



Split Towers

Stage	Strand	Strand Unit
1	Number	Sets and Operations

Learning Outcomes	Maths Concepts
Through appropriately playful learning experiences, children should be able to recognise and understand what happens when quantities (sets) are partitioned and combined.	- Quantities (or sets) can be partitioned and combined. - Addition and subtraction have an inverse relationship.

kLearning Maths

In this learning experience, learners explore different ways of splitting a tower of ten cubes, to develop the skills of partitioning and combining. They make a tower of ten cubes before hiding the tower of cubes behind their back and snapping it in two. They show one part to their partner and leave the other part hidden. Learners then identify the number of cubes hidden, e.g. "You had 10 cubes, I can see 4, there are 6 behind your back." Learners then create a record of the ways they partitioned and combined the tower of ten cubes.



Understanding and Connecting	Communicating	Reasoning	Applying and Problem Solving
<i>The learner</i>			
Combines and partitions sets to make 10.	Models and represents their thinking concretely, pictorially and abstractly using symbols and equations.	Partitions sets into two or more subsets and recognises this does not affect the total.	Uses a range of strategies to add and subtract mentally to at least 10.



Teaching Maths			
Fostering Productive Disposition	Encouraging Playfulness with Mathematics		
Provide scaffolding, encouragement and support.	Introduce and reinforce mathematical language as it arises through play. Integrate mathematical learning with playful activities throughout the day using songs and rhymes, e.g. 1,2 Buckle my Shoe,5 Little Speckled Frogs,10 Green Bottles, 10 Fat Sausages etc.		
	<table><tr><th>Emphasising Mathematical Modeling</th></tr><tr><td>Encourage learners to record their solution pathways in a variety of ways (pictorially, orally, using concrete manipulatives etc.).</td></tr></table>	Emphasising Mathematical Modeling	Encourage learners to record their solution pathways in a variety of ways (pictorially, orally, using concrete manipulatives etc.).
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Using Cognitively Challenging Tasks	Promoting Maths Talk		
Modify the learning experience to appropriately stretch and deepen children’s understanding by increasing the number of cubes in the set (e.g. 20) or the number of partitions to three.	Encourage learners to creatively question each other to find out more about the strategies used to investigate and solve the problem. - Are there any other ways that it could have been done? - How do you know that you have found all the different ways?		
Assessing Maths			
- Does the learner use the addition and equals symbols with facility when writing the equation? - Does the learner demonstrate flexibility and creativity when combining and partitioning? - Can the learner use a variety of models to experiment and record?			
Source			
Adapted from: Break It Up https://nrich.maths.org/2284			