

Sets and operations – Suggestions for teaching

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.*

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.*

EMPHASISING MATHEMATICAL MODELING

- Encourage multiple and alternative explanations of the four operations, e.g. *try to think of more than one way to describe 3×6*
- Ask questions to help children clarify their thinking and explain their models e.g. *how would you write these calculations using symbols?*
- 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? What have you discovered?*

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?*