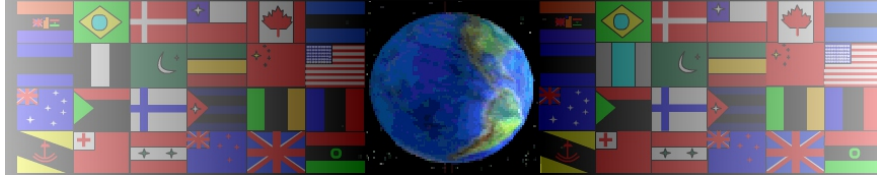


# TESTING OF MATERIALS IN INDUSTRY

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On behalf of The World Association of Technology Teachers

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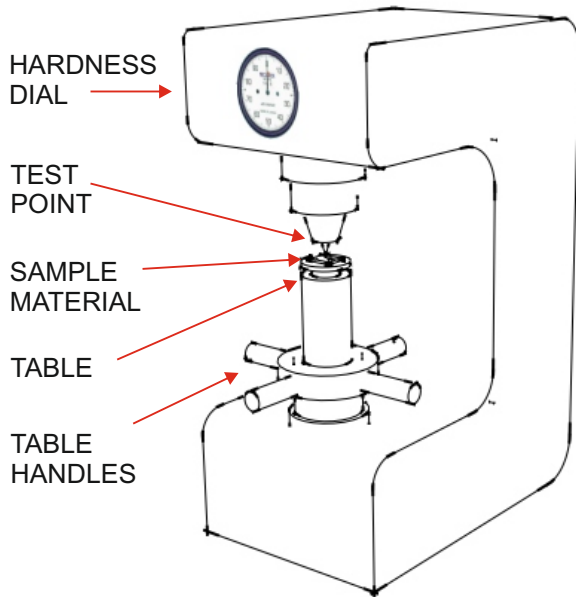
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A range of industrial material testing machines are shown / describe below. Complete the information sheet by adding the missing descriptions and diagrams.

## HARDNESS TESTING MACHINE



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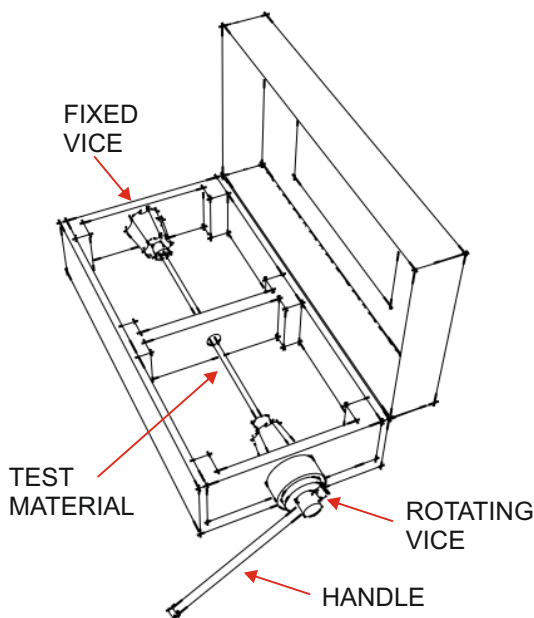
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## TENSILE TESTING MACHINE

*A sample test material is securely clamped between the top and lower vices. The tensile dial is set to '0'. A motor is turned on, slowly moving the top vice away from the lower vice, stretching the test material. When the test material 'snaps', the final tensile dial reading is taken, displaying the tensile strength of the sample.*



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## DUCTILITY TESTING MACHINE

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## ELASTICITY TESTING MACHINE

*The test material is secured between the fixed vice and the moving vice. The dial is set to '0'. A motor then controls the moving vice, allowing it to traverse (move) a set distance from left to right. The material is then allowed to return to its original position, when the motorised vice returns to '0'.*

*The amount of left and right movement is slowly increased, with the vice returning to its original position. This tests the flexibility of the material. Eventually the amount of movement is such that the material cannot return / flex back to its original position. The dial measures this distance and it is a measure of the materials elasticity.*