Standard Addressed by these Number Talks:

* 3. NF.1 Understand a fraction *1/b* as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction *a/b* as the quantity formed by *a* parts of size *1/b*.

Pose these number sentences to students and ask them to solve them mentally. The student’s role is to demonstrate fluent strategies for solving these problems. The teacher’s role is to pose the problem, give students a few minutes to solve the problems and then lead a discussion about how they solved the problems. Teachers will need to write down students’ thinking using number sentences that will show how students solved the problems. You need not pose all at once, but instead do a few each week during the unit (posing one problem in one setting, or a string of problems that build on each other in one setting or over the course of a week). Conversations may range from 10-20 minutes in length. See the article *Number Talks Build Numerical Reasoning (***October 2011 •** teaching children mathematics) for more information.

These Number Talks are designed to be used during the last half of your fraction unit, after students have a basis understanding of fractions and how they are notated.

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| Number Talk Problem Sets | Rationale |
| ½ + ½  ⅓ + ⅓ + ⅓  ⅓ + ⅔ | This standard is really about students understanding that a fraction is made up of unit fractions (fractions with a numerator of 1) and can be broken down into its parts. Students build fractions from unit fractions, seeing the numerator 3 of ¾ as saying that ¾ is the quantity you get by putting 3 of the ¼’s together. Even though it doesn’t explicitly ask 3rd grade students to add fractions, the understanding that ¾ = ¼ + ¼ + ¼ is crucial to all further fraction understanding. These number talks can be given a context to help students better access the problem, (i.e. You had ½ a bag of candy and your sister gave you her ½ bag of candy. How much candy do you have now? Or You traveled ¼ of the bike path, took a rest and then traveled another ¼ of the bike path. How much of the bike path did you travel?), or be expressed using a number line to aid student understanding. The goal is for students to see the unit fractions as the building blocks of all fractions. |
| ¼ + ¼  ¼ + ¼ + ¼  ¼ + ¼ + ¼ + ¼  ¾ + ¼ |
| ⅙ + ⅙ + ⅙  ⅙ + ⅙ + ⅙ + ⅙  ⅙ + ⅙ + ⅙ + ⅙ + ⅙  ⅙ + ⅙ + ⅙ + ⅙ + ⅙ + ⅙  ⅚ + ⅙ |
| ⅛ + ⅛ + ⅛  ⅜ + ⅛  ⅛ + ⅛ + ⅛ + ⅛ + ⅛  ⅝ + ⅛  ⅛ + ⅛ + ⅛ + ⅛ + ⅛ + ⅛ + ⅛  ⅛ + ⅛ + ⅛ + ⅛ + ⅛ + ⅛ + ⅛ + ⅛  ⅛ + ⅞ |
| ⅓ + ⅓ + ⅓ + ⅓  ¼ + ¼ + ¼ + ¼ + ¼ + ¼ + ¼ | In this case, the answers are improper fractions, but there is no need to introduce “proper” and “improper fractions" initially; 4/3 is the quantity you get by combining 4 parts together when the whole is divided into 3 equal parts. 4/3 is an acceptable answer and leads to more in depth understanding later on. |