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**LEARNING AND ASSESSMENT FRAMEWORK ZONE 4
INTRODUCING TARGETED INTERVENTIONS**

LIST OF TARGETED INTERVENTIONS

IDENTIFYING FRACTIONS

SHARING PIZZAS

FRACTION ACTION

CONTINUOUS QUANTITIES

EXPLORING HALVING STRATEGIES

EXPLORING THIRDING STRATEGIES

NAMING FRACTIONS

A RECIPE FOR FRUIT SALAD

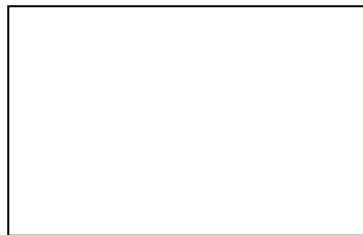
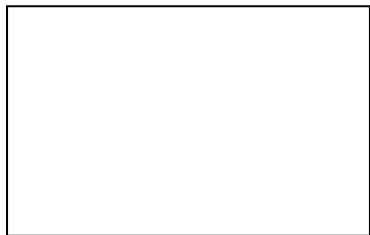
IDENTIFYING FRACTIONS

Specific Teaching Focus:

To introduce **partitioning continuous quantities** by developing the halving, thirding, fifthing strategies, and establishing how to use this knowledge to construct fraction diagrams and representations for common fractions and decimals.

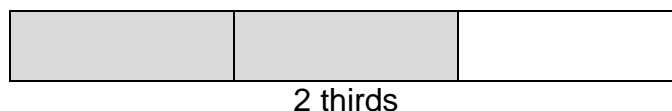
Materials/Resources Required:

- Worksheet with approximately 10 rectangle templates (see below)



How to Implement:

1. Ask students to suggest some names for fractions and record these on the board in words. Eg. 2 thirds.
2. Discuss the thirding strategy with students. Eg. think 1 third is smaller than 1 half. Draw a rectangle on the board and ask if anyone can partition to show 2 thirds.
3. Invite a student to demonstrate partitioning the rectangle.
4. Repeat for fifths using the fifthing strategy.
5. Using the worksheet mentioned above, the teacher suggests a number of different fractions for the students to partition on their rectangles and write the fraction in words underneath (see below).



Encourage students to use the oral language associated with naming fractions and to articulate strategies used when partitioning.

SHARING PIZZAS

Specific Teaching Focus:

To introduce **partitioning continuous quantities** through using the halving, thirding, fifthing strategies, and how to use this knowledge to construct fraction diagrams and representations for common fractions and decimals.

Materials/Resources Required:

- Paper circles
- Scissors
- Play dough
- Icy pole sticks
- Rolling pins

How to Implement:

1. Have students work in groups of four. With paper circles representing pizzas ask students to show how they would share one pizza with their group (play dough, icy pole sticks, rolling pins can also be used to model these situations). Encourage students to describe their thinking to create equal shares and to name the share eg, each person gets 1 quarter of the pizza.
2. Ask students to show how they would share two pizzas with their group.
3. Repeat for three, four and five pizzas.

FRACTION ACTION

Specific Teaching Focus:

To introduce **partitioning continuous quantities** through using the halving, thirding, fifthing strategies, and how to use this knowledge to construct fraction diagrams and representations for common fractions and decimals.

Materials/Resources Required:

- Lengths of rope about 2-3 metres
- Sets of 6-8 different coloured plastic pegs
- Cards labeled with various simple common fractions as appropriate (Eg. $1\frac{1}{2}$, $\frac{3}{4}$, etc)

How to Implement:

The ideas underpinning this targeted intervention are the number of parts (how many), equal parts (how much) to create the whole.

1. Stretch out a length of rope (held between two students) and ask a couple of students to place a peg where they think half is (the halfway point of the rope).
2. Other students should indicate which peg they think is closest to representing half and suggest ways of checking eg, students suggest that the tape needs to be folded into half in order to check accuracy.

Follow up suggestions:

- Once students have experienced thirding and fifthing via paper folding, this activity can be repeated for thirding and fifthing strategies.
- Students place cards along a rope labeled 0 to 2. Eg. $\frac{2}{3}$, $1\frac{1}{2}$, $\frac{3}{4}$, $\frac{5}{5}$, and $1\frac{2}{5}$.

CONTINUOUS QUANTITIES

Specific Teaching Focus:

To introduce **partitioning continuous quantities** through using the halving, thirding, fifthing strategies.

Materials/Resources Required:

- Rope
- Coloured clothes pegs

How to Implement:

1. The rope can represent a range of whole numbers at various intervals on a number line, eg, 0 to 2, or 3 to 5, or 7 to 9 etc.
2. Ask students to place a different coloured peg at given intervals as appropriate, eg for the rope showing 3 to 5, first ask, what number would be placed at the half way point? Discuss result (four).
3. Ask students if the next peg is to be placed at $3\frac{1}{2}$, what strategies would you use? Discuss result (halving).
4. Repeat the above for $3\frac{1}{4}$, $4\frac{2}{3}$, $4\frac{2}{5}$ dealing with one fraction at a time. (Thirthing and fifthing).
5. As students engage with the activity, focus discussion on:
What are you thinking about, when deciding where to place the peg?
How do you know that your spot is about right?
How might you check?

EXPLORING HALVING STRATEGIES

Specific Teaching Focus:

To introduce **partitioning continuous quantities** through using the halving strategies.

Materials/Resources Required:

- Paper streamers

How to Implement:

1. Teacher provides each student with a streamer and says that the streamer is equal to 48.
2. Ask students to show half of their streamer and what that point represents, (ie: half of 48, 24).
3. What happens when we halve the streamer again? Discuss four parts, quarters and how this can be described, eg, quarter of 48 and 3 quarters of 48. share strategies and thinking for determining the value of these points, eg, think: 1 quarter of 48 is half of half of 48, so 12.

EXPLORING THIRTHING STRATEGIES

Specific Teaching Focus:

To introduce **partitioning continuous quantities** through using thirthing strategies to develop concept of fraction as operator idea.

Materials/Resources Required:

- Paper streamers
- Whiteboard
- Clothes peg and string

How to Implement:

1. Teacher provides each student with a streamer and says that the streamer is equal to 48.
2. Ask students to partition their streamer into three parts (thirds) and work with a partner or in small groups to discuss strategies for naming these points on the streamer. Share ideas with the larger working group. Eg. If I divide 48 by 3 that will tell me what 1 third of 48 is.
3. What happens when we halve the thirds? Have students work in a similar fashion as described above to discuss six parts, sixths and the numbers that would be represented at these points on the streamer. Eg. 8, 16, 24, 32, 40.

NAMING FRACTIONS

Specific Teaching Focus:

To introduce **partitioning continuous quantities** through using the halving, thirthing, fifthing strategies, and developing the knowledge of how to construct fraction diagrams and representations for common fractions and decimals.

Materials/Resources Required:

- Paper streamers
- Writing instruments

How to Implement:

1. Distribute paper streamers to students, ask them to write 0 at the left and 100% at the right of their streamer.
2. Without measuring formally, ask students to draw a mark in the middle of their streamer (can be folded) and to write the value of this spot.

Share the values students suggest and record these on the board to instigate discussion leading to the understanding that 50% or equivalent is appropriate.

Pose the following question to students: The streamer was divided in the middle – what other ways could we describe this? Record students' responses to show diverse ways of referring to these portions.

3. Without measuring formally, ask students to make a mark the mid point between 0 and 50% and 50% and 100% (can be folded) and record a value for each of these points. Discuss reasoning and language and recording for these points.
4. Ask students to construct a table reflecting their understanding of steps 1 to 3 of the activity. This could include the written word, common fraction, decimal fraction, and percentage notation together with a visual representation for each of these values (see below).

One half	$\frac{1}{2}$	$\frac{50}{100}$ or 0.50	50%
Three quarters	$\frac{3}{4}$	$\frac{75}{100}$ or 0.75	75%

A RECIPE FOR FRUIT SALAD

Specific Teaching Focus:

To introduce **simple proportion problems that introduce techniques for dealing with these situations** through finding for 1 and multiplying or dividing.

Materials/Resources Required:

- Create a chart displaying the recipe for fruit salad (see below)

A Recipe for Fruit Salad

For twelve people you need:

6 bananas.

12 oranges.

12 peaches.

24 strawberries.

600 mls of cream.

Chop fruit into bite sized pieces and place in a large bowl.

Serve with cream as desired.

How to Implement:

1. Open a discussion with students about catering and issues relating to adjusting recipes according to the number of people planned to be catered for. *“What do you the cook need to think about? What strategies can be used?”*
2. Show students the recipe for Fruit Salad. Pose the problem that they have 10 guests coming for dinner and dessert is to be fruit salad. How will they adjust the recipe? (Think adjust for 1 person then multiply by 10).
3. The fruit salad was such a success, that you decide that the class should make up the fruit salad recipe for a lunch time treat. If there are 25 students in the class what amounts of the ingredients should be purchased. (Think double that for ten and add half as much again)
4. Engage students in discussion relating to the strategies used to adjust the recipe down to 1 person through to increasing it to 25 people. Can students comment on how the quantities change and how they relate to each other, ie, for 1 person, the recipe is 1 twelfth, for 25 people, the recipe is double and half again of the quantities for 10 people.