**Engaging the Three Components of Rigor**

**Materials:**

* “Components of Rigor”

**Directions:**

1. For each CCR Level C standard below, check the component(s) of rigor that is (are) likely to be required in a lesson, activity, or task that targets the standard. Make notes about your rationale:
2. Then discuss your reasoning at your table.
3. Use these questions to guide your discussion:

* What makes you think a particular component of rigor applies?
* Are there certain words or phrases in the standard that serve as clues?
* Which components of rigor might appear together in a single standard? Explain.
* Which components of rigor are not likely to appear together in a single standard? Explain.

**Components of Rigor**

**Coding Guide:**

**CU** = Conceptual Understanding

**PSF** = Procedural Skill and Fluency

**A** = Application

Note: More than one component of rigor may apply for a standard.

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| **CCR Standard** | | **Component of Rigor** | | | **Rationale** |
| **1** | Understand that a set of data collected to answer a statistical question has a distribution, which can be described by its center, spread, and overall shape. | **CU** | **PSF** | **A** |  |
|  |  |  |  |
| **2** | Fluently multiply multi-digit whole numbers using the standard algorithm. | **CU** | **PSF** | **A** |  |
|  |  |  |  |
| **3** | Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement. | **CU** | **PSF** | **A** |  |
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| **4** | Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. | **CU** | **PSF** | **A** |  |
|  |  |  |  |
| **5** | Solve multi-step word problems posed with whole numbers and having whole number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. | **CU** | **PSF** | **A** |  |
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| **6** | * Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats. | **CU** | **PSF** | **A** |  |
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| **7** | Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. | **CU** | **PSF** | **A** |  |
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| **8** | Understand solving an equation or inequality as a process of answering a question: Which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true. | **CU** | **PSF** | **A** |  |
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| **9** | Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real-world problems. | **CU** | **PSF** | **A** |  |
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| **10** | Interpret a fraction as division of the numerator by the denominator (a/b = a ÷ b). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. | **CU** | **PSF** | **A** |  |
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