



PLANIT
TEACHERS

Introduction to Adaptive Homework: Unlocking Student Potential

Student Name: _____

Class: _____

Due Date: _____

Introduction to Adaptive Homework

Introduction:

Adaptive homework is an innovative approach to learning that tailors assignments to individual students' needs, abilities, and learning styles. This homework sheet focuses on **Maths - Fractions and Decimals**, specifically targeting the skill of dividing fractions, as per the British curriculum, for a 9-year-old student.

Learning Objectives:

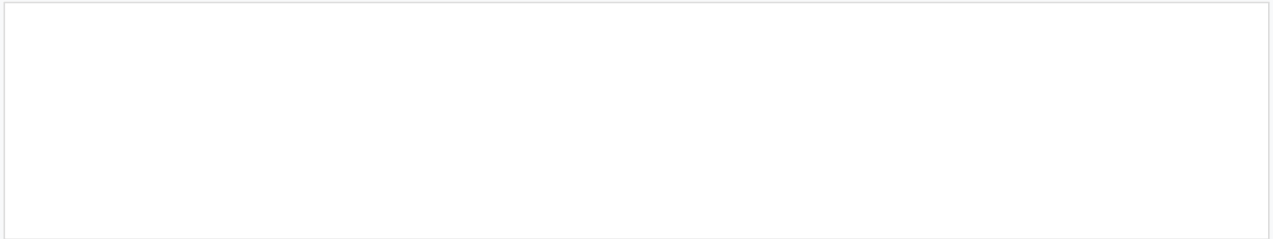
- Understand the concept of dividing fractions
- Apply the rule for dividing fractions (inverting the second fraction and multiplying)
- Solve problems involving division of fractions using real-world scenarios

Activity 1: Fraction Match

Match the following fractions to their equivalent decimal values:

- $\frac{1}{2}$
- $\frac{1}{4}$
- $\frac{3}{4}$
- $\frac{2}{3}$

Use visual aids like fraction walls or circles to support understanding.

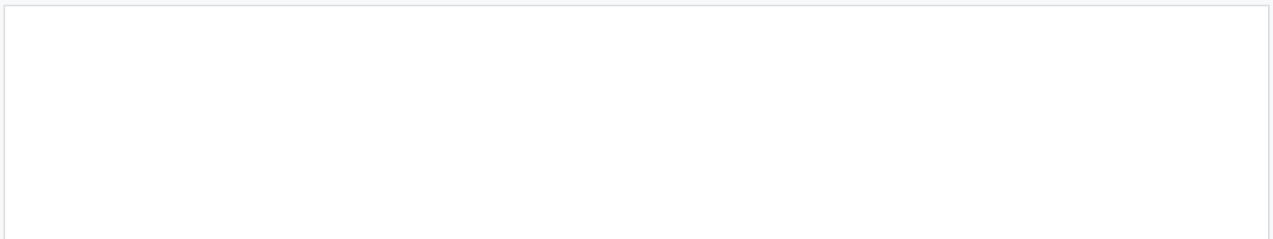


Activity 2: Invert and Multiply

Divide the following fractions using the invert and multiply rule:

- $\frac{1}{2} \div \frac{1}{4}$
- $\frac{3}{4} \div \frac{2}{3}$

Use visual aids like fraction strips or number lines to demonstrate the process.



Activity 3: Real-World Problems

Solve the following problems:

- A recipe calls for $\frac{1}{4}$ cup of sugar. If you want to make half the recipe, how much sugar will you need?
- A bookshelf has $\frac{3}{4}$ of its space filled with books. If you want to add $\frac{1}{2}$ of the remaining space with new books, what fraction of the bookshelf will be filled?

Encourage students to use visual aids and explain their reasoning.

For Visual Learners:

Provide diagrams and illustrations to support understanding of fraction concepts.

For Auditory Learners:

Offer audio explanations or video tutorials.

For Kinesthetic Learners:

Incorporate hands-on activities, such as using fraction blocks or playdough to demonstrate division.

Resources

Resources:

- Fraction walls or circles
- Fraction strips or number lines
- Whiteboard or paper for calculations
- Pencils, pens, or markers

Guidance for Parents or Guardians:

To support your child without doing the work for them:

- Encourage your child to read the instructions carefully and ask questions if needed
- Provide a quiet and comfortable workspace
- Offer guidance on using visual aids or resources
- Encourage your child to explain their reasoning and thought process

Reflection Section

Reflection Section:

After completing the assignment, take a few minutes to reflect on your learning:

- What did you find challenging or easy about dividing fractions?
- How did you use visual aids or resources to support your understanding?
- What would you like to learn more about in future lessons?

Multiple Choice Questions:

1. What is the result of $\frac{1}{2} \div \frac{1}{4}$?

- a) $\frac{1}{8}$
- b) $\frac{1}{2}$
- c) 2
- d) 4

2. What is the result of $\frac{3}{4} \div \frac{2}{3}$?

- a) $\frac{1}{2}$
- b) $\frac{3}{2}$
- c) $\frac{9}{8}$
- d) $\frac{2}{3}$

Short Answer Questions

Short Answer Questions:

1. A recipe calls for $\frac{1}{4}$ cup of sugar. If you want to make half the recipe, how much sugar will you need? Explain your reasoning.

2. A bookshelf has $\frac{3}{4}$ of its space filled with books. If you want to add $\frac{1}{2}$ of the remaining space with new books, what fraction of the bookshelf will be filled? Explain your reasoning.

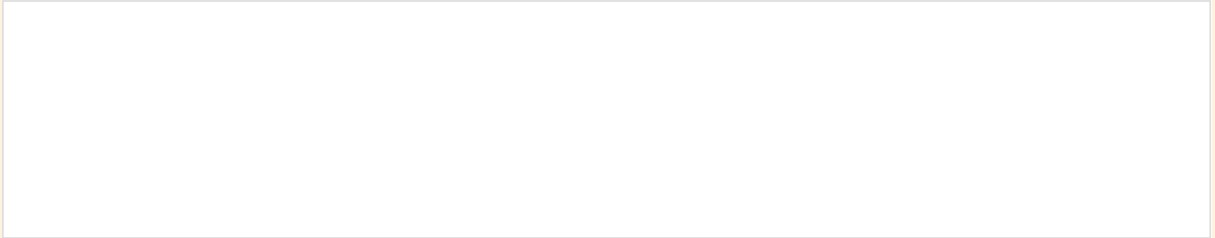
Word Problems:

1. Tom has $\frac{1}{2}$ of a pizza left over from last night. He wants to share it with his friend, who will eat $\frac{1}{4}$ of the pizza. What fraction of the pizza will Tom have left?

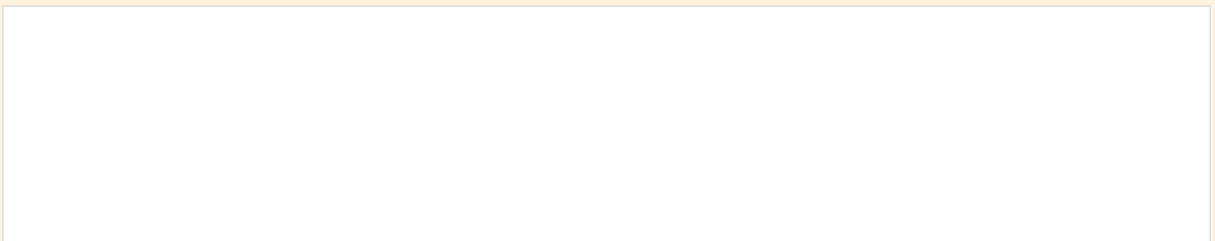
2. A group of friends want to share some candy. If they have $\frac{3}{4}$ of a bag of candy and each friend wants $\frac{1}{6}$ of the bag, how many friends can they share the candy with?

Visual Aid Activities:

1. Use a fraction wall or circle to show the equivalent decimal value of $\frac{2}{3}$.



2. Use fraction strips or number lines to demonstrate the division of $\frac{1}{2} \div \frac{1}{4}$.



Reflection and Feedback

Reflection and Feedback:

What did you learn about dividing fractions?

What challenges did you face, and how did you overcome them?

What would you like to learn more about in future lessons?