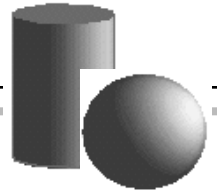


# Geometric Solids



*Objective: Design and construct nets for pyramids and prisms.*  
*Materials: Pyramids, prisms, paper, pencil, masking tape, scissors.*

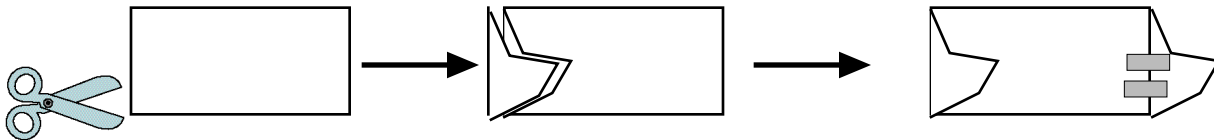
## 4

- start with a blank piece of paper.
- place your prism on top of the paper, and trace around the side which is touching the paper.
- without lifting the solid, 'roll' it to an adjacent side, and then trace that side.
- continue 'rolling' and tracing until you have traced all of the sides of your solid.
- after you trace a side, you may wish to put a small piece of masking tape on that side to ensure that you don't trace it twice!
- you will need to plan ahead to ensure that you have traced all of the sides and that you can roll from one to the next.
- after you have drawn your net, take scissors and cut the net apart. Try to reconstruct the figure with tape.

*Objective: Recognize tessellations created with regular and irregular shapes in the environment.*  
*Materials: Geometric solids, paper, pencil, scissors, tape.*

- by tracing around the sides of the various geometric solids, sort them into two groups: those with one or more sides built of shapes that tessellate, and those that have no sides which tessellate.
- cut a piece of paper to make a rectangle approximately 10 cm by 20 cm.
- from one side of the rectangle, cut a shape or design. Now move (tape) the piece you cut off to the opposite edge of the rectangle. Repeat with the other pairs of edges.
- does the new shape that you have created tessellate? Why?

## 5



*Objective: Estimate and determine the surface area of a right rectangular prism, without using a formula.*  
*Materials: Prisms, paper, pencil, calculator, ruler, scissors.*

## 6

- select one of the right rectangular prisms provided.
- trace around each of the sides of the prism you selected.
- measure the length and width of each rectangle.
  - how many rectangles in all?
  - how many of the rectangles are the same size and shape?
- using your calculator, calculate the area of each rectangle you traced.
- add each of the areas together to determine the total surface area of the rectangular prism you selected.
- repeat the above process with a new rectangular solid, but estimate the total surface area before you begin tracing. Compete against a friend to see who can make the best estimate!
- **Challenge:** out of paper, build a rectangular solid with a surface area of 120 cm<sup>2</sup>.

