

enVisionmath2.0 © 2016

Teaching a Lesson

Introduction



enVisionmath^{2.0}
SCOTT FORESMAN • ADDISON WESLEY

Teaching a Lesson

- Problem-Based Learning
- Visual Learning
- Assess and Differentiate

In this tutorial, we will explore how to teach a lesson with **enVisionmath2.0**. We will begin with the planning resources and then go into the three main steps in teaching a lesson, including Problem-Based Learning, Visual Learning, and Assess and Differentiate. You can follow along using any volume of your Teacher's Edition.

Planning a Lesson

LESSON 9-6
ADD AND SUBTRACT FRACTIONS WITH

DIGITAL RESOURCES PearsonRealize.com

Student and Teacher eTexts	Listen and Look For Lesson Video	Today's Challenge	Solve and Share	Visual Learning Animation Plus	Animated Glossary
Online Personalized Practice	Math Tools	Quick Check	Another Look Homework Video	Math Games	

Domain 4.NF Number and Operations—Fractions

Cluster 4.NF.B Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

Content Standard 4.NF.B.3a Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.

Mathematical Practices MP.2, MP.4, MP.5

Objective Count forward or backward on a number line to add or subtract.

Essential Understanding Fraction addition and subtraction can be thought about as joining and separating segments on the number line. They can also be thought about as counting forward or counting backward on the number line.

Materials Number lines (teaching tool 12)

ENGLISH LANGUAGE LEARNERS

Reading Use visual and contextual support. Use below the Visual Learning Bridge on Student Edition p. 495.

Draw a number line for fourths. Label $0, \frac{1}{4}, \frac{2}{4}, \frac{3}{4}$, and 1. Have students read the fractions. Discuss how the fractions decrease in value to the left and increase in value to the right. Relate this to whole numbers on the number line.

Beginning Draw a number line for sixths. Label with $0, \frac{1}{6}, \frac{2}{6}, \frac{4}{6}, \frac{5}{6}$, and 1. Ask students to take turns pointing to the tick marks and reading the fraction labels.

Intermediate Draw a number line for sixths. Label the tick marks for $0, \frac{1}{6}$, and 1. Ask students to take turns filling in the missing fractions and reading them aloud. Do the fractions increase or decrease as you move to the right on the number line?

Advanced Draw a number line for sixths. Label the tick marks for $0, \frac{1}{6}$, and 1. Ask students to take turns filling in the missing fractions and reading them aloud. Ask students to discuss the relationship between the values on the number line. Do the fractions increase or decrease as you move to the right on the number line? What fraction is an equal segment to the right of $\frac{2}{6}$?

Summarize How can reading a number line help you solve math problems?

Today's Challenge
Use the Topic 9 problems any time during this topic.

An effective lesson begins with planning. The first page of every lesson includes a list of Digital Resources, a Lesson Overview, Math Anytime, and an English Language Learners section.

The icons listed under Digital Resources point you to interactive technology tools that support the lesson content, such as Today's Challenge and Math Tools.

Use Today's Challenge at any time during the topic. Each challenge includes five problems that use the same data, but become increasingly harder each day. The problems activate prior knowledge and promote the skills that students need to succeed on high-stakes tests. Students can also write their own problems. The *Today's Challenge Teacher's Guide* provides instructional support for each of the Today's Challenge problems.

Access the Math Tools to add interactivity at any point during the lesson such as during the Visual Learning Animation Plus or for homework support.

Lesson Overview

LESSON 9-2

DECOMPOSE FRACTIONS

DIGITAL RESOURCES [Pearsoned.com](#)

[Student card](#)
[Listen and Look For](#)
[Today's](#)
[Solve and](#)
[Visual Learning](#)
[Animated](#)

FOCUS

Domain 4.NF Number and Operations—Fractions

Cluster 4.NF.B Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

Content Standard 4.NF.B.3b Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. Examples:
 $\frac{3}{8} = \frac{1}{8} + \frac{1}{8} + \frac{1}{8}$; $\frac{3}{8} = \frac{1}{8} + \frac{2}{8}$;
 $2\frac{1}{8} = 1 + 1 + \frac{1}{8} = \frac{8}{8} + \frac{8}{8} + \frac{1}{8}$.

Mathematical Practices MP.2, MP.4, MP.5

Objective Decompose a fraction or mixed number into a sum of fractions in more than one way.

Essential Understanding A fraction $\frac{a}{b}$, where $a > 1$, can be decomposed into the sum of two or more unit or non-unit fractions in one or more ways where the sum of the fractions is equal to the original fraction.

Vocabulary Decompose, Compose, Mixed number

Materials Fraction strips (or Teaching Tool 13)

COHERENCE

Prior to this topic students learned that a fraction $\frac{a}{b}$ can be decomposed into the sum of unit fractions, $\frac{1}{b}$. They used the idea in the previous lesson to think about addition of fractions $\frac{a}{b}$ and $\frac{c}{b}$ as the joining of unit fractions. In this lesson they learn that a fraction $\frac{a}{b}$, where $a > 1$, can be broken into the sum of unit and non-unit fractions in one or more ways. These ideas are brought together in the following lessons on addition and subtraction of fractions.

RIGOR

This lesson emphasizes conceptual understanding. Understanding addition and subtraction of fractions is built on the idea of decomposing fractions. In addition, fractions can be decomposed into unit fractions and then joined to find the total. In subtraction, a total is decomposed into parts, unit or non-unit fractions, and then one part is separated from the other.

Watch the Listen and Look For Lesson Video.

Intermediate Show a set of three red counters and two yellow counters. Say: This set of counters can be decomposed into red and yellow counters. $\frac{3}{5}$ of the counters

Summarize How can you use your understanding of decomposing when solving fraction problems?

The Lesson Overview has three sections named Focus, Coherence, and Rigor. These sections provide information about the mathematics in the lesson and ways that you can help your students understand the Common Core State Standards.

Under Focus, you will see the Common Core State Standards, Objectives, Essential Understanding, Vocabulary, and Materials relevant to the lesson.

The Essential Understanding is central to the lesson content. Keep it in mind as you plan your lesson, engage your students in the content, and assess their understanding.

View the Materials list to note the manipulatives, Teaching Tools, and other resources that you'll need to implement the lesson.

Watch the Listen and Look For Lesson Video for information about the content, including the Essential Understanding for the lesson, an in-depth look at a Key Problem, and specific strategies to use with your students.

Math Anytime

LESSON 9-2

DECOMPOSE FRACTIONS

DIGITAL RESOURCES PowerSchool.com

Study and Teacher Alerts

Listen and Look For Lesson Video

Today's Challenge

Solve and Share

Visual Learning Animator Plus

Annotated Glossary

Online Personalized Practice

Math Tools

Quick Check

Assign Home Video

LESSON OVERVIEW FOCUS • COHERENCE • RIGOR

FOCUS
Domain 4.NF Number and Operations—Fractions
Cluster 4.NF.B Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.
Content Standard 4.NF.B.3b Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. Example: $\frac{3}{4} = \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$; $\frac{2}{5} = \frac{1}{5} + \frac{1}{5}$; $2\frac{1}{2} = 1 + 1 + \frac{1}{2} = \frac{2}{2} + \frac{2}{2} + \frac{1}{2}$.

Mathematical Practices MP.2, MP.4, MP.5
Objective Decompose a fraction or mixed number into a sum of fractions in more than one way.
Essential Understanding A fraction $\frac{a}{b}$, where $a > 1$, can be decomposed into the sum of two or more unit or nonunit fractions in one or more ways where the sum of the fractions is equal to the original fraction.
Vocabulary Decompose, Compose, Mixed number

Materials Fraction strips for Teaching

COHERENCE
Prior to this topic students learned the fraction $\frac{2}{3}$ can be decomposed into 6 of a unit fraction, $\frac{1}{3}$. They used this the previous lesson to think about the fraction $\frac{2}{3}$ and $\frac{1}{3}$ as the joining of fractions. In this lesson they learn the fraction $\frac{2}{3}$, where $a > 1$, can be broken (a sum of unit and non-unit fractions) more ways. These ideas are brought in the following lessons on addition subtraction of fractions.

RIGOR
This lesson emphasizes **conceptual understanding**. Understanding the idea of decomposing fractions. In as fractions can be decomposed into 6 fractions and then joined to the first. In subtraction, a total is decomposed into unit or non-unit fractions, and part is separated from the other.
 Watch the Listen and Look For Lesson Video.

MATH ANYTIME

Daily Common Core Review

Name _____

4.NF.A.1 Which fraction is equivalent to $\frac{1}{2}$?

$\frac{1}{3}$

$\frac{1}{4}$

$\frac{2}{4}$

$\frac{3}{4}$

4.NF.B.2 Shelly bought 12 single packs of trading cards. Each single pack contains 10 cards. How many trading cards did Shelly have?

12 trading cards

120 trading cards

120 trading cards

12 trading cards

4.NF.B.3 Use the number line to represent the position completely on a number line. How many jumps did she not use?

10 jumps

20 jumps

30 jumps

40 jumps

4.NF.C.2 Select all the statements that are true.

$\frac{1}{2} = \frac{1}{3}$

$\frac{1}{2} = \frac{2}{4}$

$\frac{1}{2} = \frac{3}{6}$

$\frac{1}{2} = \frac{1}{4}$

$\frac{1}{2} = \frac{1}{3}$

4.NF.A.2 Which fraction is greater? Explain.

$\frac{2}{3} > 1$ and $\frac{2}{3} < 1$.

$10\frac{2}{3} > \frac{2}{3}$.

4.NF.A.3 Write each sum in standard form.

$900,000 + 60,000 + 8,000 + 400 + 70 + 2$

4.NF.A.6 A school has 100 computers. They use each of the computers to have the same number of computers. How many computers should each grade receive? Explain.

26 computers; Sample answer: $100 \div 6 = 26 R2$.

Each grade will have _____ computers, and _____ computers will be left over.

Today's Challenge

Use the Topic 9 problems any time during this topic.

Summarize How can you use your understanding of decomposing when solving fraction problems?

ENGLISH LANGUAGE LEARNERS

Strategies Use prior knowledge to understand meanings.
Use with the Visual Learning Bridge on Student's Edition p. 472.
Rerank students that word parts can be helpful in understanding unfamiliar words. Explain that composing means "putting something together." The prefix de- means "the opposite of." Explain that decompose means "take apart."

Beginning Show a set of three red and two yellow counters. Write $\frac{5}{5}$. Set the 5 counters, or $\frac{5}{5}$, are red. $\frac{2}{5}$ are yellow. Have students complete the sentence stem: "One way to decompose $\frac{5}{5}$ is _____ and _____."
Intermediate Show a set of three red counters and two yellow counters. $\frac{5}{5}$ of the counters

471A Topic 9

Look to the Math Anytime section to view a snapshot of the Daily Common Core Review master. Use this skills practice at any point during the lesson. Today's Challenge is also located in this section.

Daily ELL Instruction

LESSON 9-6

ADD AND SUBTRACT FRACTIONS WITH LIKE DENOMINATORS

DIGITAL RESOURCES [Personalize](#)

Student and Teacher eTexts

Listen and Look For Lesson Video

Today's Challenge

Solve and Share

Visual Learning Animation Plus

Animated Glossary

Online Personalized Practice

Math Tools

Quick Check

Another Look Homework Video

Math Games

LESSON OVERVIEW FOCUS • COHERENCE • RIGOR

FOCUS
Details **4.NF** Number and Operations—Fractions
Cluster 4.NF.B Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.
Content Standard 4.NF.B.3a Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.
Mathematical Practices **MP.2, MP.4, MP.5**
Objective: Count forward or backward on a number line to add or subtract.
Essential Understanding: Fraction

COHERENCE
In previous lessons, students added and subtracted fractions with like denominators by joining segments or by separating segments on the number line. In this lesson, the meanings of adding and subtracting fractions is extended to counting forward on the number line for addition and counting backward on the number line for subtraction.
RIGOR
This lesson blends conceptual understanding with procedural skill. It is conceptual in that it assesses students' understanding of addition and subtraction from joining and separating parts to the

MATH ANYTIME
Daily Common Core Review

ENGLISH LANGUAGE LEARNERS ELL

Reading Use visual and contextual support. Use *before the Visual Learning Bridge on Student's Edition p. 496*. Draw a number line for fourths. Label $0, \frac{1}{4}, \frac{2}{4}, \frac{3}{4}$, and 1. Have students read the fractions. Discuss how the fractions decrease in value to the left and increase in value to the right. Relate this to whole numbers on the number line.

Beginning Draw a number line for sixths. Label with $0, \frac{1}{6}, \frac{2}{6}, \frac{3}{6}, \frac{4}{6}, \frac{5}{6}$, and 1. Ask students to take turns pointing to the tick marks and reading the fraction labels.

Intermediate Draw a number line for sixths. Label the tick marks for $0, \frac{1}{6}$, and 1. Ask students to take turns filling in the missing fractions and reading them aloud. Do the fractions increase or decrease as you move to the right on the number line?

Advanced Draw a number line for sixths. Label the tick marks for $0, \frac{1}{6}$, and 1. Ask students to take turns filling in the missing fractions and reading them aloud. Ask

students to discuss the relationship between the values on the number line. Do the fractions increase or decrease as you move to the right on the number line? What fraction is two equal segments to the right of $\frac{2}{6}$?

Summarize How can reading a number line help you solve math problems?

Take a look at the English Language Learners section at the bottom of this page. Use these strategies to support the development of your students' English language proficiency. Here you'll find specific guidance for the three levels of English language proficiency: Beginning, Intermediate, and Advanced.

Use the Summarize questions with all students to bring closure to the language development portion of the lesson.

5

Step 1: Problem-Based Learning



Once you've reviewed the Lesson Overview and other planning resources, you're ready to implement the three-part lesson. Although lesson activities vary, the three-step instructional design is the same for all grade levels and includes Problem-Based Learning, Visual Learning, and Assess and Differentiate.

Use Problem-Based Learning to engage your students in authentic, real-world tasks that develop mathematical understanding. The Solve-and-Share problem helps students connect what they know to new ideas embedded in the problem. When students make these connections, conceptual understanding emerges. To further support these connections, use Solve and Share online with your interactive whiteboard during classroom conversations. You also have the option of assigning the Solve-and-Share problem to your students to be completed online through Savvas Realize.

After posing the problem to the class, invite students individually or in small groups to solve the problem online or in the Student Edition. Students can analyze the given information, formulate a strategy, select tools to develop representations, and communicate their mathematical ideas.

Encourage your students to talk to each other about their understanding and to evaluate the problem-solving process.

Questioning Strategies and Problem Extensions

Facilitation with support for:

- Question-driven conversations
- Struggling learners
- Early finishers
- Mathematical analysis of student work

Use the questioning strategies as you facilitate the Solve-and-Share problem. By questioning students before, during, and after, you can probe their understanding and provide support for struggling learners. Provide differentiation for students who have mastered the problem by asking them to explore the Extension for Early Finishers.

Use sample student work to familiarize yourself with possible solution paths. Present this work to your students so that they learn to analyze mathematical arguments and build their knowledge of mathematical processes.

Step 2: Visual Learning

How Do You Add and Subtract Fractions on a Number Line?

Mary rides her bike $\frac{2}{10}$ mile to pick up her friend Marcy for soccer practice. Together, they ride $\frac{5}{10}$ mile to the soccer field. What is the distance from Mary's house to the soccer field?

You can use jumps on the number line to add or subtract fractions.

Mary's house $\frac{2}{10}$ mile Marcy's house Soccer field $\frac{5}{10}$ mile

Use a number line to show $\frac{2}{10} + \frac{5}{10}$. Draw a number line for tenths. Locate $\frac{2}{10}$ on the number line. To add, move $\frac{5}{10}$ to the right.

Write the sum over the denominator.

Add the numerators over the denominator.

The distance from Mary's house to the soccer field is $\frac{7}{10}$ mile.

Convince Me! Use the number line to find $\frac{5}{8} + \frac{2}{8}$. Can you also use the number line to find $\frac{5}{8} - \frac{2}{8}$? Explain.

Use the number line to find $\frac{5}{8} + \frac{2}{8}$. Can you also use the number line to find $\frac{5}{8} - \frac{2}{8}$? Explain.

Use to the right to add. Move to the left to subtract.

496 Topic 9 | Lesson 9-6 © Pearson Education, Inc. 4

Extend your students' understanding during step two of the lesson--Visual Learning. Use the Visual Learning Bridge to connect their thinking and solutions for the Solve-and-Share problem to the new mathematical ideas of the lesson. This step-by-step visual representation of the concept is accompanied by the Visual Learning Animation Plus. Use the animation and accompanying interactivity to engage students in a rich classroom conversation that deepens their understanding.

Check for understanding right after the instruction in the Show Me (for Grades K-2) or Convince Me (for Grades 3-5) section.

Guided Practice

The screenshot displays a digital interface for math tools. At the top, there is a blue header with a dropdown menu set to "Numbers", a "Reset All" button, and several icons. Below the header are two number lines. The first number line has tick marks at 0, 1/8, 1/4, 3/8, 1/2, 5/8, 3/4, 7/8, and 1. A red arc connects the points 1/2 and 3/4. The second number line has tick marks at 0, 1/8, 1/4, 3/8, 1/2, 5/8, 3/4, 7/8, and 1. A dashed purple arc connects the points 1/4 and 1, with the fraction 6/8 written above the arc. At the bottom of the interface is a toolbar with various icons for editing and navigation. A blue banner at the bottom of the screenshot contains the text "Digital Math Tools are always available online".

Use the Guided Practice problems to show your students how to apply their understanding to different kinds of problems. Remember, the digital Math Tools are always available online to help build understanding.

Error Intervention guidance helps you address students' misconceptions and provides remediation. Use the reteach resources to support remediation as appropriate before students move to Independent Practice.

Independent Practice

QUICK CHECK
Check mark indicates items for prewriting differentiation on the next page. Items 6 and 14 are worth 1 point. Item 13 is worth up to 3 points.

Math Practices and Problem Solving

Independent Practice
For 6–8, write the equation shown by each number line.

6. $\frac{2}{10} + \frac{4}{10} = \frac{6}{10}$

7. $\frac{2}{4} + \frac{1}{4} = \frac{3}{4}$

8. $\frac{3}{5} - \frac{3}{5} = \frac{0}{5}$

Quick Check of students' understanding

Error Interventions Items 3–4
If students have difficulty, then ask: Where does the arrow start? How many $\frac{1}{5}$ s does the arrow move to the right? [2] Where does the arrow end? [3] Write the equation. $\frac{1}{5} + \frac{2}{5} = \frac{3}{5}$. Does the arrow go right or left? [Right] Does that mean you add or subtract? [Add]

Reteaching Assign Reworking Set C on p. 533.

Multi-Step Problems Page 498 Items 11 and 13; Page 500 Items 15 and 17

897-498

Encourage students to apply the strategies they have learned so far as they complete the Independent Practice problems.

Notice the check marks next to some of the problems. Use these problems as a Quick Check to assess your students' understanding of the lesson content. This will help to inform your delivery of the third step of the lesson-- Assess and Differentiate.

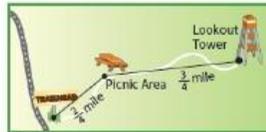
Math Practices and Problem Solving

Math Practices and Problem Solving

9. **Number Sense** How do you know the quotient of $639 \div 6$ is greater than 100 before you actually divide?
Sample answer: $6 \times 100 = 600$. $639 > 600$, so the quotient is greater than 100.

10. **MP.2 Reasoning** Maria saved $\frac{1}{4}$ of her allowance. Tomas saved $\frac{1}{5}$ of his allowance. Who saved a greater part of his or her allowance? Explain your reasoning.
Sample answer: If Maria and Tomas each get the same amount for allowance, then Maria saved more. If they get different amounts, then the answer is unknown.

11. Isaac started his bike ride at the trailhead. He reached the picnic area and continued to the lookout tower. If Isaac rode his bike for a total of $\frac{10}{4}$ miles, how much farther did he ride beyond the lookout tower?
 $\frac{2}{4} + \frac{3}{4} = \frac{5}{4}$, $\frac{10}{4} - \frac{5}{4} = \frac{5}{4}$ or $1\frac{1}{4}$ miles



12. **MP.4 Model with Math** Ricky completely filled a bucket to wash his car. After he finished washing the car, $\frac{5}{8}$ of the water remained in the bucket. Write and solve an equation to show the fraction of the water Ricky used.

13. **Higher Order Thinking** Sarah and Jenny are running an hour long endurance race. Sarah ran $\frac{2}{5}$ hour before passing the baton to Jenny. Jenny ran $\frac{2}{5}$ hour, then passed the baton back to Sarah. What fraction of the hour does Sarah still need to run to complete the race?

Common Core Assessment

14. Choose numbers from the box to fill in the missing numbers in each equation. Use each number once.

a. $\frac{1}{4} + \frac{2}{4} = \frac{3}{4}$

1 3

b. $\frac{8}{12} - \frac{6}{12} = \frac{2}{12}$

4 6

c. $\frac{3}{8} + \frac{2}{8} = \frac{5}{8}$

8 12

15. Choose numbers from the box to fill in the missing numbers in each equation. Use each number once.

a. $\frac{3}{10} + \frac{6}{10} = \frac{9}{10}$

2 3

b. $\frac{9}{12} - \frac{6}{12} = \frac{3}{12}$

4 6

c. $\frac{1}{4} + \frac{2}{4} = \frac{3}{4}$

10 12

The Math Practices and Problem Solving section provides opportunities for students to apply their understanding to solve problems. Notice how problems connect to Standards for Mathematical Practice. Higher Order Thinking problems provide even more rigor. Finally, Common Core Assessment items prepare students for high-stakes tests.

Step 3: Assess and Differentiate

QUICK CHECK
Check marks indicate items for prescribing differentiation on the next page. Items 6 and 14 are worth 1 point. Item 15 is worth up to 2 points.

Math Practices and Problem Solving

Another Example
Draw a number line to represent $\frac{2}{12} + \frac{2}{12}$.
Start at 0. Draw an arrow that is $\frac{2}{12}$ units long. Draw another arrow that is $\frac{2}{12}$ units long. The sum is $\frac{4}{12}$.

Model with Math
Ricky completely filled a bucket to wash his car. After he finished washing the car, $\frac{5}{8}$ of the water remained in the bucket. Write and solve an equation to show the fraction of the water Ricky used.
 $\frac{3}{8}$ of the water; Sample answer: $\frac{3}{8} + \frac{5}{8} = n$; $n = \frac{8}{8}$

Higher Order Thinking
Sarah and Jenny are running an hour long endurance race. Sarah ran $\frac{2}{5}$ hour before passing the baton to Jenny. Jenny ran $\frac{2}{5}$ hour, then passed the baton back to Sarah. What fraction of the hour does Sarah still need to run to complete the race?
 $\frac{1}{5}$ of the hour

Independent Practice
For 5–8, write the equation shown by each number line.

5. $\frac{2}{10} + \frac{4}{10} = \frac{6}{10}$

7. $\frac{2}{4} + \frac{1}{4} = \frac{3}{4}$

8. $\frac{4}{5} - \frac{2}{5} = \frac{2}{5}$

Common Core Assessment

14. Choose numbers from the box to fill in the missing numbers in each equation. Use each number once.

1	3
4	6
8	12

a. $\frac{1}{4} + \frac{2}{4} = \frac{3}{4}$

b. $\frac{8}{12} - \frac{6}{12} = \frac{2}{12}$

c. $\frac{3}{8} + \frac{2}{8} = \frac{5}{8}$

15. Choose numbers from the box to fill in the missing numbers in each equation. Use each number once.

2	3
4	6
10	12

a. $\frac{3}{10} + \frac{6}{10} = \frac{9}{10}$

b. $\frac{9}{12} - \frac{6}{12} = \frac{3}{12}$

c. $\frac{1}{4} + \frac{2}{4} = \frac{3}{4}$

The last step of the lesson--Assess and Differentiate--prescribes differentiated instruction of key concepts and skills. You can also extend on-level and advanced students' thinking during this portion of the lesson.

Refer to the Quick Check assessment data that you gathered earlier to determine who needs intervention.

Intervention

Intervention Activity I

Adding and Subtracting on the Number Line

Materials:
Red, blue, and green markers

- Ask students to draw a number line from 0 to 1, divided into 8 equal parts.
- Have students draw a red dot at $\frac{2}{8}$ and a blue dot at $\frac{5}{8}$.
- Have students draw a green arc from $\frac{5}{8}$ to $\frac{2}{8}$ and write $\frac{3}{8}$ above the arc.
- Students should use a blue dot to mark the location of the answer. [$\frac{2}{8}$]
- Have students write the equation modeled by the number line. [$\frac{5}{8} - \frac{3}{8} = \frac{2}{8}$]

- Repeat the process by drawing a number line divided into eighths and showing $\frac{2}{8} + \frac{3}{8}$.

$\frac{2}{8} + \frac{3}{8} = \frac{5}{8}$

Helps students learn how to break down problems into manageable portions

The Intervention Activity provides struggling students with visual or hands-on reinforcement of the lesson concepts.

After students have completed this activity, refer to the Reteach to Build Understanding master to provide step-by-step reteaching. This tool helps students learn how to break down problems into manageable portions so that they can complete problems on their own.

On-Level and Advanced Activity Centers

The screenshot shows the Savvas Realize interface for enVisionmath2.0 Common Core Grade 4 2016. The navigation bar includes PROGRAMS, CLASSES, DATA, and CENTERS. Below the navigation, there are links for Table of contents, Resources, Standards, eText, and Tools. The main content area is titled 'Assess & Differentiate' and lists several activity centers:

- Numbers Through One Million: Quick Check** (Checkmark icon): Assign, Info, Teacher resources, Customize, Remediation
- 1-1: Reteach to Build Understanding Worksheet** (PDF icon): Assign, Info
- 1-1: Reteach to Build Understanding: Answer Key** (PDF icon): Info
- 1-1: Enrichment Worksheet** (PDF icon): Assign, Info (highlighted with a red box)

Engage on-level and advanced students with different activities that will deepen their understanding. Use the Enrichment masters to provide advanced students with an additional challenge. In addition, the On-Level and Advanced Activity Centers include Center Games, Math and Science Activities, and Problem-Solving Reading Mat Activities.

Masters are available in the *Teacher's Resource Masters* volumes and as digital resources on SavvasRealize.com. The *Problem-Solving Reading Activity Guide* provides other suggestions on how to use mats for each topic. Activity masters have questions that use the same content as on the mat.

Technology and Homework

The screenshot shows the 'realize.' interface with tabs for PROGRAMS, CLASSES, and GRADES. The user is logged in as Curtis. Under the 'Assignments' tab, there are filters for 'Not started (2)', 'In progress (0)', and 'Completed (0)'. A list of assignments is shown, including 'Topic 09: Today's Challenge' and 'Add and Subtract Fractions with Like Denominators: Another Look'. An 'eText & Tools' pop-up window is open, displaying a 'Student Edition: Grade 4 Sample' and links to 'Grade 4: Game Center', 'Grade 04: Glossary', and 'Math Tools'.

The Technology Center identifies additional activities related to the lesson. Digital icons identify the tools and games that are available for that lesson.

Use the leveled homework guidance to assign Intervention, On-Level, or Advanced homework based on your students' needs and understanding.

Practice Buddy, powered by MathXL® for School, provides on-level content practice for Grades 3 through 5. These online exercises have built-in learning aides via a drop-down menu to help provide support. Students can select the type of support they need, including:

- Help Me Solve This,
- View an Example,
- Another Look videos, and
- Visual Learning animations.

The Another Look homework video provides online help and additional support.

Adaptive Homework and Practice Powered by Knewton provides support for students in Grades 3 through 5 for the Homework and Practice part of each lesson.

Knewton gathers student performance information from the online assessments, Quick Checks, and Practice Tasks and uses that information to intelligently prescribe tasks and content to meet the individual learning needs of each student. The Homework and Practice assignments provide both on-level and prerequisite skills support.

The Adaptive Homework and Practice assignments provide a more productive experience because they are tailored to each student's needs and understanding. This ensures that students are ready to progress to the next day's objective. Instructional tasks may include Another Look videos, Visual Learning Animation Plus videos, Reteach to Build Understanding worksheets, and Math Diagnosis and Intervention System 2.0 lessons.

And keep in mind, the more a student uses the prescribed Homework and Practice assignments, the better Knewton gets at adapting to the student's individual needs.

Students can also access SavvasRealize.com to use the digital resources as they work on their homework. Show students how to identify these resources using the digital icons.

Closing



In this tutorial, we explored how to teach a lesson with **enVisionmath2.0**. We started with the planning resources and then reviewed the three main steps in teaching a lesson, including Problem-Based Learning, Visual Learning, and Assess and Differentiate.

For additional resources, please visit MySavvasTraining.com.