




Topic: Patterns and algebra

Exploring patterns in the environment 3

Lesson concepts

-  **Patterns** — Pattern/non pattern
-  **Patterns** — Continuing patterns
-  **Patterns** — Describing patterns

Today students will:

- ▶ identify patterns in the environment
- ▶ create sensory patterns.

Resources

Find and prepare

Sheet — Guided Inquiry poster
blindfold
food items (to smell, taste and touch)
objects and surfaces that have textured patterns
(for example: brick wall, tiled surface)

Key terms

pattern, same, describe, copy,
non-pattern, same, different,
arrangement, inquiry, question,
continue, create

For definitions and explanations
of terms, please see the [Glossary](#).

Lesson

Introduce the lesson

Say to students

- ‘ In the last two lessons, you have explored sound, movement and visual patterns in your environment. Today, you will work towards answering the Mathematical Guided Inquiry (MGI) question **‘How can you show a pattern?’** ’

Note

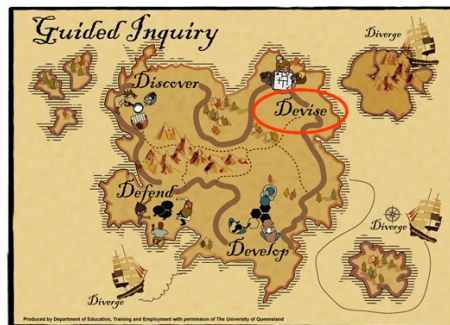
This is the ‘Devise’ phase of the MGI in which students:

- plan how they will collect evidence that will help the decide on an answer to the MGI question
- plan how they will record or remember what they found out.

Discuss how you might feel patterns



Display the **Sheet** — [Guided Inquiry poster](#) and remind students that a Mathematical Guided Inquiry is a journey (trace the journey so far on the poster) that students are taking. Point out that students have been through the ‘Discover’ phase, and that they will now enter the next ‘Devise’ phase (point to the word ‘Devise’ on the poster).



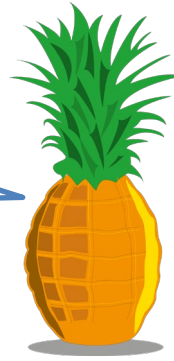
Explain to students that at this phase of the MGI they are going to:

- plan how they will collect evidence that will help them decide on their answer to the question **‘How can you show a pattern?’**
- plan how they will record or remember what they found out.

Focus questions

- Q: *How are you going to work out if there is a pattern?*
- Q: *What might you notice to answer this question?*
- Q: *What pattern is used here?*
- Q: *What other pattern could be used here? Why do you think that?*

Can you feel or see a pattern here?



Develop sensory knowledge and language to describe patterns

Provide students with materials and environments to explore simple patterns with each of the senses through activities such as those following. For each sense activity, allow students time to explore and describe simple patterns.

For example for the sense of:

- touch: rough, smooth, rough, smooth
- taste: salty, sweet, salty, sweet
- hearing: loud, soft, loud, soft
- smell: fruity, floral, fruity, floral
- sight: blue, red, blue, red

I can use words such as:
touch, taste, smell, hear and see
 rough, smooth, bumpy, sharp, round,
 curved, pointy, hot, cold, salty, sweet,
 bitter, sour, creamy, spicy, fast, slow,
 high, low, sharp, loud, soft, colour,
 shape, arrangement, position, size

Note

For each activity, consider:

- different senses providing different types of information
- which organs are used (that is, ears, eyes, nose, tongue, fingers)
- the words that can be used
- how an object can be described using different senses
- how using more than one sense can give richer information.

Activity 1: What can I smell/hear/see?

Students complete a 'sensory trail' by walking around the backyard environment and recalling their experiences (for example: '*Outside, I smelled ...*', '*Outside, I heard ...*').

Students describe simple patterns using some of their observations (for example, bird call, car horn, bird call, car horn).

Activity 2: I am thinking of ...

Provide a sound, sight, smell, taste and touch description for an object that students then identify (for example: for a wooden ruler: it feels hard, looks long and thin, it smells like wood and makes a tapping sound when it is dropped onto the table). If students are unable to identify the object, more sensory clues may be given.

Activity 3: Taste test

Students wear a blindfold and then identify food items by feeling, smelling and tasting. Then they look to check if they were right. (Students may also listen to eating sounds such as crunching and drinking sounds such as sipping).

Activity 4: Locate, copy and create sound patterns

Students identify, copy and create sound patterns when:

- exploring the environment, songs, stories and rhymes
- creating and playing instruments
- identifying routines and procedures such as fire drills, play bells, timers sounding, and car reversing sounds.



Activity 5: Touch, say, look

Blindfold a student.

Lead them to an object or surface that has a textured pattern.

Ask the students to:

- touch or feel the surface of the object
- describe the pattern
- take off the blindfold and describe the object.

Note

Provide students with opportunities to:

- explore the multi-sensory nature of real-life patterns
- identify routines and procedures, such as bells or timers sounding, morning routines and the like.