

# Bachelor of Education (Elementary) & Bachelor of Education (Secondary) STEM Lesson Plan

February 16,

Lesson Title: Equivalent Fractions Lesson # 2 Date: 2024  
 Name: Alisha Gotro Subject: Math Grade(s): 5

Rationale:

This lesson is significant for students learning because it reiterates a new concept learned in a previous lesson with the use of story, games, and collaborative problem solving. This lesson builds on a previous introduction to equivalent students that has students applying the concept to different problems, as well as applying the ideas to a story to further develop their understanding.

Core Competencies:

Communication	Thinking	Personal & Social
Collaborating Profile 2:  <b>In familiar situations, I cooperate with others for specific purposes.</b>  I contribute during group activities, cooperate with others, and listen respectfully to their ideas. I can work with others for a specific purpose.	Critical and Reflective Thinking Profile 3:  <b>I can ask questions and consider options. I can use my observations, experience, and imagination to draw conclusions and make judgments.</b>  I can ask open-ended questions, explore, and gather information. I experiment purposefully to develop options. I can contribute to and use criteria. I use observation, experience, and imagination to draw conclusions, make judgments, and ask new questions. I can describe my thinking and how it is	

	changing. I can establish goals individually and with others. I can connect my learning with my experiences, efforts, and goals. I give and receive constructive feedback.	
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### Big Ideas (Understand)

Numbers describe quantities that can be represented by equivalent fractions.
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### Learning Standards

(DO)	(KNOW)
Learning Standards - Curricular Competencies	Learning Standards - Content
CC 1: Use reasoning to explore and make connections CC 6: Develop, demonstrate, and apply mathematical understanding through play, inquiry, and problem solving CC 10: Communicate mathematical thinking in many ways	C 3: equivalent fractions

### Instructional Objectives & Assessment

Instructional Objectives (students will be able to...)	Assessment
<ul style="list-style-type: none"> <li>- SWBAT show an equivalent fraction on a whiteboard.</li> <li>- SWBAT work individually or collaboratively to solve different problems with the use of manipulatives.</li> <li>- SWBAT hold conversations with peers and teacher about the concepts and strategies applied regarding equivalent fractions.</li> </ul>	<p><b>Observation of</b> students talking in pairs about the story. Emphasis placed on their understanding of fractions and equivalent fraction regarding story.</p> <p><b>Observation of</b> students working in their groups to solve the problems on the board.</p> <p><b>Conversations</b> with students about their reasoning for their strategy for solving the problem. Aim to talk with 3 students.</p> <p><b>Observation and product of</b> students demonstrating what an equivalent fraction is on a whiteboard.</p>

### Prerequisite Concepts and Skills:

- Basic fraction understanding
- Basic prior knowledge of an equivalent fraction from lesson #1
- Whole number multiplication

Indigenous Connections/ First Peoples Principles of Learning:

FPPL: Learning involves patience and time.

- This lesson is built upon a previous lesson, highlighting the idea that one skill is not learned over one lesson but takes time to truly understand and learn a new concept.
- This lesson inherently involves patience as a student may struggle with new ideas and so the student learns to have patience with themselves if they don't understand something right away.
- This lesson also involves patience because students are working and talking with their peers. Students have to wait and take turns with what they want to say while also having patience if their partner takes more time than them.

Universal Design for Learning (UDL):

Positive conversations in the classroom to support all learners.

Students choose which manipulatives are best for themselves with a variety to choose from.

Oral conversations so students can talk through their thinking to show their understanding.

Option to work with peers or individually.

Expectations and plan for the lesson told to the students before beginning lesson.

Differentiate Instruction (DI):

Students with social anxiety have the option to work alone. They may also work with their partner and take on a nonverbal role such as writing on the board instead of having full conversations.

Student with difficulty sitting still in class may use a yoga ball and have set walk breaks.

Student who is unable to write may have CEA as scribe and also talk with the teacher.

Materials and Resources

Chip counters

Fraction tiles

White boards

White board markers and erasers

Pie pieces  
Connecting cubes

Story - The Lion's Share by Matt McElligott  
Board game: Equivalent Fractions Missing Numerator Board Game by Deceptively Educational x 10  
Worksheet/questions  
SmartBoard

Lesson Activities:

Teacher Activities	Student Activities	Time
<p>Introduction (anticipatory set – "HOOK"):</p> <p>The teacher will gather the students and tell them the plan for the lesson: First they will listen to a story and think-pair-share. Then the class will have a discussion with the class. After, they will practice their equivalent fractions on their whiteboards as a class, and end with a game.</p>	<p>Students will listen to the teacher.</p>	<p>1 min</p>
<p>The teacher will gather the students closer and read the story.</p>	<p>Students will listen to the story.</p>	<p>7 min</p>
<p>The teacher will let the students know that they will have three minutes to think quietly, and afterwards they will talk with their elbow partners about the story.</p>	<p>Students will think about the story and then talk with their elbow partner about story.</p>	<p>5 min</p>
<p>As the students are talking, the teacher will hand out whiteboards, dry erase pens, and erasers to each student. As the teacher is handing out the materials, the teacher will listen in to the students conversations to check for understanding and to make sure students are staying on task.</p>	<p>The students talk in their small groups.</p>	<p>3 min</p>
<p>The teacher will put some question prompts on the board and let the students know they can work on</p>	<p>The students can use their whiteboards to work on the</p>	<p>4 min</p>

<p>answering some of the questions together. The questions are:</p> <ul style="list-style-type: none"> <li>- Can you show on your whiteboard how the cake was divided?</li> <li>- How many cakes were baked in total?</li> <li>- If one cake took <math>\frac{1}{2}</math> cup of sugar to bake, how much sugar would the macaw need? Can you calculate some of the other animals sugar usage?</li> </ul> <p>The teacher will clap their hands to get the students attention. The teacher will ask the students to share some of their discussions. After at least 3 students have answered, the teacher will ask the students to answer the questions that were put on the board.</p>	<p>question prompts with their partners.</p> <p>Students will raise their hand and answer the teachers questions.</p>	<p>1 min</p>
<p>Body:</p> <p>CFU: The teacher will ask the students to put a thumbs up, thumbs down, or thumbs sideways if they remember what an equivalent fraction is.</p> <p>The teacher will ask for a volunteer to tell the class what an equivalent fraction is.</p> <p>The teacher will reiterate what an equivalent fraction is.</p> <p>The teacher will ask the students to show on their whiteboard an example of an equivalent fraction.</p> <p>The teacher will tell the class that now they will be working on some questions that will be on the board and to gather whatever manipulatives they think will help them best. The manipulatives will be put at the front of the class.</p> <p>The teacher will pull up the questions from the worksheet onto the SmartBoard. The teacher will tell the students they can work individually on</p>	<p>The students will do a thumbs up, thumbs sideways or thumbs down.</p> <p>The students can raise their hand to answer the question.</p> <p>The students will listen.</p> <p>The students will write on their whiteboard an equivalent fraction, for example <math>\frac{1}{2} = \frac{2}{4}</math></p> <p>The students will gather their chosen manipulatives to help them solve problems.</p> <p>The students will listen.</p>	<p>1 min</p> <p>1 min</p> <p>1 min</p> <p>1 min</p> <p>2 min</p> <p>1 min</p>

<p>each problem and then talk with their group, or work as a group through the questions. The groups are the students pods.</p> <p>As the students work through the questions, the teacher will sit with 3 different groups to listen to their discussions. The teacher will prompt the students to share their thinking with questions such as “That is really interesting, can you please explain how you used your strategy to solve this?” and “I didn’t think of solving the problem that way, can you share with the group how you solved that?”</p> <p>The teacher will gather the students back and let them know its okay if they didn’t solve all of the problems because they will work on more of it tomorrow. The teacher will ask if anyone wants to share their strategies.</p> <p>The teacher will hand out board game sets and students will play with their elbow partners.</p>	<p>The students will either work individually or as a group to solve the problems that are on the SmartBoard. The students can talk freely with their group to work together and check their understanding.</p> <p>The students will talk with the teacher.</p> <p>The students will listen and stop what they are doing.</p> <p>The students can share their strategy by raising their hand if they wish.</p> <p>The students will play the board game with their elbow partners.</p>	<p>8 min</p> <p>1 min</p> <p>5 min</p>
<p>Closure:</p> <p>The teacher will gather the students back. The teacher will ask the students how the board game went. Wait for at least 2 responses.</p> <p>The teacher will ask the students if there were any connections that they found interesting during the lesson.</p> <p>The teacher will reiterate what an equivalent fraction is.</p> <p>The teacher will let the students know they will continuing with equivalent fractions next lesson as well.</p>	<p>The students will stop playing the game and share how it went by raising their hand.</p> <p>The students can share their connections by raising their hand.</p> <p>The students will listen.</p> <p>The students will listen.</p>	<p>1 min</p> <p>1 min</p> <p>1 min</p> <p>1 min</p>

### Organizational Strategies:

Waiting to hand out materials until needed so students aren't distracted.

Bringing the students together closely to listen to the story.

Having students work with their desk partners and pods.

Clapping patterns to get students attention.

### Proactive, Positive Classroom Learning Environment Strategies:

The teacher will have positive conversations regarding math to improve students attitude.

Use excited language and body language to generate excitement with students.

Student led conversations and problem solving for promoting students confidence and independence in the classroom.

Using consistent rules in the class: raising hand to answer questions and use of thumbs up or down to show understanding.

### Extensions:

For further lessons the teacher can create more complex questions regarding equivalent fractions. Further lessons can also include

For groups that finish the questions early, they can begin the board game earlier than the rest of the class and play multiple rounds.

For groups that finish their conversations earlier, they may join another group to gain more insights and share their thinking.

For students who finish early and are working independently, they can join a group or create inquiry questions to share with the teacher.

### Reflections (if necessary, continue on separate sheet):

I enjoyed making this lesson. Last semester, we focused primarily on ELA lessons so creating a math lesson in its entirety was a new experience. I liked coming up with the activities and finding a good story. I like the idea of including stories in a math lesson because I don't remember having stories when I was a student. As someone who has always enjoyed reading and stories, I think it is something that would have increased my interest in math, and so its a strategy I hope will do the same with the kids in my class. I chose to do this as a second lesson, and I think in the future I need to explore

more first lessons. I was reasonably confident coming up with group activities, but I am not confident on how to introduce a concept. I think you would have to spend more time teaching through lecturing but I am unsure.