

## Top 10 things a math teacher should know about PARCC

### 1. PARCC is aligned to the Common Core...really!

The assessment works directly off the standards presented in the Common Core, and it adheres to the statement of the standard precisely. If the Common Core presents an example to provide clarity, your students should know that example. If a word choice is not given in the Common Core for a specific grade level the PARCC won't use it. (e.g. Coordinate plane, trapezoid)

### 2. Make sense of the problem and persevere in solving it.

PARCC is not just content driven. It seeks to present an assessment based on the *Standards for Mathematical Practices*. The first one being "Make sense of a problem and persevere in solving it." Many of the problems require reflective reading. Students need to understand what is being asked and make decisions about which information to use. (See problem 5 and 8)

### 3. Know Multiple ways to write an answer/expression.

Knowing one right answer or standard form of expressing an answer is not enough. (See problem 2) Students are expected to recognize and/or write answers in multiple ways...some of these may be non-standard. There are many *choose all that apply* problems. These can approach the answer in two ways.

A. Finding multiple correct representations for the same answer/expression.

B. Finding multiple correct answers that accurately represent a given data set or scenario.

### 4. Answers that model the statement of the problem.

Students need to be able to display the answer in a form that models the process that is described by the statement of the problem. (e.g. Mary had \$35 in her savings account. She paid her brother \$5 two weeks in a row to do her chores. Then she earned \$10 doing her own chores the following week. Write an expression that models how much money Mary has? Answer should be  $30 - 2(5) + 10$ . Other reasonable forms would be accepted based on student justification, but the answer is not 30.)

### 5. Modeling/estimation

Estimation is an important part of the PARCC assessment, and it is closely tied to modeling. (e.g. Given a map of a route traveled by a car and a range of mpg students could be asked to estimate how much gas is used. The student may have to make some guesses based on how much of the route goes through mountains (thereby using the high end of the range for mpg), how much of the route is straight with no stops (thereby using the low end of the range) and how much of the route has a lot of idle time (thereby using the high end of the range, again.) Similar questions could deal with area covered by a product, etc.

**6. Non-standard approach to problem presentation.**

Students need to be accustomed to having problems presented in non-standard forms (See problem 3. Here the dimensions and pertinent information is split between the prose and the diagram) and answering questions that are not standard in representation. (e.g. Instead of just finding slope and y-intercept of a line, they may need to compare the slope and y-intercept of two different lines given in two different forms. See problem 7)

**7. Layering that makes use of previous information.**

Students must make use of previous knowledge to answer PARCC questions. Questions are layered to force an expertise in past skills in order to show a competency in current skills. Things like fractions, order of operations, and unit conversion are a large part of the assessment. Students need to be used to solving multi-step problems where skills build on each other. This ties in a lot with #2 above.

**8. Fractions abound!**

This is really just one part of #7, but it's really important. Fractions are everywhere! Students need to be as comfortable with fractions as they are with whole numbers. This includes both the statement of the problem and in the answers. (See problem 1)

**9. Unit conversion as a matter of course.**

Again this is just one part of #7, but unit conversion is a skill that is tested continually throughout the assessment whether is grade level specific or not. Students should be able to go between various units in the same problem and in non-standard ways. (e.g.  $\frac{1}{2}$  foot = 6 inches) (See problem 1 and 2)

**10. Critiquing the reasoning of others.**

This is another one of the *Standards for Mathematical Practices* that is specifically tested. Students will be presented with a sample student's solution and asked to show whether or not they made any mistakes in reasoning. They may be given multiple solutions and asked who used correct reasoning, etc. (See problem 7 and 8)

**Extra:**

The assessment has specific wording protocol, it rarely uses he or she as pronouns. Students should get used to doing problems with full nouns. (e.g. The farmer plants 2 acres of corn. If each acre yields 150 bags of corn weighing 50lbs each, how many pounds of corn will the farmer harvest.)

The assessment won't use common terms if someone might find them offensive. (e.g. dice: A boy throws two six sided cubes with the numbers 1 though 6 recorded on each side.)

The assessment works hard to make the numbers meaningful. ( Couches don't cost \$60 dollars; they cost \$600. Bowling scores are reasonable numbers. Etc. )