

COMPETENCY #8: Perform burn tests and compare results for natural, manufactured and blended fabrics.

CONCEPT: By performing burn tests, the qualities and properties of man made and natural fibers are easier to understand.

DEMONSTRATION:

These tests may be done in small groups of students, or as a demonstration in front of all students.

MATERIALS NEEDED:

Sample of the following fabric:

1. 100% cotton
2. 100% nylon
3. 100% linen (or jute, burlap works well and is easy to get)
4. 100% wool
5. 50% cotton 50% polyester
6. A fabric that has had sizing or scotch guard added.
7. matches or lighter
8. old pie tin lined with foil
9. fire extinguisher nearby!
10. worksheet for student use

Procedure - Use of strip of each type of fabric about 1"X 6" long.

Place a strip in the pie tin and light it.

Repeat with each different piece of fabric and observe the following: (students take notes or fill in worksheet)

1. How rapidly did the fabric burn?
2. Did you observe any sizzling of the fabric as it burned?
3. What residue was left? Ash or bead? Or both?
4. Odor, if any.

RESULTS???

100% natural fibers will leave a grey ash after burning.

100% man-made fibers will leave a bead, and possibly give off an unpleasant odor as it burns.

Blended fibers will show characteristics of each.

Sizzling is caused by the finishes applied to the fabric.

If a fabric is flame retardant, it should burn very slowly or smolder.