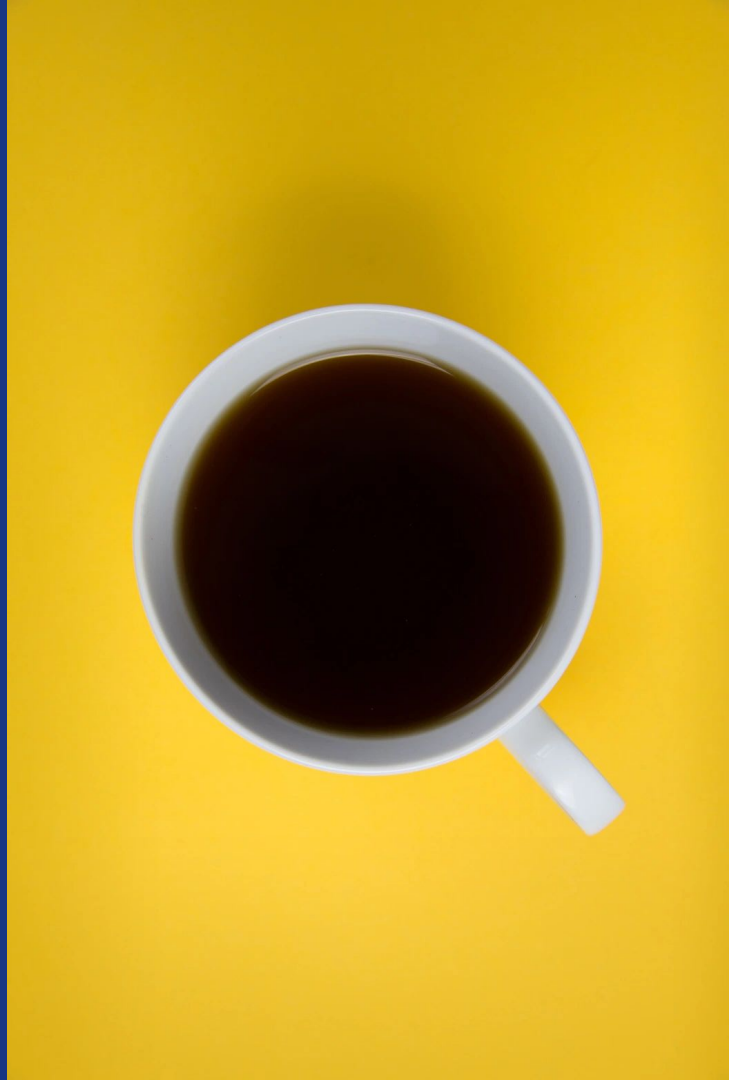


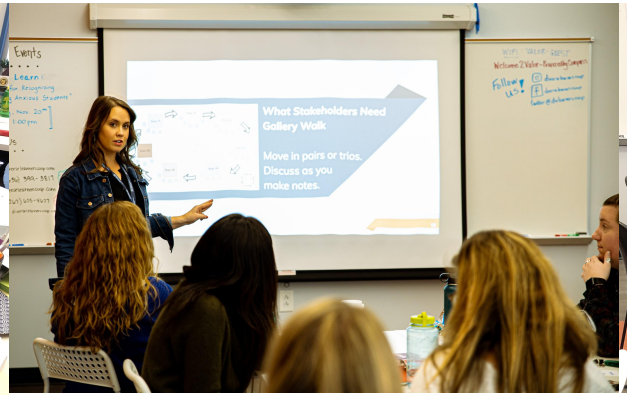
Coffee Chat

with the Diverse Learners Cooperative

Accommodating a Lesson Plan for Diverse Learners

- Friday, February 12
- 8:30 - 8:45am CST

Diverse Learners COOPERATIVE



The Diverse Learners Cooperative connects teachers and leaders with professional **learning**, **resources**, and **networks** to improve outcomes for diverse learners + increase teacher and leader retention

Accommodating a Lesson Plan for Diverse Learners

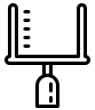
Today's Mission

To think aloud through a process for making lesson plans accessible to diverse learners.

AGENDA:

1. Process
2. Considerations
3. Resources

Process



Identify the goals.

Understand your students.

Identify potential barriers.

Implement strategies to break down the barriers.

Let's look at the lesson…

Let's look at this math lesson today.

We are often unaware of how much reading, writing, speaking, and listening that happens in all subject areas. Today we'll dig into some ideas for supporting students in these domains.

AchievementFirst	**Unit 5: Fractions** **Lesson 15: Equivalent Fractions with Different Shapes[1]**
Designer/School	Mallory Bodhuin ENYES revised by Laura Kabel
Lesson	Lesson 15

Standard(s) in Lesson

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

b. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3). Explain why the fractions are equivalent, e.g., by using a visual fraction model.

SMP 3 Construct viable arguments and critique the reasoning of others.
SMP 4 Model with mathematics.
SMP 5 Use appropriate tools strategically..
SMP 7 Look for and make use of structure.
SMP 8 Look for and express regularity in repeated reasoning.

Aim

MWBAT recognize parts of a whole as equivalent if they are the same size and not just the same shape.

Narrative:

What do students have to get better at today?

- Students need to identify and create equivalent fractions. They will learn that equivalent fractions represent the same amount of the whole but do not necessarily need to look exactly the same.

What is new and/or hard about that?

- This is challenging because it might be hard for students to grasp that fractions with two different digits in the numerator and denominator can be equal. Students might also struggle to visualize moving parts of a shaded shape in order to determine its equivalence.

So where will time be focused/funneled?

- The Intro and Interruption will focus on using models and fraction strips to show two equivalent fractions in order to develop the understanding that two different fractions can take up an equal part of a whole/ model.

What Key Points What should students know and be able to do?	**How Key Points** How will they do it?
• Fractions are equivalent when they represent the same portion of a whole. • Fractions may look different and still represent an equivalent amount.	• We can tell the two fractions are equivalent by drawing models and looking carefully to see if they have the same amount of space • We can create equivalent fractions by partitioning an already-shaded model into smaller equal parts and identifying the new fraction.

Assessment and Criteria for Success[1] *How will scholars show what they know and can do? Include exemplar responses. What misunderstandings can be revealed by analyzing student work (process, not answer)?*

Students should be to identify and create equivalent fractions using models in order to identify a fraction that represents the same amount of the whole.

Top Quality Criteria for Success:

- Precise models with same-sized wholes
- Unit fraction labeled
- Fraction represented
- Thinking explained

***Exemplar Student Response**: "I know that 1/4 is equivalent to 2/8 because I partitioned one whole into fourths and shaded one then I created eighths by cutting the fourths in half. When I looked at both models, I see that 2/8 represents the same amount of the whole as ¼."*

Goal

What is the goal of this lesson? What students will be able to do AND how they will show it?

- The students will be able to recognize parts of a whole as equivalent if they're the same size-not just the same shape.

- They will show what they know by drawing and writing about equivalent fractions.

Achievement First

Unit 5: Fractions
Lesson 15: Equivalent Fractions with Different Shapes[1]

Designer/School	Mallory Bodhuin ENYES revised by Laura Kabel
Lesson	Lesson 15

Standard(s) in Lesson

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

b. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3). Explain why the fractions are equivalent, e.g., by using a visual fraction model.

SMP 3 Construct viable arguments and critique the reasoning of others.
SMP 4 Model with mathematics.
SMP 5 Use appropriate tools strategically..
SMP 7 Look for and make use of structure.
SMP 8 Look for and express regularity in repeated reasoning.

Aim
MWBAT recognize parts of a whole as equivalent if they are the same size and not just the same shape.

Narrative:

What do students have to get better at today?
- Students need to identify and create equivalent fractions. They will learn that equivalent fractions represent the same amount of the whole but do not necessarily need to look exactly the same.

What is new and/or hard about that?
- This is challenging because it might be hard for students to grasp that fractions with two different digits in the numerator and denominator can be equal. Students might also struggle to visualize moving parts of a shaded shape in order to determine its equivalence.

So where will time be focused/funneled?
- The Intro and Interruption will focus on using models and fraction strips to show two equivalent fractions in order to develop the understanding that two different fractions can take up an equal part of a whole/ model.

What Key Points	**How Key Points**
What should students know and be able to do?	How will they do it?
• Fractions are equivalent when they represent the same portion of a whole. • Fractions may look different and still represent an equivalent amount.	• We can tell the two fractions are equivalent by drawing models and looking carefully to see if they have the same amount of space • We can create equivalent fractions by partitioning an already-shaded model into smaller equal parts and identifying the new fraction.

Assessment and Criteria for Success[1] *How will scholars show what they know and can do? Include exemplar responses. What misunderstandings can be revealed by analyzing student work (process, not answer)?*

Students should be to identify and create equivalent fractions using models in order to identify a fraction that represents the same amount of the whole.

Top Quality Criteria for Success:
- Precise models with same-sized wholes
- Unit fraction labeled
- Fraction represented
- Thinking explained

***Exemplar Student Response**: "I know that 1/4 is equivalent to 2/8 because I partitioned one whole into fourths and shaded one then I created eighths by cutting the fourths in half. When I looked at both models, I see that 2/8 represents the same amount of the whole as ¼."*

Students

What do I know about the audience for my lesson? What are their strengths, experiences, or needs related to the lesson?

- Most of the ML students level 3
- Lots of reading supports needed
- One student in particular will benefit from additional reading and speaking support.
- Student S will benefit from organizational structures that walk him through the lesson.
- Student R has a really strong “math brain” but will need support showing her work with writing.

	ELP 1: Entering	ELP 2: Emerging	ELP 3: Developing	ELP 4: Expanding	ELP 5: Reaching	ELP 6: Bridging
Listening			E. Montes (3.2)	R. Cruz Alvagenga (4.3)	P.Aguilar (5.4) J.Andres Garcia (5.8) O.Boyzo Diaz (5.3) J. Quinteros Cribas (5.8)	A.Aguilar (6.0) A. Merida Leal (6.0) J. Rodriguez Chona (6.0)
Speaking	R. Cruz Alvagenga (1.9)		A.Aguilar (3.1) P.Aguilar (3.4) O.Boyzo Diaz (3.1) J.Andres Garcia (3.4) A. Merida Leal (3.4) E. Montes (3.9) J. Quinteros Cribas (3.4) J. Rodriguez Chona (3.6)			
Reading	R. Cruz Alvagenga (1.8)	O.Boyzo Diaz (2.9) A. Merida Leal (2.3)	P.Aguilar (3.3) J.Andres Garcia (3.1) E. Montes (3.5) J. Quinteros Cribas (3.0)	A.Aguilar (4.8) J. Rodriguez Chona (4.8)		
Writing			J.Andres Garcia (3.2) R. Cruz Alvagenga (3.1) A. Merida Leal (3.9) E. Montes (3.7) J. Quinteros Cribas (3.7) J. Rodriguez Chona (3.3)	A.Aguilar (4.3)		

Student S

Needs additional support with executive functioning skills, specifically organization of work.

Student R

Has a specific learning disability that requires extra support with writing.

Barrier

What specific challenges will my students encounter within this lesson?

- Vocabulary might trip them up when it comes to these words.
- Students might need the problems read fully or partially aloud.
- Students may have trouble drawing the fraction bars or graphs on their paper to be equivalent.

Scholar:_____ Date:_____

Aim: MWBAT recognize parts of a whole as equivalent if they are the same size and not just the same shape.

Problem of the Day: Henry and Maddie were in a pie eating contest. Henry's pie was cut into thirds and he ate two-thirds of his pie. Maddie's pie was cut into sixths. What fraction of her pie does Maddie need to eat to tie with Henry in the contest?

6. Which three comparisons are true?

Mary thinks the fractions below are equivalent. Is she correct?

a. 1/3 = 3/6
b. ¾ = 6/8
c. 4/8 = ½
d. ¼ = 4/8
e. 4/6 = 2/3

Explain how you know that these fractions are equivalent. Why does it make sense that they are equivalent?

_____

_____

_____

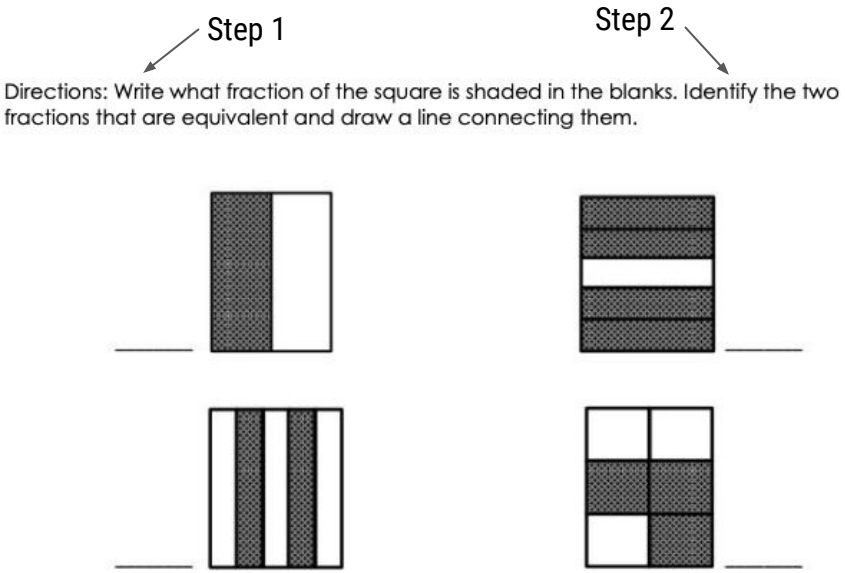
_____

Barrier

What specific challenges will my students encounter within this lesson?

- This and the exit ticket are two-step problems, which some students will need organizational support to ensure all the parts get done.

- Level 1 students might have a barrier to reading some of the questions and discussing some of the prompts.



Strategies

What pathways through this content will we need to prepare for? What supports or tools will I need to ensure students can reach the goal (today or in the future)?

- Preview vocabulary and add visuals
- Give students actual "pies" to cut or divide into equal pieces.
- Provide students with manipulative fraction bars.
- Give students discussion stems for partner work.

Introduction[iii]

State the aim. Connect it to their lives and prior knowledge. Discuss how they will be working on it today. Plan a problem and questions to uncover key points and address common errors and misconceptions.

Approx. Time Allotted: 15 -20 minutes

State the Aim:

- **Today we are going to take a break from the number line to think about fractions that are equivalent, or equal. Sometimes, fractions have the same value even if there are different numbers in the fractions.**
- **What are some expressions equivalent to 14?** 10 +4; 8 +6, etc.
- **Yes, they have the same value even though they look different. Today we will find some fractions that are equivalent or represent the same amount of a whole.**

Pose the Problem:

- Henry and Maddie were in a pie eating contest. Henry's pie was cut into thirds and he ate two-thirds of his pie. Maddie's pie was cut into sixths. What fraction of her pie does Maddie need to eat to tie with Henry in the contest?
- **With your partner spend 2 minutes using what you remember from yesterday and represent and solve the problem.**
- *Give students a few minutes to work with a partner and to come up with a solution. Circulate as they work, gathering data around:*

Student Work/Thinking	Initials to Show Call
Students drawing two equal sized wholes and identifying 4/6 as equivalent to 2/3/	
Students struggling to find an equivalent fraction, likely not creating models with the same sized parts or with equal parts.	

Strategies

What pathways through this content will we need to prepare for? What supports or tools will I need to ensure students can reach the goal (today or in the future)?

- Write sentence stems for written response questions on the student work papers.
- Strategically partner my student who is a level 1 in reading with another speaker of Spanish who can support them in their thinking.

Workshop

Review the aim. Introduce the workshop. 'I' the Workshop (game/activity- not process for doing math). Check for understanding. 'We' the workshop. Check for understanding. Students repeat the steps and the aim. Differentiation up and down.

Approx. Time Allotted: 10 minutes

- **Scan the room and make sure everyone is on task before circulating. Circulate around the room to monitor students at work.**
- **Lap 1: Procedural**
  - LOOK FOR: Are all students making their wholes the same size and are they partitioning each model equally (halves-fourths- eighths and thirds-sixths)?
  - SAY: In my first lap, I am looking for students making their wholes the same size and partitioning each model equally.
- **Lap 2: Conceptual**
  - LOOK FOR: Are students accurately finding equivalent fractions using visual models?
  - SAY: In my second lap, I am looking for students who are accurately finding equivalent fractions using visual models.
- **Check for Understanding:**
  - How did you know these fractions were equivalent?
  - How could you find a fraction that was equal to ½?
- **Intervention**: Go back to the pattern blocks. Have scholars place rhombuses on the whole (hexagon). Allow them to then use the triangles and place them on top to figure out how many triangles (sixths) you would need to cover the same amount of the whole (hexagon.) Repeat with trapezoids and triangles for halves and sixths.
- **Extension:** Push students to think about how they can create equivalent fractions by partitioning shapes that are already shaded to create new equivalent fractions.

Mid-Workshop Interruption

What is the next level for the skill in the objective? What do you want most of your students to start doing?

Strategies

What pathways through this content will we need to prepare for? What supports or tools will I need to ensure students can reach the goal (today or in the future)?

- Include a checklist for multi-step problems on the exit ticket and materials.

Approx. Time Allotted: 5 min

- **Scholars I want to show you three different models and think about whether or not these fractions are equivalent. ***Ninths are not a 3rd grade standard but are good for this discussion.**

- **TT: Are these fractions equivalent?** Student answers may vary. Hunt for the following response: Yes they are all equivalent. If you imagine turning the second square on its side you can see that they both have the same amount shaded.
- **What about the third square?** It is also equivalent. For this one you can't imagine turning it on its side. Instead you have to imagine that the three shaded parts were all in the column on the left. If you do that then you can see that they all have the same amount shaded.
- **How can we show each of these numbers in fraction notation?** 1/3, 2/6, and 3/9.
- **So sometimes we can create equivalent fractions and sometimes we can look at fractions and say whether or not they are equivalent. And we can do this with fractions that may or may not look the same.**

Independent Practice

Which problems need to be reviewed before they begin working? Where do you anticipate missteps? What are key CFU questions?

Approx. Time Allotted: 15-20 minutes

- See Workshop.

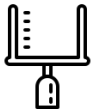
Closure

How can we get kids to summarize what was learned today and connect back to the aim? Exit ticket.

Approx. Time Allotted: 5 minutes

- Exit Ticket

Process



Identify the goals.

Understand your students.

Identify potential barriers.

Implement strategies to break down the barriers.

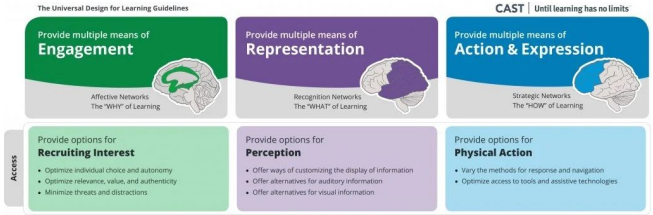
Considerations

This works for **these students,** with **these experiences**, for **this lesson.**

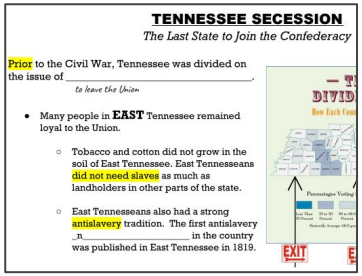
- This is just one lesson in a sequence. Looking at a sequence of lessons will give you more opportunities to make accessible content for all students.
- Work with your co-teacher to implement strategies. Use a co-planning protocol to support that conversation.
- *Remember: What's necessary for one is often beneficial for all*

Additional Resources

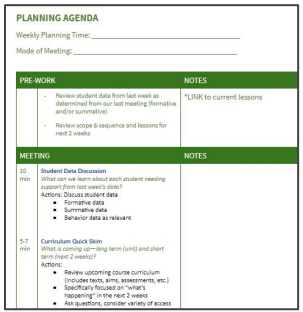
[5-15-45 Tool]



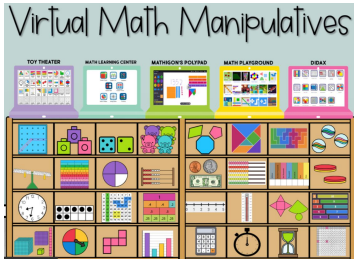
[Cast.org Universal Design for Learning Hub]



[Accommodated and Modified Materials Example]



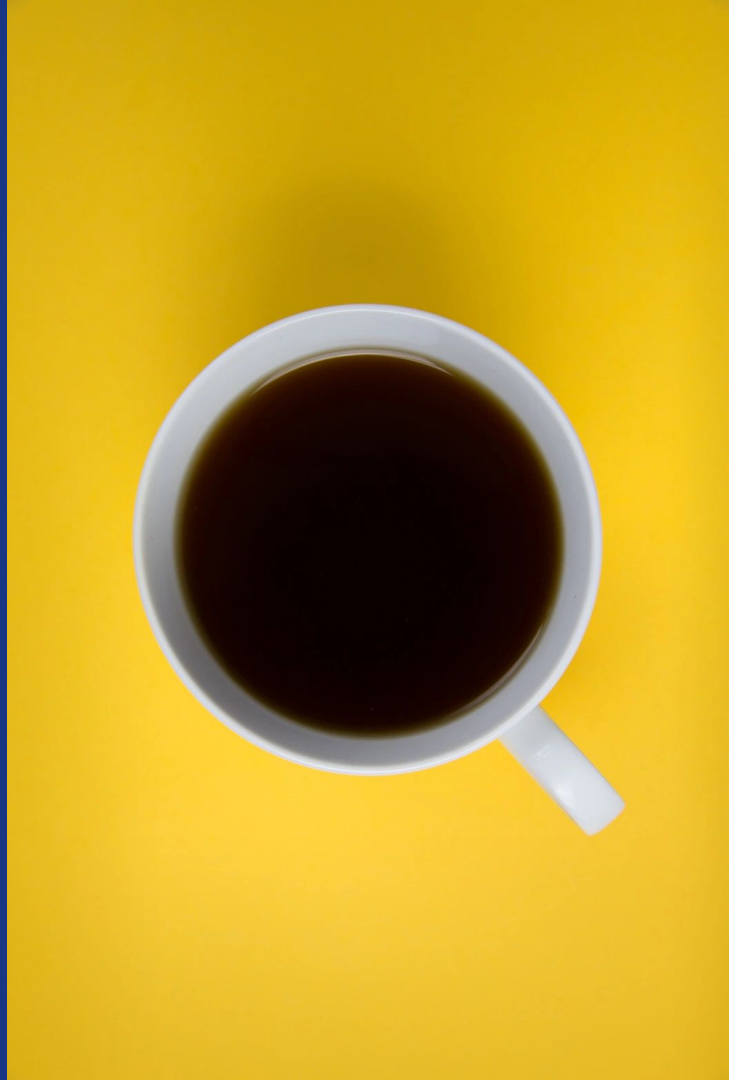
[Co-Planning Protocol]



[Virtual Math Manipulatives]

Was this format helpful for you to think through accommodating lesson plans?

Would another lesson, subject or grade level be useful as a coffee chat?



Thank you!

www.dlcresourcecenter.com/coffee-chats

Join us here next time for:

Best Practices for Simultaneous Teaching

- Friday, February 19th
- 8:30 - 8:45 am CST