



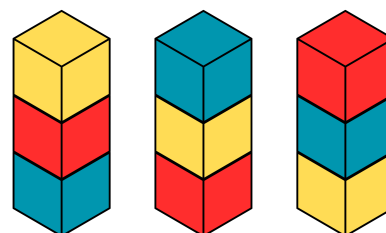
Three Block Towers

Stage	Strand	Strand Unit
1	Data and Chance	Data

Learning Outcomes	Maths Concepts
Through appropriately playful and engaging learning experiences, children should be able to explore, interpret and explain data in a variety of ways for a range of purposes.	Data can be collected and represented in many ways.

Learning Maths

During this experience, learners use three coloured cubes to make as many different towers as they can. Learners need to devise a system to organise their data. This will help them track the different towers created and discover all possible combinations of towers. Stretch and challenge learners by repeating the activity to create Four Block Towers, Five Block Towers etc.



Understanding and Connecting	Communicating	Reasoning	Applying and Problem Solving
<i>The learner</i>			
Takes time to think, interact and collaborate with peers, to ensure all possible towers have been made.	Represents the different towers made using concrete materials, paper, whiteboards or digital cameras.	Is logical and analytical in approaching the problem, to ensure all possible towers are made and recorded.	Compares ideas, strategies and approaches to solving the problem with their peers, to find the most efficient way of ensuring all towers are made and recorded.



Teaching Maths		
Fostering Productive Disposition	Encouraging Playfulness with Mathematics	
Give learners the opportunity to work collaboratively with their peers in mixed ability small groups. Encourage active participation and sustained effort.	Allow time for learners to explore various solutions freely before recording their thinking. They can use actual coloured cubes, or draw them, or imagine them.	
	<th>Emphasising Mathematical Modeling</th>	Emphasising Mathematical Modeling
	Allow freedom and autonomy for learners to develop and express their own models and solution pathways.	
Using Cognitively Challenging Tasks	Promoting Maths Talk	
Allow learners to grapple with ideas and tasks freely and to explore multiple correct solution pathways.	Promote maths talk using strategic, skilful, open and thoughtful questioning. • How can you be sure you have made all the possible towers? • What is the same/ different about your towers? • What do you notice about your towers?	
Assessing Maths		
• Learners photograph their towers and add this to their digital portfolios, with a voice note explaining their thinking. • Can learners explain the strategy they used to ensure all possible towers were created? • Did learners create a pictorial model to represent their data? Can they read their pictorial model?		
Source		
PDST Data and Chance Handbook page 30		