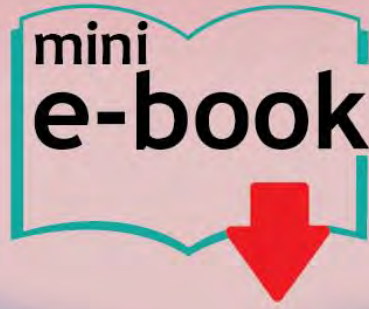


Maths

Symmetry



For Middle Primary



Contents

Symmetry In Nature (Information Page)	Page 3
Identifying Nature	Page 4
Symmetry In The Natural And Built World	Page 5
Symmetry In Central Australian Art	Page 6
Indigenous Art Symbols (Student Handout)	Page 7
Symmetry In Asian Art	Page 8
Answers	Page 9

Preview

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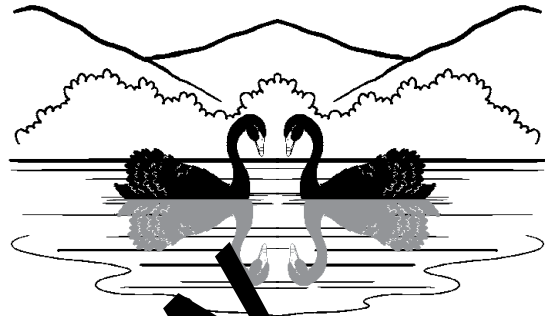
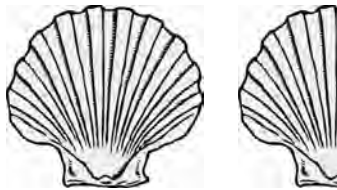
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Symmetry In Nature

Nature loves symmetry! Plants and animals, the planets and even people, are beautiful examples of how a design can be repeated to produce a pattern. There are three types of symmetry: reflection, rotational and translation. Look at the examples below.

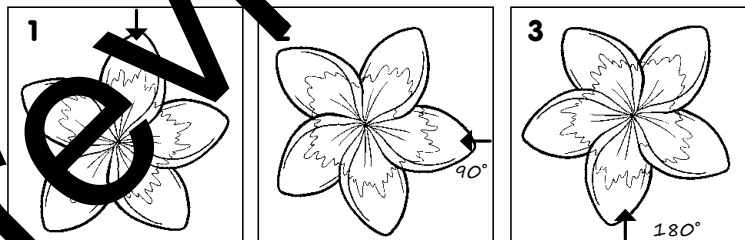
Reflection Symmetry

In reflection symmetry, you can draw a line of symmetry to divide the object in half. When you fold the image, both halves match. Look at the examples.



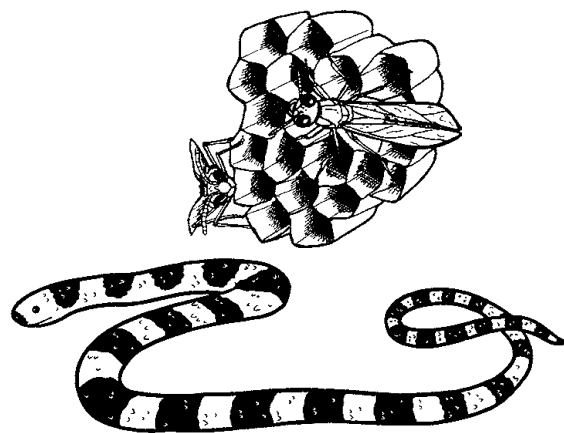
Rotational Symmetry

An object with rotational symmetry will look the same after it has been rotated. Observe how the frangipani in image 1 looks, after rotating it 90° (image 2) and then another 90° (image 3).



Translation Symmetry

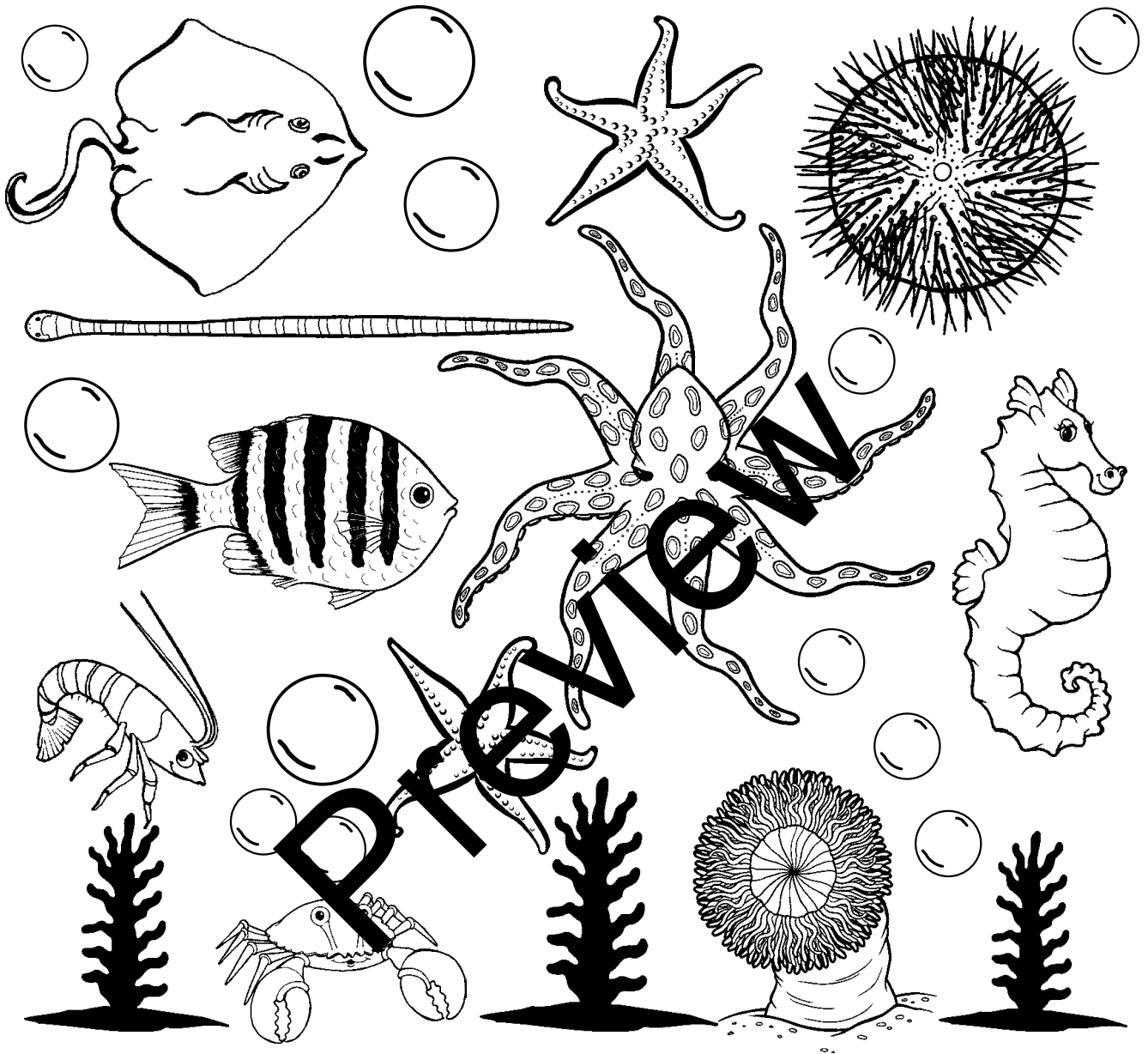
Translation symmetry (or strip symmetry) is achieved by moving a design a certain distance to the left and right from the original. You can see the striking effects of translation symmetry in the pattern of this honeycomb and banded snake.



Think of an example of symmetry in the natural world. Draw your example on the back of this sheet. Label the type of symmetry it shows. Discuss your image with a peer.

Identifying Symmetry

The ocean is awash with examples of symmetry. Can you find different kinds of symmetry in this image of the marine world? After you have filled in the table below with your examples, bring nature's symmetry to life with colour.



REFLECTION	
ROTATIONAL	
TRANSLATION	

Symmetry In The Natural And Built World

1

Indigenous artists often apply symmetry in their artworks to show the process of creation.

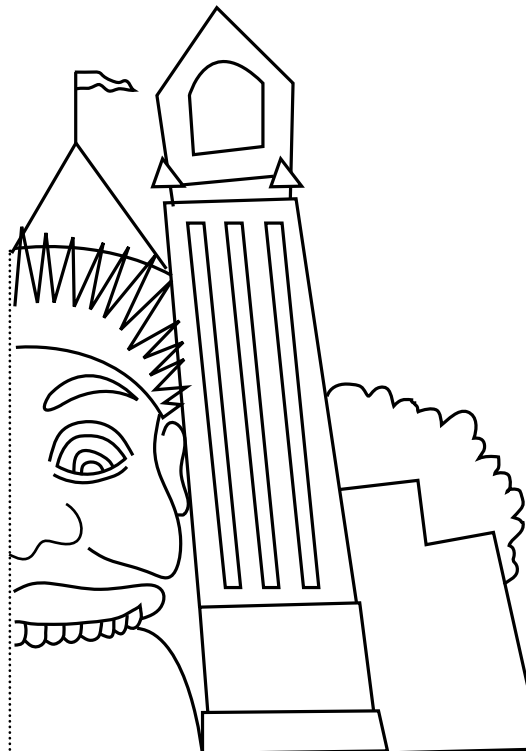
Complete the right side of this frog so that it is symmetrical.



2

The symmetry of different shapes adds strength and character to the Luna Park entrance in Sydney, and many other constructions.

Complete the left side of the Luna Park entrance.



Symmetry In Central Australian Art

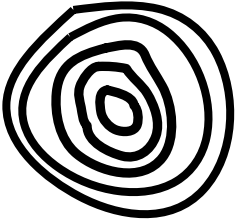
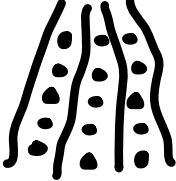





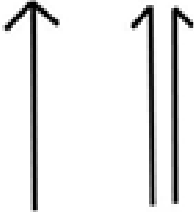
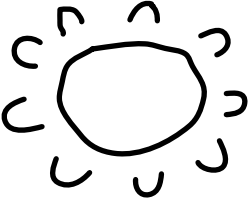


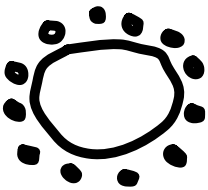
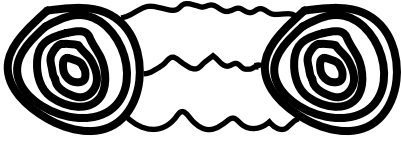
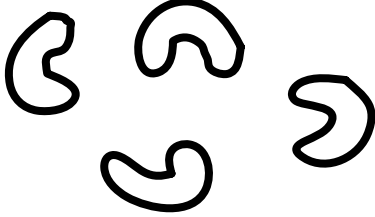
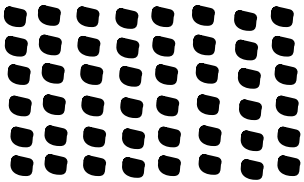
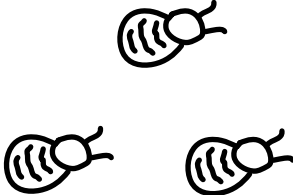
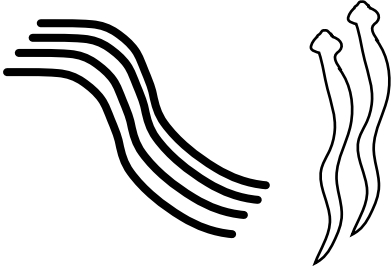
The Arrernte Peoples of the Central Desert use symbols in their art to tell stories about their Country. Symmetrical wavy lines, circles and parallel lines are all used in their rock and sand art.

Follow these steps:

1. Your teacher will give you a photocopy of indigenous symbols so that you can create in the space below your own symmetrical artwork inspired by indigenous artists. Read the meanings of the symbols to help you tell your story.
2. Colour your artwork in natural ochre tones of red, orange, brown, black, white and yellow. Share your art and its story with classmates.

Preview

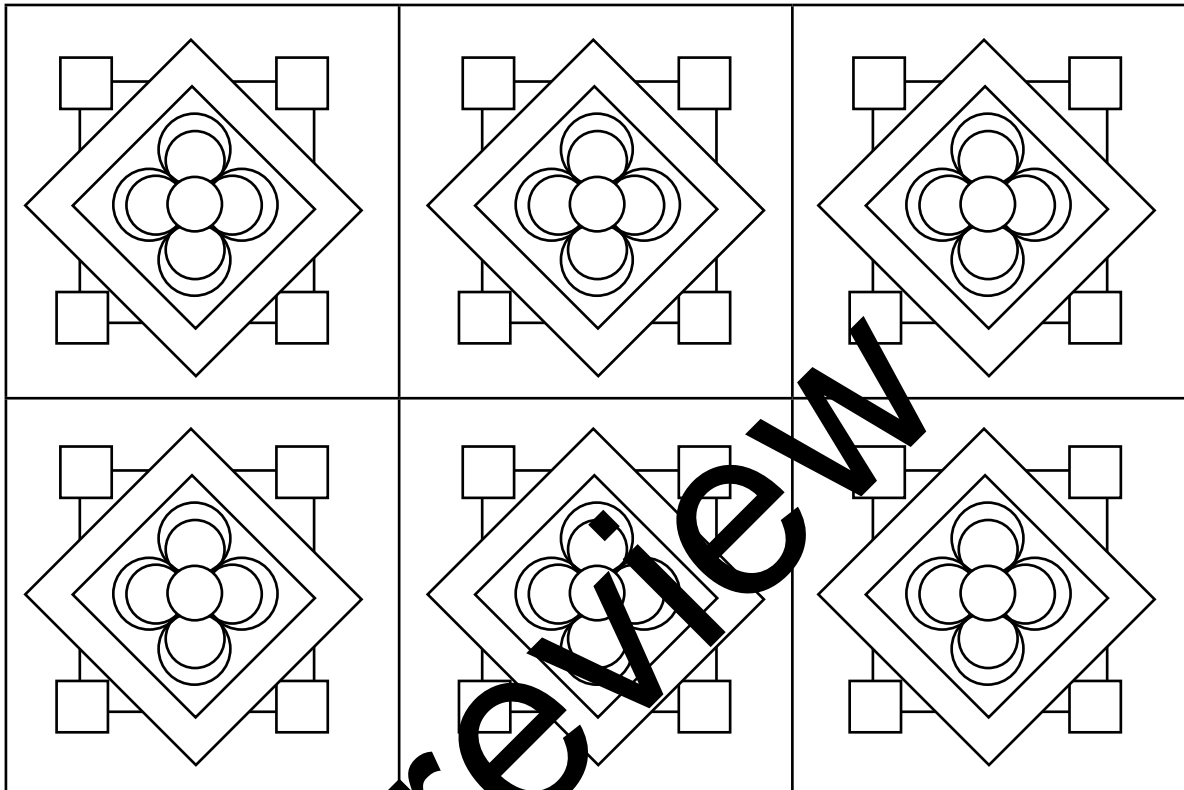
Indigenous Art Symbols (Student Handout)

 <p>waterhole, fruit, campsite, fire</p>	 <p>rain</p>	 <p>resting place</p>	 <p>clouds or shelter from the wind</p>
 <p>meeting place</p>	 <p>rainbow, snake, cliff, water or honey</p>	 <p>honey ant place</p>	 <p>emu kangaroo animal tracks</p>
 <p>people sitting</p>	 <p>group of trees</p>	 <p>mountains</p>	
 <p>sun/stars</p>	 <p>waterholes with running water</p>	 <p>people dancing</p>	
 <p>desert landscape</p>	 <p>honey ants</p>	 <p>snakes and tracks</p>	

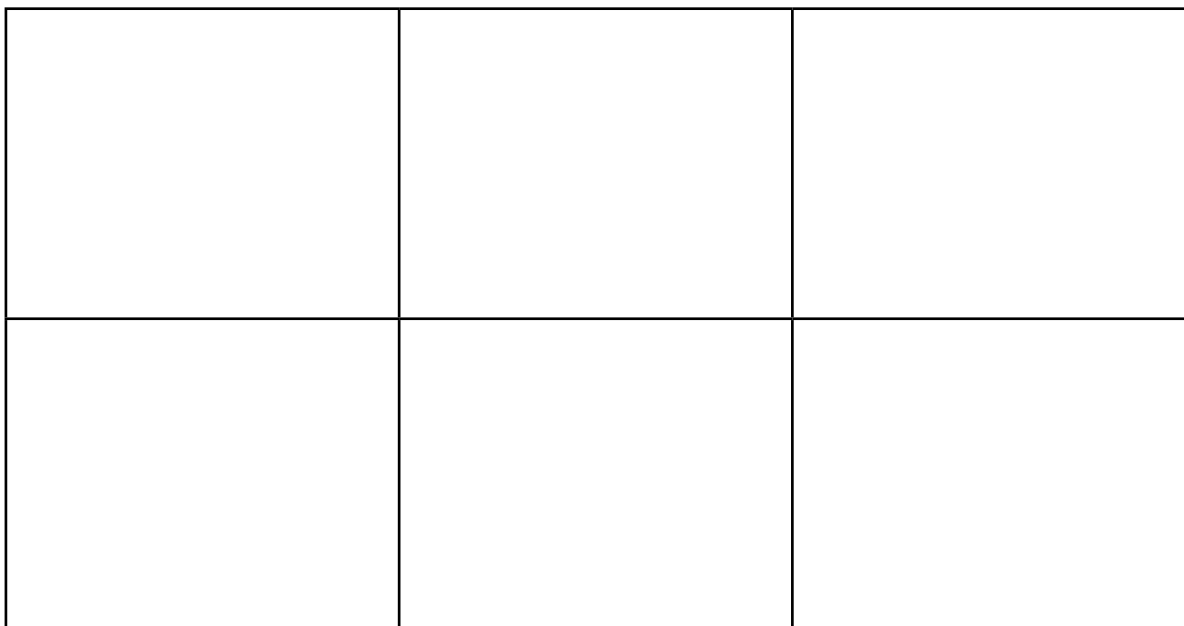
Symmetry In Asian Art

Symmetry is an important part of Asian art. Tiles, prayer mats and pottery use simple geometric shapes and bright colours to look appealing.

- 1.** The design of these wall tile panels is based on symmetry. Colour them identically.



- 2.** Create your own motifs in the space below using symmetry and geometric shapes.



Answers

Page 4

Reflection: stingray, crab, crayfish; Rotational: starfish, sea anemone x2, octopus; Translation: markings on sea horse, fish, sea snake

Preview