

Fraction lesson plan

2/6/19

Grade: 4th		Subject: Math	
Materials: pencil, ruler, crayons, sharpie, math notebooks, paper plates		Technology Needed: smart board	
Instructional Strategies: <input type="checkbox"/> Direct instruction <input type="checkbox"/> Peer teaching/collaboration/cooperative learning <input type="checkbox"/> Guided practice <input type="checkbox"/> Visuals/Graphic organizers <input type="checkbox"/> Socratic Seminar <input type="checkbox"/> PBL <input type="checkbox"/> Learning Centers <input type="checkbox"/> Discussion/Debate <input type="checkbox"/> Lecture <input type="checkbox"/> Modeling <input type="checkbox"/> Technology integration <input type="checkbox"/> Other (list)		Guided Practices and Concrete Application: <input type="checkbox"/> Large group activity <input type="checkbox"/> Hands-on <input type="checkbox"/> Independent activity <input type="checkbox"/> Technology integration <input type="checkbox"/> Pairing/collaboration <input type="checkbox"/> Imitation/Repeat/Mimic <input type="checkbox"/> Simulations/Scenarios <input type="checkbox"/> Other (list) Explain:	
Standard(s) 4.NF.2 Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.		Differentiation Below Proficiency: Peers will help him/her Above Proficiency: These students can do an extra activity with pizza math Approaching/Emerging Proficiency: This lesson is tailored for these students Modalities/Learning Preferences: Visual- I will draw visual representations on the board and will have students do the same in their math notebooks. Students will also visually see fractions as part of a whole during "pizza math" Auditory- I will explain the concept and talk through what students are to do. Kinesthetic- students will move to be with their group	
Objective(s) By the end of the lesson, students will be able to identify fractions as parts of a whole and connect fractions to real world applications. Bloom's Taxonomy Cognitive Level: Application		Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.) <ul style="list-style-type: none"> - Students will sit in their desks or move closer to their group during pizza math - I will say eyes on me if needed to redirect attention 	
Classroom Management- (grouping(s), movement/transitions, etc.) <ul style="list-style-type: none"> - Students will sit in their desks or move closer to their group during pizza math - I will say eyes on me if needed to redirect attention 		<ul style="list-style-type: none"> - Students will follow along and listen to directions - Students will respect the teacher and their classmates - Students voices will be at zero during instruction - Students will participate in the group activity 	
Minutes	Procedures		
2 minutes	Set-up/Prep: <ul style="list-style-type: none"> • Students will need their interactive math notebooks, a pencil, a ruler, and colors, colored pencils, or markers • Get YouTube video ready 		
4 minutes	Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.) <ul style="list-style-type: none"> • "Think of a few ways fractions are used outside of math class in our everyday lives" • Have a few students share out their ideas to the class • Ideas could include when baking or cooking, when cutting a pizza, when measuring <p>https://www.youtube.com/watch?v=1ke4FQlo9sA (0:14-0:46)</p>		
10 minutes	Explain: (concepts, procedures, vocabulary, etc.) <ul style="list-style-type: none"> • "Today we are going learn about fractions and discover that they are parts of one whole" • "A fraction is a part of something" • Write n/d on the board and ask students what the n and d stand for <ul style="list-style-type: none"> ○ Tell students the North Dakota correlation to help them remember ○ Ask what a numerator is (the top number, how many parts we have) ○ Ask what a denominator is (the bottom number, how many parts the whole is divided into) 		

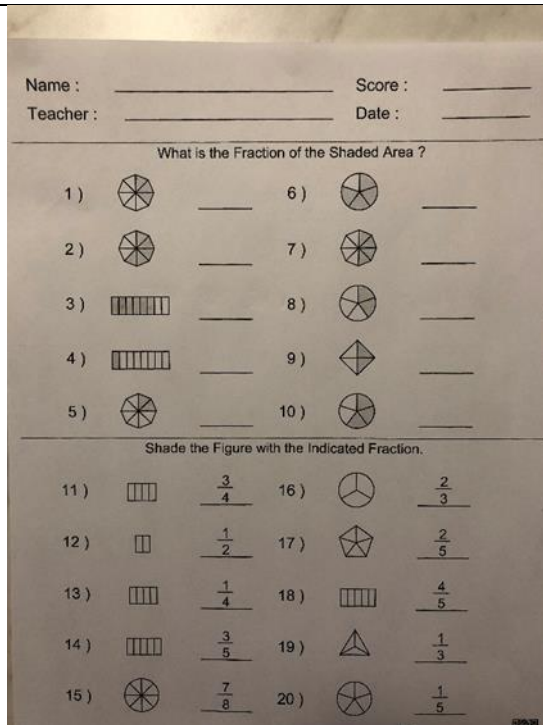
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	<ul style="list-style-type: none"> • “Each part of a whole must be the same size” <ul style="list-style-type: none"> ○ “How would you like it you shared a cookie with your brother or sister, but his or her part was bigger than yours?” • “Also, we can only compare fractions when we are referring to the same whole.” <ul style="list-style-type: none"> ○ Visually show that $\frac{2}{8}$ of a regular size pie is not the same as $\frac{2}{8}$ of a mini pie • “Now we will do some practice visually representing fraction as part of a whole” <ul style="list-style-type: none"> ○ Visually represent $\frac{3}{8}$ on the board ○ I ate $\frac{3}{8}$ of the pizza ○ The pizza is divided into how many equal pieces? ○ How many pieces of pizza did I eat? ○ Visually represent $\frac{1}{4}$ on the board ○ I ate $\frac{1}{4}$ of a Hershey’s chocolate bar ○ How many equal pieces is the chocolate bar divided into? ○ How many pieces of chocolate did I eat? ○ Have students show me in their interactive math notebooks that they ate $\frac{1}{2}$ of an apple ○ Have students show me in their interactive math notebooks that they ate $\frac{2}{8}$ of a pie
<p style="text-align: center;">10 minutes</p>	<p>Explore: (independent, concrete practice/application with relevant learning task -connections from content to real-life experiences, reflective questions- probing or clarifying questions)</p> <ul style="list-style-type: none"> • “Now we are going to do some pizza math” <ul style="list-style-type: none"> ○ Put students into group of 2 or 3 ○ Have each group grab 3 paper plates, 3 rulers, a sharpie, and get out a red crayon • “We will go through this together so don’t go ahead.” • “Each person in your group should do one plate” <ul style="list-style-type: none"> ○ “First mark the center of each of your plates with a pencil dot” ○ “Using the ruler, draw a straight line through the dot from one edge to the other” ○ “We now have two equal parts, each of the parts is what fraction of the whole?” ○ “On one of the plates only, write $\frac{1}{2}$ in each of the parts and shade in one part or $\frac{1}{2}$ of the plate with red crayon” ○ “On another plate, draw a second line from one edge to the other through the center dot, so it is divided into 4 equal parts” ○ “Each of the parts is what fraction of the whole?” ○ “Write $\frac{1}{4}$ in each of the parts and shade in one part or $\frac{1}{4}$ of the plate with red crayon” ○ “For the last plate, draw a second line from one edge to the other through the center dot, just like the last one” ○ “Next, draw two more lines through the center, dividing your plate into 8 equal parts” ○ “Each of the parts is what fraction of the whole?” ○ “Write $\frac{1}{8}$ in each of the parts and shade in one part of $\frac{1}{8}$ of the plate with red crayon” • “Look at all 3 of your plates” <ul style="list-style-type: none"> ○ “Pretend that each red section is a slice of pizza” ○ “Which slice is the largest ○ “Which slice is the smallest?” ○ Compare with symbols on the board
<p style="text-align: center;">10 minutes</p>	<p>Review (wrap up and transition to next activity):</p> <ul style="list-style-type: none"> • Have students complete a fraction worksheet to practice identifying fractions of a whole. <ul style="list-style-type: none"> ○ Walk the students through one question from each section on the worksheet ○ Allow students to finish completing the worksheet independently ○ Students will hand in the worksheet when done

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Formative Assessment: (linked to objectives, during learning)

- Progress monitoring throughout lesson (how can you document your student's learning?)

Students are showing visual representations of fractions as part of a whole in their interactive math notebooks and during pizza math

Summative Assessment (linked back to objectives, END of learning)

Students will independently complete a fraction worksheet identifying parts of a whole.

Reflection (What went well? What did the students learn? How do you know? What changes would you make?):

This lesson was an introduction to fractions for the students. Even though it was an introductory lesson for the fraction unit, the students were already quite familiar with fractions as they are fourth graders. The lesson went as planned and turned out to be a good lesson, but there are a couple changes I would make to improve the lesson. I really like how I engaged the students for the lesson by connecting fractions to real life, especially since it was an introductory lesson. The students were able to think of many ways how fractions are used outside of math class in our every day lives. I'm not sure if it was worth showing the very short video clip, but I liked how it showed how fractions are used in sports which is something most of us wouldn't think of. The students knew what the numerator and denominator of a fractions was, but I reviewed and explained the North Dakota correlation that I learned in math methods to help them remember. I had the students visually represent the pizza and Hershey's chocolate bar fractions in their interactive math notebooks. Since I could see that the students understood fractions quite well, I asked them if they felt like they needed some more practice and they didn't so I skipped over the next two fractions. It is important when teaching your lessons to gauge where your students are at as you continue your lesson. The pizza math was a great activity to do, but next time I wouldn't put students into groups. I thought it would work good to put students into groups and have each student in the group do one of the fractions, but I didn't exactly like how it worked out. Since I couldn't go through what to do with the $1/2$, $1/4$, and $1/8$ pizza fractions all at once, I felt like I lost some of the students since each student only did one of the fractions instead of all three. It ended up working out okay having students in groups for the activity, but I would have each student do all three of the fractions next time, so everyone is with me at the same time. However, the pizza fractions activity was a great way for students to visually compare the fractions $1/2$, $1/4$, and $1/8$. I wrote each fraction pair on the board and had students tell if it was greater or less than. I used the greater than or less than symbol to compare the fractions. The students were able to compare the fractions easily by looking at the pizza math visual representations they created. I felt like the fraction worksheet served as a good summative assessment to the lesson and helped students understand fractions as part of a whole. It was a simple lesson on fractions, but I based my lesson off of the fraction worksheet that my practicum teacher gave me to use. I asked my teacher if she thought it was too simple for the fourth graders, but she said it is good to start simple and see what students remember before you advance because fractions can be one of the more difficult math topics to teach to students.

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