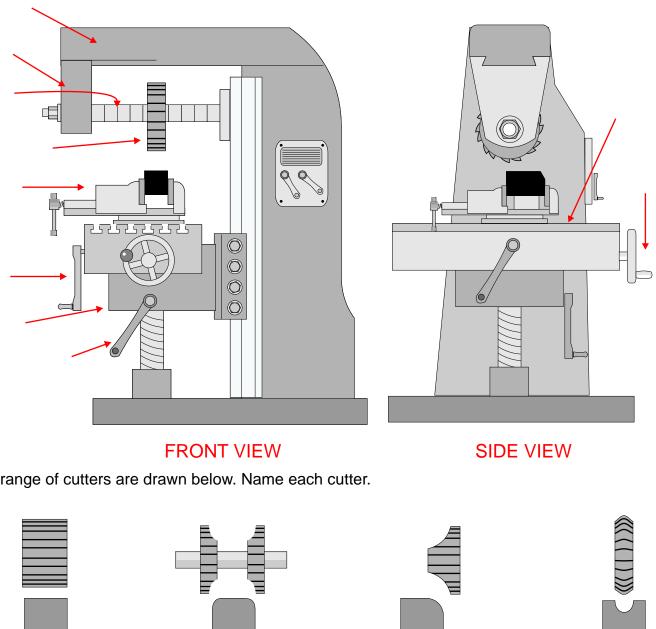
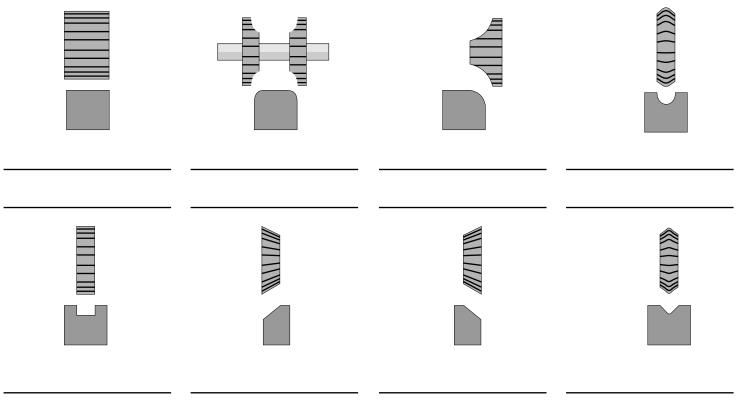


## THE HORIZONTAL MILLING MACHINE V.Ryan © 2009 World Association of Technology Teachers

1. The front and side view of a typical horizontal milling machine are seen below. Add the names of the various parts identified by the arrows.



2. A range of cutters are drawn below. Name each cutter.



## THE HORIZONTAL MILLING MACHINE

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OVER ARM	
ARBOR BRACKET	
BRACKET	
SPACERS	
CUTTING TOOL	

3. Opposite is a diagram of the 'upper' part of a horizontal milling machine. It has been included in order to help you explain how a cutter / cutting tool is changed.

Write an explanation in the space below.

4. The safest way to machine a piece of metal using a horizontal miller is by employing a technique called 'upmilling'. With the aid of a diagram(s) and notes, explain this technique. Include a description of the safest way to secure the material in the machine vice.

DIAGRAM

NOTES

5. What safety measures would you take before using the horizontal milling machine?