Unit plan example: Grade 3 math, fractions on the number line

Illustration of a teacher-made unit plan. No classroom results are claimed. The standards are Common Core State Standards for Mathematics, quoted for states that use them: replace them with your own framework.

Unit title	Fractions on the line	**Grade**	Grade 3
Subject	Mathematics	**Length**	10 lessons of about 50 minutes
Teacher	(your name)	**Dates**	(dates)

Standards

3.NF.A.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.

3.NF.A.2
Understand a fraction as a number on the number line; represent fractions on a number line diagram.

3.NF.A.3
Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.

Big ideas and essential questions

Big ideas
A fraction is a number, made of equal parts of a whole. Its place on the number line depends on the size and the number of the parts. Different fractions can name the same amount.

Essential questions
Why do the parts have to be equal? Where does 3/4 live on the number line? How can 1/2 and 2/4 be the same amount?

Learning objectives (I can)

Objectives
I can name a unit fraction and build other fractions from it. I can place fractions on a number line, including fractions greater than 1. I can find equivalent fractions with models. I can compare two fractions with the same numerator or the same denominator and explain my answer.

Assessment evidence

When	Evidence
Lesson 1	Quick draw: share one brownie fairly among 4 friends. Students revise it in lesson 10.
Lessons 2 to 8	Exit tickets, a number line check in lesson 6, a three-item quiz in lesson 7
Lesson 10	Performance task: plan how 3 groups share 2 sandwiches and 4 pizzas at a class picnic. Show each share with a model and on a number line, and compare two shares. Scored on four criteria: equal parts, correct fraction, number line, explanation.

Lesson sequence

#	Focus	Main activity	Check for understanding
1	Notice the phenomenon	Share a pan of brownies among 2, 3 and 4 friends with paper models; pre-assessment quick draw	Pre-assessment

#	Focus	Main activity	Check for understanding
2	Unit fractions	Fold paper strips into halves, thirds, fourths, sixths and eighths; name one part as 1/b	Exit ticket: shade 1/6
3	Fractions a/b	Build 3/4 and 5/6 from unit fractions with fraction tiles; write each as a sum of unit fractions	Partner explain
4	Equal parts matter	Sort shapes cut into equal and unequal parts; fix the unequal ones	Fix a wrong model
5	Fractions on a number line	Partition 0 to 1 with a string line; place 1/4, 2/4, 3/4 with clothespins	Exit ticket: place 2/3
6	Beyond 1	Extend the number line to 2; place 4/4, 5/4 and 6/4; connect 4/4 to 1	Number line check
7	Equivalent fractions	Line up strips and number lines to find 1/2 = 2/4 = 3/6; record pairs	Quick quiz (3 items)
8	Compare: same denominator or numerator	Compare 3/8 and 5/8, then 2/3 and 2/6, with models; record with >, = or <	Exit ticket
9	Draft the task	Plan the class picnic task in pairs; peer feedback with the rubric	Feedback form
10	Show what you know	Performance task; revise the lesson 1 quick draw	Performance task

Differentiation

Support and extension
Support: pre-folded strips, a number line already split into fourths, a sentence frame ("___ is greater because the parts are ___"). Language: picture cards for half, third, fourth, equal and whole. Extension: find all the fractions equal to 1/2 with a denominator up to 12, and explain the pattern.

Reflection (after teaching)

Reflection
(To fill after the unit: which lessons needed more time; which misconceptions came back, for example "a bigger denominator means a bigger fraction"; what to change next year.)

Original Draft My Lesson example, free to use and adapt. It illustrates a teacher-made unit plan: no classroom results are claimed. Use the standards adopted by your state or district, and review every lesson for your own learners before teaching.