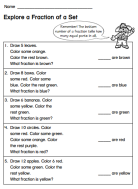
Maths Learning Design

Topic:	Fractions	**Class:**	Year 6	**Duration:**	4 to 6 periods
Subtopic :	Fraction of a set				
Content Learning Objectives:	Pupils should be able to: • Find fraction of a set				

Teaching & Learning Activities		Resources	Summary
Tuning in (Introduction) *Determine prior knowledge and prepare pupils*	1. Bring some toy fruits. Get pupils to identify the fruits in the basket. Write the names of fruits on whiteboard. Get pupils to count the quantity of fruits i.e. 2 pineapples, 3 durians. 2. Questions to ask: • How many pineapples are there in this basket? • How many fruits in the basket altogether? • I have ___ pineapples out of ___ fruits in this basket. Then, we relate the above answers to a fraction: $\frac{2}{5}$ 3. What fraction of her fruits are pineapples? 4. Have pupils to consider that the total number of fruits as a set. 5. Since 2 out of 5 fruits are pineapples, we write the fraction of pineapples as $\frac{2}{5}$. 6. Teacher informs that the set comprises of two types of fruits (durians and pineapples) and that each type is a part of the set. 7. Ask a question to the pupils: Do you know what fraction of t**he fruits are durian?**	• (Star Mathematics 6B Textbook Page 4) • Basket of toys fruits.	
Finding out & Sorting out (Lesson Development) *Time to locate, gather information, organise and process ideas.*	1. Get round chips and make one stack of 3 counters in red and the other 3 more stacks of 3 counters all in blue . 2. Ask the pupils to stack the counter according to the instruction. 3. Just by looking at the stacks, ask pupils what fraction of the set is red (1/4) and then what fraction of the set is blue (3/4). 4. Before we get the pupils to say the fractions, teacher to elicit responses from the pupils of the numbers of the red and blue counters they see. Then, write the fractions. 5. Pupils should be able to say "1/4 of the set is red", and "3/4 of the set is blue". 6. Unstack them and space out each stack in the columns. Have pupils to count the number of red and blue counters 7. Pupils should be able to count 3 red counters and 9 blue counters.	• Red and blue counters	Pupils should be able to identify set of coloured counters (in stacks) and make connections.

Finding out & Sorting out (Lesson Development) *Time to locate, gather information, organise and process ideas.*	8. Asks pupils what fraction of the set is red (3/12) and blue (9/12). 9. Pupils should be able to give the following answers: $\frac{3}{12}$ and $\frac{9}{12}$ 10. Pupils should be able to identify 3 out of 12 counters are red and 9 out of 12 counters are blue before they see $\frac{1}{4}$ of all counters are red. We make connections. We say 3 out of 12 counters are red. Then we ask what fraction of the counters is red? Pupils should have been taught equivalent fractions. Therefore, they can see that $\frac{1}{4}$ of the counters is red. 11. Which brings them to: $\frac{1}{4}$ of 12 counters is 3 counters. This way, pupils are able to make connections of what is fraction of a set. 12. Go through the story context with the pupils and get pupils to see what ½ of 12 means. 13. Pay attention to the idea of grouping especially the meaning behind the numerator and the denominator. 14. The denominator represents the total number of groups to be made from 12. The numerator represents the number of groups that you want and thus how many blocks are in these groups. 15. Ask questions to pupils; • How many groups are there in all? • How many groups do we want? 16. Write the mathematical sentence. Make use of the mathematical sentence to show how it can be computed mathematically.		Pupils should be able to identify set of coloured counters and make connections.
Making Conclusions *Draw conclusion and consolidate understanding*	1. Pupils develop a story context to develop conceptual understanding through the idea of groupings. 2. Worksheets for individual assessment should be scaffolding pupils to do questions pertaining to fraction of a set. i.e. Pictures of 10 apples. Put into groups of 2. There are __ groups of apples. Shade $\frac{2}{5}$ of the apples red. There are __ red apples. 3. Ask pupils to write the mathematical sentence as a conclusion	• 	
Go further (Enrichment) *Apply knowledge to develop further understanding*			

Evaluation *(with respect to the Content Learning Objectives)*

What worked well?	**What would make it even better next time?**