Lesson Topic: Understanding Addition and Subtraction of Fractions

Objective:
Students will be able to:

1. Add and subtract fractions with like denominators

Time Required: 80 minutes

Materials Needed:

- Teacher computer with internet access
- Projector/Smartboard
- 1 computer/laptop/iPad per student with internet access
- Fraction strips (1 set for each pair of students)
- Adding and Subtracting Fractions handout (attached)
- Adding and Subtracting Fractions - Pt. 2 handout (attached)

Teacher Preparation:

- Assign a Legends of Learning Instructional Game for the day(s) you will be teaching the lesson. Follow the steps below:
  - Search for Understanding Addition and Subtraction of Fractions
  - Filter by Instructional Games
  - Select a game to add to an assignment.
- Set out Fraction strips (1 set for each pair of students)
- Make copies of the Adding and Subtracting Fractions handout (1 per student)
- Make copies of the Adding and Subtracting Fractions - Pt. 2 handout (1 per student)

Engage (15 minutes): Remote Friendly

1. Gather the class together and explain that students will learn how to add and subtract fractions with like denominators.
2. Have all students stand up behind their desks to model adding and subtracting fractions. Ask students to determine what fraction of students are girls? Boys? Write the two fractions on the board.
   a. *For example, if there are 12 boys and 11 girls in the class, the fraction of boys would be 12/23 and the fraction of girls would be 11/23.*
3. To model addition, instruct students to move together at the front of the room.
   a. *This will create one whole, but also ask students to find the sum of the two fractions. (12/23 + 11/ 23 = 23/23)*
4. To model subtraction, take one of the fractions (boys or girls) and have some students leave the group. Ask students to find the difference.
   a. *For example, if the boys group (12/23) have 4 students leave, then the equation would be 12/23 - 4/23 = 8/23*
5. Explain to students that they will delve into adding and subtracting fractions while completing their Legends of Learning assignment .

Explore (20 minutes): Remote Friendly

1. Have your students sign in to Legends of Learning. Instruct students to complete the Instructional assignment .
2. Assist students as needed during game play, pause assignment if you need to address content or questions to the entire class.

Explain (15 minutes): Remote Friendly

1. As students complete their assignment , they should fill out the Adding and Subtracting Fractions handout.
2. Review answers to the Adding and Subtracting Fractions handout by drawing diagrams on board or using Smartboard.
    a. *7/10 - accept reasonable drawings for models*
    b. *5/12 - accept reasonable drawings for models*
3. Use Adding Fractions and Subtracting Fractions or similar video/ powerpoint to go over the strategies students will use. If needed, pause after each video to explain and model more in depth for students.
4. Explain to students that they will practice adding and subtracting fractions with a partner.

Elaborate (25 minutes): Remote Friendly with Teacher Demo

1. Hand out fractions strips and Adding and Subtracting Fractions - Pt. 2 handout
2. Explain to students that for each equation they will use the fraction strips to draw out what is being added or subtracted. Model how to draw addition and subtraction, if needed.
    a. *For addition, students will draw both addends altogether in the given space. For subtraction, students will draw the first amount and cross off the second amount in the given space.*
3. Allow students time to work on handout, circulating to assist as needed.

Evaluate (5 minutes): Remote Friendly

1. After students have finished the handout, discuss their findings as a class.
2. Collect finished papers as needed.

Additional Lesson Strategies:

- Encourage students to continue their learning in Awakening. For a more targeted approach, assign Awakening Focus Areas for students.
- If your students need additional support on this topic, assign a video lesson for quick remediation.

Adding and Subtracting Fractions

Directions: Solve each equation and draw a model to show the solution.

Addition

3/10 + 4/10 = _____

Model

Subtraction

9/12 - 4/12 = _____

Model

Adding and Subtracting Fractions - Pt. 2

Directions: Solve each equation by drawing a model using fraction strips.

1. ⅛ + 3/6 = _____

2. ⅞ - 2/8 = _____

3. 5/10 + 4/10 = _____

4. 4/4 - 2/4 = _____

5. 11/12 - 5/12 = _____

6. ½ + ½ = _____

For numbers 7 - 12, try adding and subtracting without the fraction strips.

7. $\frac{8}{12} + \frac{\quad}{12} = \frac{10}{12}$

8. $\frac{15}{16} - \frac{\quad}{16} = \frac{4}{16}$

9. $\frac{3}{6} + \frac{\quad}{\quad} = \frac{6}{6}$

10. $\frac{6}{9} - \frac{2}{9} = \frac{\quad}{\quad}$

11. $\frac{\quad}{\quad} + \frac{5}{8} = \frac{6}{8}$

12. $\frac{\quad}{\quad} - \frac{8}{12} = \frac{4}{12}$

Adding and Subtracting Fractions Key

Directions: Solve each equation and draw a model to show the solution.

Addition

3/10 + 4/10 = _____7/10_____

Model

Subtraction

9/12 - 4/12 = _____5/12_____

Model

Adding and Subtracting Fractions - Pt. 2 Key

Answers and models should match

1. ⅛ + 3/6 = __4/6_____

2. ⅞ - 2/8 = ___5/8_____

3. 5/10 + 4/10 = ___9/10_____

4. 4/4 - 2/4 = ____2/4_____

5. 11/12 - 5/12 = __6/12_____

6. ½ + ½ = _____2/2 or 1 whole_____

For numbers 7 - 12, try adding and subtracting without the fraction strips.

7. $\frac{8}{12} + \frac{2}{12} = \frac{10}{12}$

8. $\frac{15}{16} - \frac{11}{16} = \frac{4}{16}$

9. $\frac{3}{6} + \frac{3}{6} = \frac{6}{6}$

10. $\frac{6}{9} - \frac{2}{9} = \frac{4}{9}$

11. $\frac{1}{8} + \frac{5}{8} = \frac{6}{8}$

12. $\frac{12}{12} - \frac{8}{12} = \frac{4}{12}$