FIBER: FRIEND OR FOE

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QUESTIONS?

- Why do we need textiles?
- Where do fibers come from?
- What are natural fibers?
- What are synthetic fibers?
- What fibers are environmentally friendly?
PURPOSE
Textiles have been created as solutions to environmental hazards.

Some examples include:

**Work:** Armor, bee-keeping, protective clothing

**Sports:** High visibility, motorcycle leathers

**Weather:** hot and cold temperatures
TYPES OF NATURAL FIBERS OR TEXTILES

**ANIMAL**
- LEATHER
- WOOL
- ANGORA
- ALPACA
- CASHMERE
- MOHAIR
- SILK
  - MULBERRY
  - SILKWORM

**PLANT**
- COTTON
- FLAX
- HEMP
- JUTE
- ABACA
TYPES OF SYNTHETIC TEXTILES

- Polyester
- Acrylic
- Nylon
- Rayon
- Acetate
- Spandex
- Lastex
- Orlon
- Kevlar
ENVIRONMENTALLY FRIENDLY FIBERS

- Recycled or Once Loved
  Reduce/Reuse/Recycle (Upcycle)
- Hemp
- Soy Silk/Cashmere
- Cotton
- Linen
FUN FACTS

• Silk became scarce after World War II
• Some polyesters are biodegradable
• Nylon was created in 1935 but famous in 1940
• Flammability of textiles is dependant upon: fiber, nap, weight, and design (Kids Health, 2018)
HANDS ON ART AND SCIENCE

- Weaving
- Tye Dye
- Cross Stitch
- Fire science experiment
- Moisture content experiment
- Stretch test
- Fly tying
- Para cord activities
WEAVING MAT

- 8”x8” CARDBOARD
- 36” YARN/HEMP
- SCISSORS
- 12 PIECES OF MATERIAL CUT 12”x 1.5”

- Cut equal slits in 2 opposite sides of cardboard 3/4” apart
- Wrap yarn through slits going completely around cardboard and tie in back; cut excess off
- Weave fabrics through yarn; each piece of material going opposite of previous
FLY TYING

- Instructions are available by emailing agricampusa@gmail.com

Courtesy of Scott Travers
(Rhode Island-Dept of Wildlife)
PARA CORD ACTIVITIES

Courtesy of Mike Billings
(Retired Army)
FLAMMABILITY TEST

- 1 PIECE OF FABRIC FROM 3 DIFFERENT SOURCES
- TIMER
- RULER
- SCISSORS
- LIGHTER
- METAL COFFEE CAN
- TONGS

- Cut 2 fabric strips measuring 1” x 12” from each source
- Using tongs, hold over the coffee can from one end of material
- Light bottom of fabric and time length of burn, graph it
- Observe ease of catching on fire
TYE DYE

REFERENCES

- Photos taken from lots of websites if marked with 🌟
- Fly tying courtesy of Scott Travers
- Paracord courtesy of Mike Billings