**Integrating the Mathematical Practices Into Lessons**

**Materials:**

* “CCR Standards for Mathematical Practice”
* “Standards for Mathematical Practice and Content Standards”
* “Enriching a Lesson With Standards for Mathematical Practice”

**Part 1 Directions:**

For the **content standard** in the worksheet below, imagine a lesson that targets the standard. Then follow these steps:

1. Discuss the coding guides on “Standards for Mathematical Practice and Content Standards” for this activity with participants at your table.
2. Working first independently and then with a partner, evaluate the relevance of each standard for Mathematical Practice to the content standard listed. Use the codes X and O to signify central and supporting Mathematical Practices.
3. Discuss individual decisions and rationales at your table.

**Part 2 Directions:**

Now follow a similar process for the **sample lesson** provided in “Enriching a Lesson With Standards for Mathematical Practice.” Follow these steps:

1. Scan the lesson and make notes about how the Mathematical Practices might be observed in the activities of the lesson, including the performances students are being asked to do. Use the codes X and O to signify central and supporting Mathematical Practices.
2. Discuss individual decisions and rationales at your table.

Note: For the purpose of this activity, the lesson from the New York State Education Department Common Core Curriculum has been lifted out of the context of a full module and modified slightly.[[1]](#footnote-1)

**Standards for Mathematical Practice and Content Standards**

**Use the following key to label the Mathematical Practices below.**

* + Mark with an **X** each Mathematical Practice that is likely to be **central** to a lesson that specifically targets the content standard.
  + Mark with an **O** each Mathematical Practice that is more likely to be used in a **supporting role** in a lesson that specifically targets the content standard.
  + Leave blank those Mathematical Practices unlikely to be observable in a lesson that targets the content standard.

Provide a rationale for each selected standard for Mathematical Practice.

Note: There can be multiple “correct” interpretations of the content standard’s requirements based on how it is being approached in a lesson.

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| **CCR Level B Content Standard:** Solve two-step word problems using the four operations. 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. | | | | | | | |
| **MP.1** | **MP.2** | **MP.3** | **MP.4** | **MP.5** | **MP.6** | **MP.7** | **MP.8** |
|  |  |  |  |  |  |  |  |
| **Rationales:** | | | | | | | |

**Enriching a Lesson With Standards for Mathematical Practice**

**Mathematics Lesson – Equivalent Fractions**

Full text of the targeted Level C content standards (as listed in the lesson):

* Explain why a fraction a/b is equivalent to a fraction (n x a)/(n x b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions. **[4.NF.1]**
* Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)* **[5.NF.1]**

**Use the following key to label the Mathematical Practices below.**

* Mark with an **X** those practices that are **central** to the lesson’s goals.
* Mark with an **O** those practices that could be used in a supporting role.
* Leave blank those practices that are unlikely to be observed in either role.

Provide rationales for each selected standard for Mathematical Practice.

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| **Lesson 1:** Equivalent Fractions | | | | | | | |
| **MP.1** | **MP.2** | **MP.3** | **MP.4** | **MP.5** | **MP.6** | **MP.7** | **MP.8** |
|  |  |  |  |  |  |  |  |
| **Rationales:** | | | | | | | |

1. *The version of the lesson provided for this session has been shortened, and specific references to the practices have been removed to allow for participants to draw their own conclusions.* [↑](#footnote-ref-1)