

# Unit Fractions 1

**Objective:** Students will be able to identify and add unit fractions, and begin to recognize equivalent fractions.

**Overview:** In this lesson, students will be asked to identify fractions in a rectangular array. They will also become familiar with reading and writing fractions.

**Key Content Standard(s):**

**3.MD.C.6, 3.G.A.2, 3.NF.A.1, 3.NF.A.3.b**

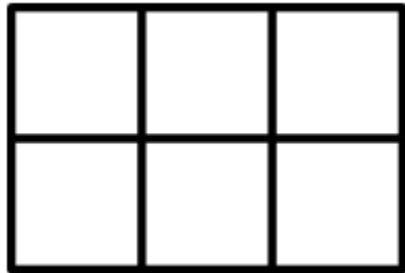
**Key Practice Standard(s):**

**4**

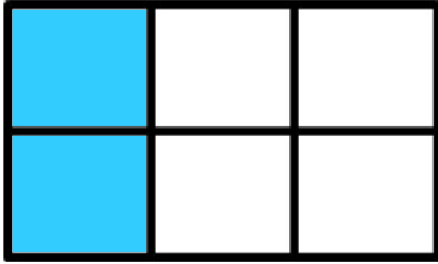
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## Lesson Plan:

1. Begin by displaying a 2x3 array (**Sheet A** contains eight blank arrays). Ask students that if each small square is a square unit, what is the area of this rectangle? Have students quickly write an answer and their explanations; discuss answers.



2. Distribute a sheet of blank 2x3 arrays (included below) or have students use tools to construct their own (such as graph paper or rulers). Shade one of the squares on your array, and ask students how many of the six squares have been shaded (A: 1). Ask students if they can tell you what fraction of the rectangle is shaded. If they can, have the student explain (e.g. one-sixth, because one of the six parts has been shaded). If they cannot, explain that  $\frac{1}{6}$  of the rectangle is shaded. Ask students to shade in  $\frac{1}{6}$  of the rectangle in their first array, and to write  $\frac{1}{6}$  below it. Identify the top number as the **numerator**, or the number representing how many equal parts there are, and the bottom number of a fraction as the **denominator**, or the number representing how many parts make up a whole.
3. In the second blank array, shade two squares as seen below. Ask students what fraction they could use to describe what you've shaded (A:  $\frac{2}{6}$ ). Have students shade and write the fraction on their sheet. Tell students that  $\frac{2}{6}$  literally means two one-sixth shadings.



4. Ask students if there is any other fraction that can describe the shading above. If students cannot recognize  $\frac{1}{3}$ , erase the middle line, as seen below.



If students still have difficulty recognizing  $\frac{1}{3}$ , ask students how many parts are there in the whole (A:3), and how many have been shaded (A:1). Ask students what they can then tell about the relationship between  $\frac{1}{3}$  and  $\frac{2}{6}$  (A: they are equal). Tell students that when two fractions are equal, we call them **equivalent**. Highlight the root “equ” in both words to help them remember what equivalent means.

5. On the third array, shade in any two squares that are not adjacent. Ask students what fraction you have shaded (A:  $\frac{2}{6}$ ). Ask students how you can have the same fraction shaded, even though they don't look the same (A: because you still have two of the one-sixth squares shaded). Ask students if that still means you have  $\frac{1}{3}$  of the rectangle shaded (A: yes, because  $\frac{1}{3}$  and  $\frac{2}{6}$  are equivalent, and/or because if you moved the shaded squares next to each other, it would be easy to tell that you have  $\frac{1}{3}$  shaded).
6. Ask students to work in partners or groups to fill in all three of the small squares on the bottom row, and to name the fraction they have shaded. Once they have identified  $\frac{3}{6}$ , ask if they can recognize another equivalent fraction (A:  $\frac{1}{2}$ ).
7. Have students work in partners or in small groups on Sheet B, which has students identify fractions in the same 2x3 array (questions A, B, and C are essentially identical to what has been done here).
8. After sufficient work time, review student answers.

**Assessment:**

1. Have students individually shade  $\frac{1}{2}$  and  $\frac{2}{3}$  of two rectangles (on Sheet A) in a way different than anything done on sheet B.
2. Collect Sheet B as a formative assessment.

**Differentiation:**

Some students may need significant review with even the most basic identifications of fractions, while others will almost instantaneously identify simple fractions (e.g. one-half, one-sixth). This lesson, intended as an introduction to Grade 3 fraction work, can be accelerated or slowed down as needed.

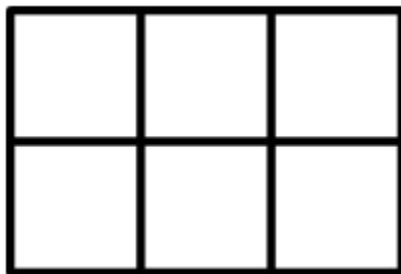
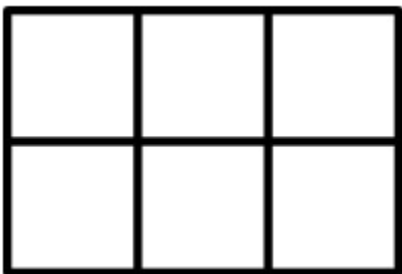
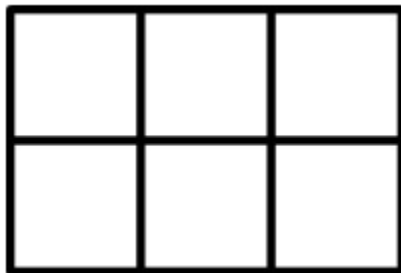
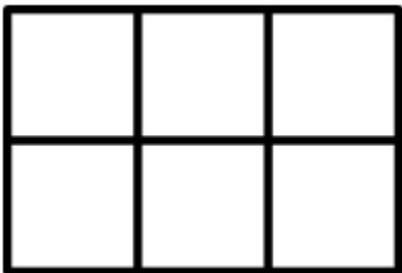
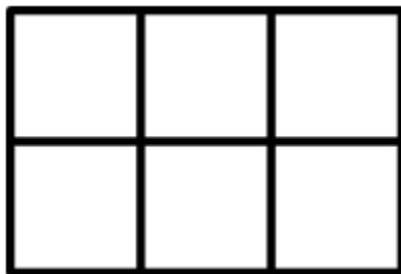
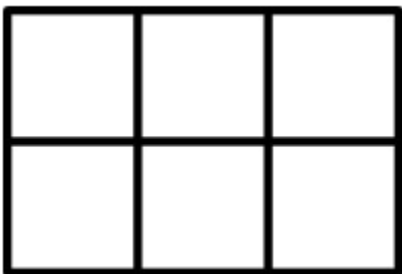
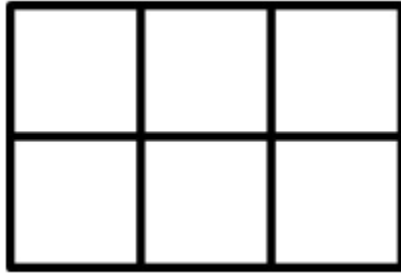
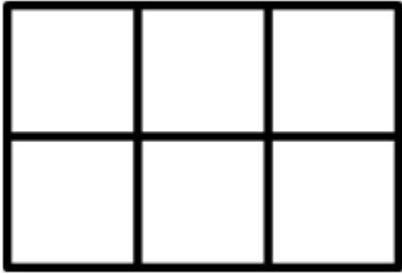
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**Commentary:**

As students progress throughout their learning of fractions, it is helpful to see fractions expressed in different formats (e.g.  $\frac{1}{6}$  or  $1/6$ ). Do not yet expect a perfect understanding of fractions or the nomenclature used in describing fractions; this will come with repeated exposure. Do, however, insist on correct mathematical terminology, and correct students when they misspeak / miswrite (e.g. Do not penalize a student for forgetting the word “numerator,” but do not let a student say “the top number” without correction).

**If applicable, include worksheets, diagrams, student work etc. at end**

Sheet A – Blank Rectangular Arrays



Sheet B – Identify all fractions.

