster: What is the broader understanding that the standard plays a role in building? Understand and apply the statistics

Standards

- Identify the target of the standard:
  - o conceptual understanding
  - o procedural skill/fluency
  - ✓ application

Consider how the target of the standard will have an impact on instruction and assessment. (For more information, refer to p. 7, 10 and 15 of *KAS for Mathematics*.) Students will have to be engaged in valuable context to gather data for statistical questions with both categorical and numerical data. Engaging in real world data to make observations is key.

- What key mathematics should students know and be able to do? Students must know the difference between questions that focus on categorical data vs. numerical data. They also must know which data display is appropriate in order to make observations and answer questions.

Clarifications

- What are the specific representations/strategies that will need to be considered when planning instruction? Generate questions for both categorical data and numerical data and be able to sort them. Know which graphs are possible w/ each data type.
- What are the possible misconceptions that will need to be addressed during instruction? Students might confuse which types of graphs to use with categorical and numerical. Engaging students in the statistics process throughout the year instead of isolation would be beneficial.

Coherence: Previous Grade → Current Standard → Upcoming Grade

- How does this standard build off of prior learning? Grade 4 KY.4.MD.4 students only focus on numerical data
- How does this standard support future learning? Grade 6 Students start to look at the overall distribution.
- How does this standard connect to other standards (or even other clusters or domains)? KY.5.MD.2 connects to KY.5.G.1 & KY.5.G.2 students can represent real world math problems and graph them in quadrant 1.

Attending to the Standards for Mathematical Practice

- How are students engaging in the mathematical practices as they learn this content? (For more information, refer to p. 12-15 of *KAS for Mathematics*.)

MP.4 Students will decide how to best model their data once gathered.
MP.5 Students will determine which tool is best to create and represent their data.
MP.6 When students create their graph they will need to determine to what scale.