

Multiplication and Division: Juice

Aim: Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. I can solve scaling problems.	Success Criteria: I know that fractions represent parts of a whole. I can use fractions to scale quantities up and down.	Resources: Lesson Pack Squash, water, cups and bowls or jugs to mix juice in
	Key/New Words: Fraction, ratio, proportion.	Preparation: Differentiated Juice Activity Sheets - one per child Differentiated Fantastic Fractions! Cards - one set per pair Squash, cups, water and jugs or bowls - per table

Prior Learning: It will be helpful if the children have experienced scaling before and can find fractions of numbers.

Learning Sequence

	Fantastic Fractions! The children use differentiated Fantastic Fractions! Cards to practise finding fractions of numbers.	
	Proportion: Use the Lesson Presentation to explain how to work out the proportion of concentrate and water and express this as a fraction.	
	Calculating Juice Mixes: In pairs, the children use the proportions of concentrate and water to calculate the amounts of liquid needed to make juice.	
	Scaling Questions: Explain that once we know the proportion of concentrate to water that we like, we can scale the quantities up or down to make the desired amount of juice. Children answer the questions on the Lesson Presentation .	
	Scaling Answers: Use the explanations on the Lesson Presentation to discuss how to calculate the answers to the questions from the previous slide.	
	Juice: Children complete differentiated Juice Activity Sheets , solving scaling problems. <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Children experiment with making juice using different proportions of concentrate and water. They then scale their juice recipe up or down to make different quantities.</p> </div> <div style="text-align: center;"> <p>Children experiment with making juice using different proportions of concentrate and water. They then scale their juice recipe up or down to make different quantities.</p> </div> <div style="text-align: center;"> <p>Children experiment with making juice using different proportions of concentrate and water. They then scale their juice recipe up or down to make different quantities.</p> </div> </div>	
	Ratios: Introduce the link between ratio of concentrate to water and proportion of concentrate to water using the examples on the Lesson Presentation , in preparation for the introduction of ratio in year 6.	

Masterit

Listit: Children make a list of real-life examples where they may need to scale up or down using ratios.

Scaleit: Children bring in a favourite recipe from home (food or drink) and work out the ingredients they would need for 6 people, 10 people, 20 people and 50 people.