

Understanding Fractions on a Number Line

Common Core Standard: 3.NF.A.2 – Represent fractions on a number line.

A. GRADE LEVEL: 3rd-4th Grade

B. SUBJECT: STEM/Mathematics

C. DATE: [Insert Date]

D. DURATION: 2 days

E. LESSON FOCUS: Fractions and Number Lines

F. MATERIALS:

- Whiteboard and markers
- Rulers
- Number line templates
- Fraction strips (optional)
- Fraction Number Line Worksheet
- Interactive Fraction Apps (optional)

G. LESSON OBJECTIVES:

- Students will understand and represent fractions on a number line.
 - Students will be able to identify and place fractions correctly on a number line.
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H. PROCEDURES:

1. INTRODUCTION:

Start by introducing fractions as parts of a whole. Use examples like $\frac{1}{2}$, $\frac{1}{4}$, and $\frac{3}{4}$ to show how fractions represent equal parts. Then, explain how fractions can be shown on a number line. For example, $\frac{1}{2}$ is halfway between **0** and **1**.

2. EXPERIMENT:

Have students draw a number line and practice placing fractions on it, starting with simple ones like $\frac{1}{2}$, $\frac{1}{4}$, and $\frac{3}{4}$. Use a fraction number line worksheet where students will label the number line with the correct fractions.

3. OBSERVATION:

Observe the students' ability to place fractions correctly. Walk around and assist them if they need help. Encourage them to check their work and compare it with a partner's number line.

4. GENERALIZATION:

After students have placed fractions on their number lines, discuss how they used the equal spaces between whole numbers to determine where the fractions go. Help students understand that fractions represent parts of a whole, and the number line is a tool to help visualize that relationship.

5. ASSESSMENT:

Review the students' worksheets to ensure they can correctly place fractions on a number line. Ask students to explain why they placed each fraction in the location they did. Provide feedback on their understanding and offer additional support as needed.

Note 1 (Safety):

Ensure students are seated properly and use rulers and other materials carefully during the activity. Remind them not to rush or make any sudden movements while handling materials. If using technology, ensure students follow all safety guidelines for online activities and use devices in a responsible manner.

Note 2 (Accommodation of ELL, ESE, etc.):

For English Language Learners (ELL) or students with exceptionalities (ESE), provide additional visual aids such as pictures, fraction strips, and interactive apps that can reinforce the concept of fractions. Pair students with peers who can offer explanations in simpler terms, and allow extra time for them to complete the tasks. For students who need more support, consider using simplified fractions or providing step-by-step guidance during the lesson.