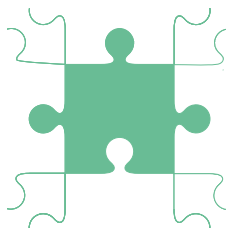


## Number: Sets and operations – Suggestions for teaching

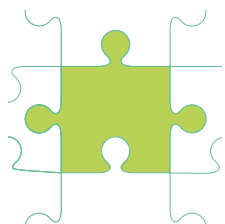
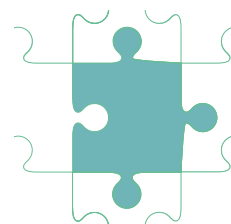


### FOSTERING PRODUCTIVE DISPOSITION

- Encourage collaborative investigations of sets and operations in everyday life, e.g., *project based on prime numbers*.
- Facilitate children to find patterns and make connections between the four operations.
- Engage children in meaningful self-assessment and reflection, e.g., *my favourite strategy to use when solving addition problems is rounding because...*

### ENCOURAGING PLAYFULNESS WITH MATHEMATICS

- Integrate learning in sets and operations with playful activities, e.g., *sort all the toys in the classroom into different sets*.
- Establish a space within the classroom for children to experiment with mathematical ideas, e.g., *set up an estimation station for children to predict and discuss the reasonableness of answers*.
- Challenge children to demonstrate their understanding through fun games and activities, e.g., *division trail around the school*.

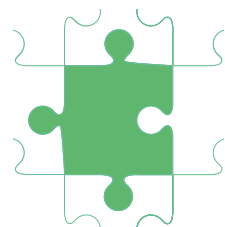
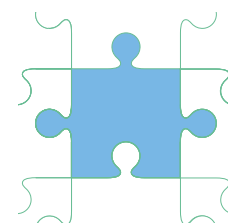


### USING COGNITIVELY CHALLENGING TASKS

- Allow children to explore open-ended problems which appropriately stretch and deepen their understanding.
- Promote a positive learning environment which values and encourages contributions from all children regarding their thoughts and ideas.
- Provide children with an element of choice within the lesson, e.g., *today we are working on addition. Select one task from a set of these three tasks*.

### EMPHASISING MATHEMATICAL MODELING

- Encourage multiple and alternative explanations of the four operations, e.g., *try to think of more than one way to describe  $3 \times 6$* .
- Ask questions to help children clarify their thinking and explain their models.
- Challenge children to test and refine their models around sets and operations, e.g., *would you make any changes? How could you make your model better?*



### PROMOTING MATHS TALK

- Provide opportunities for children to express, share and exchange their strategies, e.g., *I sorted my set by colour. Did anyone do it a different way?*
- Challenge children to revoice their peers' strategies across the four operations.
- Use a wide range of open-ended questions when discussing problems involving sets and operations, e.g., *have we found all the possibilities?*