

Year 3 Maths No Problem lesson plans Chapter 11, Lesson 14 - 20, Pages 104 - 113, week beginning 01/06/20

Lesson 14: Finding Equivalent Fractions

Textbook pages: 151 – 153

Lesson Objective

To be able to find equivalent fractions using multiplication or division.

Lesson Approach

To begin this lesson, show pupils the In Focus task and allow them time to discuss the four sets of thinking. To help structure their learning, use pictorial representations as shown in Let's Learn. Ensure that pupils are able to communicate to you more than just whether or not the In Focus task was correct – they must also state why.

During Guided Practice, pupils are using multiplication and division to show equivalence and simplify fractions.

Lesson 15: Comparing Fractions

Textbook pages: 154 – 156

Lesson Objective

To be able to compare unit fractions.

Lesson Approach

To begin this lesson, provide pupils with a pieces of paper that have been cut into circles. Show pupils the In Focus task and ask if they are able to help solve this problem by looking at the picture and using the pieces of paper in front of them. They may cut, fold or write on the paper as they see fit. As the pupils are working, tell them that your friend said she can draw a bar model to show which fraction is bigger. Is this possible? What would it look like? Ask pupils to represent the fractions as paper folds as well as on a bar model. Work through Let's Learn to structure pupils' learning – it is important they are able to articulate, rather than just show you, the reasons behind their thinking.

During Guided Practice, pupils are shading diagrams to help them compare fractions: using terms such as 'greater' and 'smaller.' They are also using 'greater than' and 'less than' symbols to compare fractions. Help them to visualise which fraction is bigger by drawing the fractions using a bar model.

Lesson 16: Comparing Fractions

Textbook pages: 157 – 160

Lesson Objective

To be able to compare fractions with the same denominator.

Lesson Approach

To begin this lesson, show pupils the In Focus task. Ask them to read the problem and look at the diagram. Amira has 3 pieces and Sam has 5 pieces; who has more? Pupils will be able to easily see that Sam has more pieces. Ask them what the fraction is for Amira's 3 pieces and how they arrive at their answer. If necessary, guide pupils to the diagram and ask them how many pieces it has been divided into. So, 3 out of 8 pieces will be $\frac{3}{8}$. Then ask them what the fraction is for Sam's pieces. Who has more pieces? Does Sam still have more pieces than Amira?

Then represent the fractions using a bar model, as shown in Let's Learn 1. We can see that $\frac{5}{8}$ is more than $\frac{3}{8}$. Therefore, Sam gets more than Amira. Help pupils to see that when the denominators are the same, we only need to compare the numerators to see which fraction is greater.

For the next part of the task, ask pupils if there are other ways for Sam to get more pieces than Amira. What if Sam gets 7 pieces? What would the fraction be for Sam? What about Amira? Show pupils Let's Learn 3 and ask pupils what fractions are shown for Amira and Sam. Both get $\frac{4}{8}$, therefore they get the same amount. Ask pupils to write $\frac{4}{8}$ in its simplest form. $\frac{4}{8} = \frac{1}{2}$.

Lastly, show pupils Let's Learn 4 and ask them what fractions are shown for Amira and Sam. Amira gets $\frac{2}{8}$ and Sam gets $\frac{6}{8}$. Who gets more? $\frac{6}{8} > \frac{2}{8}$. Ask pupils to write these two fractions in their simplest form: $\frac{3}{4} > \frac{1}{4}$.

During Guided Practice, pupils are comparing fractions with the same denominators.

Lesson 17: Comparing Fractions

Textbook pages: 161 – 162

Lesson Objective

To be able to compare fractions with different denominators.

Lesson Approach

To begin this lesson, show pupils the In Focus task and ask them how they can compare fractions with different names. Is this possible? Tell pupils that your friend said she uses pictures to compare fractions that do not have the same name. Would this be helpful? Draw a bar model to show quarters, then another one to show fifths. Ask pupils how to shade the bar to show $\frac{2}{4}$ (shade 2 parts out of 4). What about $\frac{3}{5}$ (shade 3 parts out of 5)? By

comparing the sizes of the shaded parts in each bar, pupils will be able to see that $\frac{3}{4}$ is greater than $\frac{3}{5}$.

Ask pupils to compare $\frac{2}{3}$ and $\frac{2}{5}$ using the same method. Allow them time to draw the bars to make the comparison. Then ask them to place a number line under their bar models to represent the fractions in a different way.

During Guided Practice, pupils are comparing fractions with different denominators by shading the bar models. For Guided Practice 3, ask pupils to try drawing their own bar models to make the comparison.

Lesson 18: Adding Fractions

Textbook pages: 163 – 165

Lesson Objective

To be able to add fractions with the same denominator within 1 whole.

Lesson Approach

To begin this lesson, show pupils the In Focus task and discuss the problem with them. How many parts are the sweets in the box divided into? What fraction of the sweets did each child take? Can you show me by shading the fraction on the diagram? What is the problem asking us to find? What calculation do we need to do to find the fraction of sweets they took altogether? $\frac{1}{6} + \frac{3}{6} = \frac{4}{6}$. You could ask pupils to check their answer is correct by counting the number of shaded parts in the diagram.

Once pupils have added the fractions together, ask whether the fractions are in their simplest form. Are they able to find the simplest form of the fractions? Guide them to use the diagrams to show the simplest form.

Work through Let's Learn 2 and 3 using a bar model and number line to illustrate the concept of addition. Help pupils conclude that the concepts of addition for fractions and whole numbers are the same, i.e. putting together or counting on.

During Guided Practice pupils are adding fractions with the same denominator and checking they are in the simplest form.

Lesson 19: Subtracting Fractions

Textbook pages: 166 – 167

Lesson Objective

To be able to subtract fractions with the same denominators within 1 whole.

Lesson Approach

To begin this lesson, show pupils the In Focus task and ask them what fraction of cupcakes are in the picture; is it eighths or sevenths? How can we know? Allow pupils time to discuss the problem and find a solution. Ask them how many ways they can show you the answer,

i.e. with pictures, numbers or words. Can they show you on a number line? Guide pupils to conclude that the concepts for subtraction of fractions are the same as subtraction of whole numbers, i.e. taking away, crossing out or counting backwards.

Provide pupils with further examples, as in Let's Learn. Once they have solved the problem, ask whether the fraction that remains is in its simplest form. How do they know? Ask them to show you using pictures.

During Guided Practice, pupils are subtracting fractions with the same denominator within 1 whole.

Lesson 20: Subtracting Fractions

Textbook pages: 168 – 170

Lesson Objective

To be able to subtract a fraction from 1 whole.

Lesson Approach

To begin this lesson, show pupils the In Focus task and discuss the problem with them. Ask them how many pieces the pizza was divided into. Pupils can see from the picture that there are 4 pieces on the plate and Sam is holding 1 piece. Therefore, the pizza was divided into 5 pieces. We can write $1 = \frac{5}{5}$.

Ask pupils to write the fraction for the amount of pizza Sam ate. Ask them to think about the calculation and how they would show the solution. Structure the learning for this task by asking pupils to represent this problem and solution in as many ways as possible (pictures, fractions, words, number lines and so on). Pupils have to learn how to rewrite 1 as a fraction with different fractional parts to do the subtraction.

During Guided Practice, pupils are subtracting fractions from 1 whole by rewriting the 1 as a fraction.