

Designs on life

Related outcomes

- S 3.1: A student recognises, visualises, describes, makes and represents three-dimensional objects.
- S 3.3: A student describes, constructs and interprets patterns and tessellations.
- VA 3: A student shows an interest in and enjoyment of the pursuit of mathematical knowledge.
- VA 6: A student appreciates the importance of visualisation when solving problems.
- VA 9: A student uses mathematics creatively in expressing new ideas and discoveries.

Possible indicators

- A student can:
- create line designs and patterns
 - describe and continue patterns
 - represent three-dimensional objects in drawings.

Syllabus links

- Space 2D 19, 20
3D 11, 13

Teaching activity

1. Students collect photographs of living things and natural objects from their environment which contain patterns of lines, such as spider webs, zebras, bark, snail shells, and fish. This could also include spiral designs on cones and pineapples, and the hexagonal design of snowflake crystals. Cross-sections could also be made from horizontal slices through an apple producing a pentagonal design. Alternatively, students could visit a site, such as a park or nature reserve, and observe living things and objects.
2. Students sketch these patterns and create artworks incorporating these designs.
3. Students present their artworks with an accompanying description of the patterns which identify horizontal and vertical lines, spirals, pentagonal and hexagonal cross-sections, as well as the different types of angles present.

Language

lines, curves, horizontal, vertical, diagonal, wavy, spiral, sloping

Equipment

photographs, magazine pictures