

Developing Reasoning

At Killigrew, we believe that spoken language and mathematical reasoning is essential for our children to be confident and efficient mathematicians. Our curriculum aims to develop the children's ability to express themselves fluently, talk about a subject with assurance, and use the correct mathematical language and vocabulary when **reasoning**. Within all units of work, there are opportunities to sharpen fluency in varied contexts, see modelled and worked examples, explore exemplification of **mathematical talk** and **reasoning** and independent rehearsal and **problem solving**. We develop the children's reasoning skills through questioning and sentence starters.

Below are a range of question starters and sentence stems you could use at home with your child to aid mathematical talk and develop reasoning skills.

Question starters

- ◆ Why did you ...?
- ◆ Explain to me how you worked out your answer.
- ◆ Can you prove it?
- ◆ Could you have ...?
- ◆ Is this always, sometimes or never true?
- ◆ Can you explain this problem to me step by step?
- ◆ Can you spot the error within this calculation?
- ◆ Are there any patterns?
- ◆ What is the same/ different about ...?

Sentence starters

- ◇ It can't/can be ... because ...
- ◇ I noticed that ...
- ◇ If ... then ...
- ◇ This is true because ...
- ◇ If I already know ... then ...
- ◇ I think ... because ...
- ◇ This is always/sometimes/never true because ...
- ◇ I wonder if ...