THOMPSON RIVERS UNIVERSITY | Education & Social Work

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

Lesson Title: Pizza Fractions Lesson # 3 Date: Feb 2 2023

Name: Diara Hindle Subject: Math Grade(s): 3

Rationale:

In lesson 3 of our unit on fractions, we focus again on fractions in an accessible and relatable topic for students: PIZZA! After making and manipulating large pizza manipulatives last lesson, this time we will do some independent work, looking at pictures of pizza, and forming fractions using guiding questions provided. This activity encourages students to bring a mathematical mindset with them to all things, while fostering proper notation and keen observational skills.

Core Competencies:

Communication	Thinking	Personal & Social
● Acquiring and presenting information ○ Students must gather information from the pictures provided, and change the format of the information to fit our mathematical contexts. This adaptability and comfortability in communicating with numbers is important for mathematical fluency	● Questioning and investigating ○ When provided with a particular set of information, be it orally, visually, textually, etc, students must make meaning from that information, asking questions and exploring what they know to further their understanding and reframe their knowledge.	

Big Ideas (Understand)

Fractions are a type of number that can represent quantities.

Learning Standards

(DO)	(KNOW)
Learning Standards - Curricular Competencies	Learning Standards - Content
● Model mathematics in contextualized experiences ● Represent mathematical ideas in concrete, pictorial, and symbolic forms	● Fraction Concepts o Fraction parts are equal shares or equal-sized portions of a whole or unit.

	o Provide opportunities to explore and create fractions with concrete materials.

Instructional Objectives & Assessment

Instructional Objectives (students will be able to…)	Assessment
● Students will be able to use manipulatives to represent fractions ● Students will be able to extract mathematical data from a visual representation	● Pizza fractions worksheet will be collected at the end of class, giving the teacher an idea of how the student understands fraction notation as well as how well they understand the pictorial representations of fractions.

Prerequisite Concepts and Skills:

Students must have a basic understanding of fraction notation (ie how to write fractions)
Students must have a foundational understanding of "parts of a whole"

Indigenous Connections/ First Peoples Principles of Learning:

Learning is holistic, reflexive, reflective, experiential, and relational (focused on connectedness, on reciprocal relationships, and a sense of place)

- Learning is experiential… It is important to have hands-on and in the moment experiences that cement learning for the student. Without these concrete examples, the learning happens in a strictly conceptual space, and is not a valuable experience for the student.

Universal Design for Learning (UDL):

Support can be offered for students that require assistance in determining what numbers go where in a fraction. Scaffolding or cheat sheets could be provided to help, as well as discussion and collaboration.

Differentiate Instruction (DI):

Adapted versions of the worksheet, perhaps filled out with examples, can be provided to students who require additional support.
Larger physical manipulatives that match the worksheet can be provided for students who benefit from a more hands on learning experience.

Materials and Resources

Youtube

- Jack Hartman - Fractions are parts of a whole
  https://www.youtube.com/watch?v=6YGqtK6BN_Y
- Koo Koo Kanga Roo - All I Eat is Pizza (dance-along)
  https://www.youtube.com/watch?v=Hl5dRW4E9hc

Pizza Fractions manipulatives (preprinted and cut out from previous class)
Pizza fractions worksheets (Full class set)
Pencils to complete worksheet

Coloring utensils for students who finish early and want to color their pizzas Predetermined reward system (such as desk pets)

Lesson Activities:

Teacher Activities	Student Activities	Time
Introduction (anticipatory set – "HOOK"): Teacher plays Jack Hartman video "Fractions are parts of a whole" as a review of what has been covered in previous lessons	Students watch the video, with options to get out of their desk and dance along as a brain break	5 min
Body: Teacher brings out manipulatives from previous lesson (large cut pizza cut outs) and allows students to interact with them for review	Students play with the pizza manipulatives, discussing how many pieces there are in each pizza, how many pieces have a particular topping etc.	10 mins
Teacher provides a new worksheet, essentially guiding students to make these same observations independently and using proper notation. First, Teacher goes over the first question of each section with the students as a class, ensuring they understand how the fraction will be formed, and completing one question as a group. **While students complete worksheet, teacher circulates to help, and collects larger pizza manipulatives**	Students participate in class discussion and work collectively to solve the first question.	5 mins
	Students complete new worksheet, filling out required fields using pictures provided **Students who finish early have the option to color their worksheets**	15 mins
Closure: Teacher collects worksheets, ensuring students have put their name on them	Students turn in their worksheets, making sure to put their name on them	3 mins
Teacher puts on "All I Eat is Pizza" dance-along video to get kids up and out of their seats before moving on	Students dance along to the video	5 mins

Organizational Strategies:

Students will be seated at their own desk or table space, and provided the quiet environment in which to work independently on this project.
Students who are behaving exceptionally well may be rewarded with pre-established classroom rewards (such as a desk pet)
A brain break is provided at the beginning and the end of the lesson to allow students to get the wiggles out and to help them focus their energy on their work.

Proactive, Positive Classroom Learning Environment Strategies:

Students who are behaving exceptionally well may be rewarded with pre-established classroom rewards (such as a desk pet)
A classroom helper may be chosen (or preselected by classroom culture or routine) to help hand out and collect materials

Extensions:

This is just one lesson in a series. The series of lessons on fractions will continue, though it may not be as pizza-centric in future iterations.
These pizza themed manipulatives can be used in future lessons to remind students of the concepts we have covered.

Reflections (if necessary, continue on separate sheet):