Is mathematics useful in the kitchen?

Get curious

Analyzing

The teacher divides bread and fruits to show that a whole can be divided into parts.

Prepare a loaf of bread, fruits and a knife.
Ask your students the following questions and engage them in a discussion:
What exactly does it mean to divide something into equal halves?
What does it mean to quarter something?
After a short conversation with your students, take the bread in your hand,
cut the bread in half, lift one half up and say that this is ½ loaf of bread.
Then cut the half in half again, show the quarter and say that this is ¼ loaf of bread.
Next, cut the prepared fruits into pieces and demonstrate to your students the fractions of ½, ¼,
¾, 2/4, etc., encouraging them to take a guess each time.

Get going

Observing

Dividing geometric shapes into fractions.

Once your students understand the concept of fractions explained on real objects, you can use
more abstract forms of representation. Let it be geometric shapes.

Prepare diagrams for your students: draw two circles, a square and a rectangle on pieces of
cardboard. Divide the figures and then color:
- one half of a circle,
- one fourth of a square,
- one third of a rectangle,
- one sixth of a second circle;

Divide your students into teams. Each team receives one set of diagrams.

The students draw their own diagrams.

Next, give your students sheets of paper and crayons, and ask them to draw diagrams according to the patterns you provided them with. The students mark fractions in their diagrams according to the following instructions:
Color:
two halves of the first circle,
three quarters of the square,
two thirds of the rectangle,
four sixths of the second circle.
You can repeat the task by giving your students different instructions.

Students measure ingredients.

Place flour, a cup and a spoon on each group's table.
Ask your students the following questions:
How much is ½ cup of flour?
How much is ¾ cup of flour?
What is more: ½ or ¾?
What is more: ¼ or ½?

The students draw a measure on the cup and measure the appropriate amounts of flour to verify their answers.

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Students prepare salt dough.

Salt dough is not intended for consumption. It is a kind of modeling paste from which various shapes can be formed.
Distribute the remaining ingredients: salt and water. Ask your students to prepare the dough according to the instructions, using their tools to measure the ingredients.

Provide your students with a salt dough recipe:

- 1 cup of flour,
- ¾ cup of salt,
- ½ cup of water.

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Flour and salt should be mixed.

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Next, while adding water, the dough should be kneaded until a smooth consistency is obtained.

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Read the recipe out and write it down on the chalkboard. You can also print it out and distribute it among the teams.

Students create shapes from the dough.

Ask students to create shapes from the dough they have made e.g. a fruit.

Get practicing

Summary
What is the role of proportions in the kitchen?

Ask your students the following questions that summarize the lesson. If necessary, complete key information.
What determines whether the dough turns out well?
What should we keep in mind when making the dough?
How much is ¾ glass of flour?
What is more: ½ or ¼; ½ or ¾?

Ask your students to share their cooking experiences. Ask them whether they are familiar with any recipes that require precise measuring of ingredients.

OPTIONAL Observing
Make your shapes stronger by drying them.

Salt dough can be used to make a variety of teaching aids, such as geometric shapes or spatial shapes such as fruits, a birthday cake, etc., all of which can help you continue your teaching.
The dough can also be used to mold figurines for educational games.
The molded shapes can then be strengthened by drying:
leave them to dry in a sunny place for at least 2 days. If you want to speed up the process, bake the dough at a temperature of 50–75 degrees (for 45–60 minutes).