

5. Symmetry: "The Butterfly"

(Visual Arts 4-7; also appropriate for Mathematics 4-7)

SHARED LEARNING

- **Aboriginal art is based on traditional design elements.**

PRESCRIBED LEARNING OUTCOMES

It is expected that students will:

- identify and compare the distinctive styles, materials and processes of artists from various cultures and historical periods
- give examples of images from personal, social, cultural and historical contexts, including Canadian context and explain their purpose
- create images in response to distinct art styles from a variety of cultures, artists and periods

PURPOSE

- to provide opportunities for students to understand the use and importance of symmetry for Pacific Northwest Coast Aboriginal peoples
- to provide opportunities for students to create examples of Pacific Northwest Coast artwork.

SUGGESTED TIME FRAME

- two hours

APPROACH

Many things in Nature are symmetrical.

Aboriginal peoples studied Nature very carefully. The same symmetry can be seen in two halves of a leaf, the design of a flower and its petals, two halves of a piece of fruit, the two halves of an animal's body. Even the sun, in its circular nature is round and has symmetry in uncountable numbers of ways. One of Nature's most beautiful examples of symmetry is the butterfly. Its wings are often beautiful matched colourful designs.

1. Discuss with the class symmetry in their everyday lives. The discussion can focus on the following:

In life: Have you ever seen symmetry in Nature? What kinds of things did you see? Are there some human-made things that are symmetrical? (vehicles of most kinds, some houses, art, crafts, tools, clothing)

In school: What kinds of things are symmetrical around your school? Is there symmetry in some of the subjects you are studying? What? What kinds of things are not symmetrical? Why?

At work: In which profession is symmetry important? Why? (architecture, art, engineering, mathematics, physics, biology, geology, building of tools, vehicles and equipment)

In how you act and feel: Another way to think about symmetry is to think about mirror image or balance. When you look in the mirror, what kinds of thought and feelings can you read in your face? Sometimes, when you look at another person's expression, you can see yourself and what you have done mirrored on their face or in their eyes. What does that mean? Can a person's life have symmetry or balance? What kinds of things does a person have to balance in order to have a connected or joyous life (physical, mental, emotional, spiritual parts in balance)?

2. Explain to students that in Aboriginal culture the idea of symmetry and balance is very important and one of the ways they express this is through their art. Show examples of Aboriginal art and have students describe the symmetry. Explain that each student will be completing an example of a piece of a Pacific Northwest Coast art. It is important that students realize that they have the permission of the original artist to copy this design and that having permission to copy something that someone else owns is vital in Aboriginal cultures. If appropriate, the issue of cultural appropriation could be explored in more detail.
3. To lead into the specific lesson ask the students:
 - What animals are symmetrical? (all animals, including humans, are left-right symmetrical; the butterfly is a good visual example)
 - Have you ever made symmetrical designs before? What were they? (patterns)
 - Is there a way to make symmetrical designs easily? (folding, mirroring)
4. Hand out the worksheet.
5. As a class summarize what they have learned and how they can use what they have learned about symmetry and balance:

In life: Where can you see symmetry around you? Would you change some things now that you know more things about symmetry? What things?

At school: Where can you see symmetry around the school? Do you want to see more? Where and what would you change?

At work: In which professions is symmetry important? Why? Did you expect to find symmetry in so many places? Try asking individuals in your family and/or extended family how they find symmetry and balance in their work.

In your actions and feelings: Do you want to have more symmetry or balance in your actions and feelings? Where? How can you start to change if you want to?

In Aboriginal cultures: Where can you see symmetry in Aboriginal designs? Why is symmetry and balance important to Aboriginal peoples? How do they express this?

ASSESSMENT

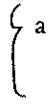
During class discussions, and in evaluating art work, look for evidence of:

- students' understanding of the concepts of symmetry, balance, nature, art, design
- students' understanding of the importance of symmetry and balance in Aboriginal cultures.

— Lesson adapted from *First Nations Art Projects and Activities*, by Butch Dick and Karin Clark, First Nations Education Division, School District No. 61 (Greater Victoria).

SYMMETRY: "THE BUTTERFLY"

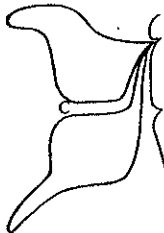
1. Fold a piece of paper in half. Open the paper. The following should be drawn to the left of the fold line.



3. Draw one-half of a butterfly. The body of the butterfly is one-half of an ovoid. (diagram a)



4. The head is a smaller ovoid. (diagram a)



5. The tail is an upside down teardrop design. (diagram b)

6. The wings are in two parts. Extend and exaggerate the shapes to make the butterfly look more powerful. (diagram c)



7. In the face, put an eye, eyebrow and half of a mouth shape. (diagram d)

8. Add an antennae. (diagram e)



9. Refold your paper so that the pencil design you just drew is inside the fold.

10. Turn the folded paper so that you can clearly see the design inside.

11. Trace over the top of your design.

12. Open your paper. You will see the light tracing of the design now completing the full design. Darken the lines as needed.

13. Colour or paint your butterfly.

14. Mount on cardboard, hang from ceiling, or display together on bulletin board.

15. Try other more complicated Aboriginal designs using those provided by your teacher or by an Aboriginal artist. Make sure you have permission to use that design.