

## TESTING PROPERTIES

Professionals who work with metals are concerned about the reliability of those metals. Welders and welding engineers, for example, need to know how welding materials will perform under various stresses and loads. These characteristics are determined by the properties of the materials used and by the welding techniques used to join the pieces. Welding technicians perform various tests on materials and on welding structures to discover this information.

Three kinds of tests used by welding technicians are the **impact test**, the **tensile test** and the **guided bend test**. In general these tests are described by their names. The impact test involves dropping something onto a sample, the tensile test involves stretching the sample and the guided bend test involves bending the sample. The test results are reported in professional publications. Welding engineers and others involved in materials science consult these publications to check the characteristics of various metals.

### APPLYING WHAT YOU KNOW

Based on the information above, label the test each drawing depicts. Then describe a test you performed in Workshop 2 or 3 that was similar to the illustrated test. Tell why you think the tests are similar.

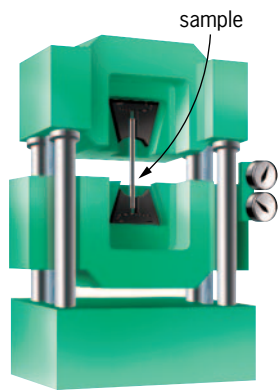


Fig. 1 \_\_\_\_\_ test.

\_\_\_\_\_ test.

This test is similar to \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Fig. 2 \_\_\_\_\_ test.

\_\_\_\_\_ test.

This test is similar to \_\_\_\_\_

\_\_\_\_\_

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\_\_\_\_\_

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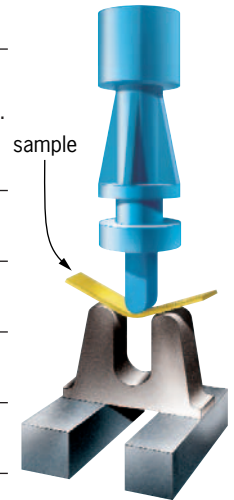


Fig. 3 \_\_\_\_\_ test.

This test is similar to \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### CONCLUSIONS & INFERENCE

For each of the following items, identify which of the tests described and illustrated above was probably necessary in determining the material and the construction techniques

used for the item. Explain your thinking. a) stapler, b) metal coat hanger, c) industrial chain, d) automobile bumper, e) file drawer handle.