Introduction to Adaptive Homework: Maths - Fractions and Decimals

Student Name: _____

Class: _____

Due Date: _____

Introduction

Welcome to this adaptive homework assignment on Maths - Fractions and Decimals, tailored to the UK Primary School Curriculum. This assignment is designed to cater to the diverse needs of students, incorporating mixed ability differentiation to ensure that all students can access and benefit from the learning material.

Background Information: Maths - Fractions and Decimals

Fractions and decimals are fundamental concepts in mathematics that help students understand proportions, ratios, and percentages. At the age of 14, students are expected to have a solid grasp of these concepts, which will enable them to tackle more complex mathematical problems.

Learning Objectives

- **Foundation**: Simplify fractions and convert them to decimals.
- **Core**: Add, subtract, multiply, and divide fractions and decimals.
- **Extension**: Apply fractions and decimals to solve problems involving percentages, ratios, and proportions.

Adaptive Homework Assignment: "Fractional Power"

Task 1: Simplifying Fractions (Foundation)

Simplify the following fractions to their lowest terms:

1. 6/8
2. 12/16
3. 24/32

Task 2: Converting Fractions to Decimals (Core)

Convert the following fractions to decimals:

1. 1/2
2. 3/4
3. 2/5

Task 3: Applying Fractions and Decimals to Real-World Problems (Extension)

A company is offering a 25% discount on all products. If a product costs £120, how much will you pay after the discount? Use fractions and decimals to solve the problem.

Task 4: Creative Expression (Mixed Ability)

Create a visual representation (e.g., infographic, poster, or comic strip) that illustrates the concept of fractions and decimals in the context of power and corruption in Macbeth.

Guidance for Parents or Guardians

Encourage your child to work independently, but be available to provide support and guidance as needed.

Encourage your child to use visual aids, such as diagrams and charts, to help them understand the concepts.

Remind your child to check their work carefully and use estimation to verify their answers.

Reflection Section

What did you learn about fractions and decimals in this assignment?

How did you apply mathematical concepts to the creative project?

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

Note for the Teacher

This assignment incorporates mixed ability differentiation, with tasks tailored to foundation, core, and extension levels.

The creative project allows students to express their understanding of fractions and decimals in a unique and engaging way, while also exploring the themes of power and corruption in Macbeth.

Additional Practice Questions

Simplify the following fractions to their lowest terms:

1. 9/12
2. 15/20
3. 30/40

Convert the following fractions to decimals:

1. 2/3
2. 3/5
3. 1/6

More Additional Practice Questions

Apply fractions and decimals to solve the following real-world problems:

1. A bakery is selling a cake for £15. If a customer buys 3/4 of the cake, how much will they pay?
2. A car is traveling at a speed of 60 km/h. If it travels for 2/3 of an hour, how far will it travel?

Even More Additional Practice Questions

Simplify the following fractions to their lowest terms:

1. 12/18
2. 20/25
3. 36/48

Convert the following fractions to decimals:

1. 3/4
2. 2/5
3. 1/8

Final Additional Practice Questions

Apply fractions and decimals to solve the following real-world problems:

1. A company is offering a 10% discount on all products. If a product costs £100, how much will you pay after the discount?
2. A car is traveling at a speed of 70 km/h. If it travels for 3/4 of an hour, how far will it travel?