

Holy Family Junior School



Helping your child with Patterns and Algebra



As you are aware, we have chosen to focus on pattern making and algebra as part of our school improvement plan for this year. Here are some ideas to help you to help your child develop a greater understanding of algebra. Please feel free to contact the school if you would like any additional help or if you have ideas that have worked well with your child. You are more than welcome to walk the corridor at school to see all the work that has been done on algebra. Details of useful websites will be in the newsletter and on our own website. Have fun!

What are Patterns and what is Algebra?

Patterns occur in many everyday situations. Algebra is one way in which to represent a pattern. To recognise a pattern, children need to have a clear understanding of what a pattern is. In Mathematics, the term pattern is talking about a repeating pattern. In the early years of Primary school, children will learn to recognise, make, describe and continue repeating patterns. They will need to recognise how many parts {or elements} make up a pattern. Initially these patterns may be created from shapes, objects or pictures before moving to number patterns. As children progress through the primary years they will learn to find missing, numbers in patterns and discover relationships between addition and subtraction. They will also describe patterns in words and be able to determine a rule to describe a pattern.

What can you do at home?

With young children:

- ✓ Have your child use beads, buttons or pegs to make a repeating pattern and tell you about the pattern. Patterns could be based on colour size, shape, or items (eg. peg, peg, spoon, peg, peg, spoon). Ask your child to describe the pattern and to tell you how many objects make up each pattern.



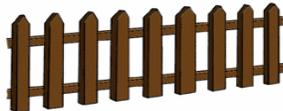
- ✓ Use the same materials placed randomly and ask your child to explain to you if it is a pattern.
- ✓ Discuss the numbers on houses in the street and ask your child to describe what is happening to the numbers as you walk along the street.
- ✓ Look at samples of wall paper and talk about the pattern. How many parts or elements make up the pattern? Where does the pattern start? How many lines? Is it repeated across the paper?



- ✓ Have your child make wrapping paper that has a repeating pattern stamped onto it.
- ✓ Play games involving body actions such as clapping and stamping your feet. Ask your child to repeat the pattern and then to make up a pattern for you to repeat.
- ✓ Ask your child to make as many different patterns as he or she can from three blue three white and three red pegs.
- ✓ Call out number patterns and then find the missing number - 2, 3, 4, __, 6, __, 8, 9, 10
- ✓ Call out number patterns and then find the missing number 10, 9, __, 7, 6, __, 4, __, 2, 1

With older children:

- Help your child create beaded jewellery with patterns.
- Landscaping and house designs will include elements of pattern. For example many fences or paved areas include a patterned arrangement. Ask your child to describe the pattern.



- ✓ Look for patterns in the numbers on a calendar. Why do these patterns occur?
- ✓ When driving for long distances in the car play number games to investigate patterns such as
 - *Guess my number* (x). For example: My number (x) is between 5 and 8. It is an odd number.
 - Count in twos, 5s, 10s etc.
- ✓ Talk about odd and even numbers
- ✓ There are patterns in number stories. Explore them with your child. e.g.
 - $0+5=5$
 - $1+4=5$
 - $2+3=5$
 - $3+2=5$
 - $4+1=5$
 - $5+0=5$
- ✓ From the pattern above we can also say that
 - $2+3=5$
 - $5=2+3$
 - $5=5$
 - $\square = 2+3$
 - $2+3=\square$
 - $5=\square+3$

