

ILLUMINATING FASHION

Circuit Card

Leader Guide



Fashion
through science

WITH THIS ACTIVITY

- Template

MODULE



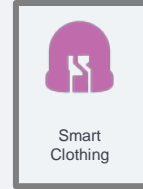
We are
Engineers!



Movement
Improvement



Marvelous
Materials



Smart
Clothing



Patternmaking
Tools n' Tech

Big Picture

Young designers will practice the running stitch in the parallel lines of stitching required for wearable electronics.

What's the goal?

By the end of this activity, young designers will understand how to create a working parallel circuit and incorporate electronics into fashion design.

Preparation

- Print the cards onto card stock or thick paper. If you want a reusable option, you may glue the printed card onto cardboard, such as a cereal box. Cut the cards apart and punch out the marked holes.
- Precut yarns and tape ends.

Materials

What they need: (per person)

- 1 punched circuit card
- 2" x 36" yarn, 2 colors

What you need:

- Circuit Card template (3per sheet)
- Cereal box or other lightweight cardboard (optional)
- Paper cutter or scissors
- Hole punch
- Tape for end of yarn
- Shoelace or cord with taped end, 42"

Grouping:

Each young designer will do this.



Let's Get Started!

- **Demonstrate the running stitch:** Use a circuit card and cord/shoelace to demonstrate the running stitch to the group of young designers. Pull the cord up through an end hole until the knot is snug. Go down through the next hole, and continue to the end of the card. Stress that it is important to sew in a straight line from one hole to the next.
- Have each young designer take two yarns, one of each color, and knot the yarn ends opposite the taped end.
- Instruct them to pull a yarn through the square hole next to the battery image on the plus side of the battery, coming up from the back. Have them use a running stitch to sew up and down through the holes in the card to the end opposite the battery, ending on the back at the final hole. Repeat beginning from the negative side of the battery image with the second yarn.

Tips

- Make sure the young designers understand they are sewing up and down **through** the paper, **not** around the edge of the card.

Take It Further

- **Ask:** What do you notice about your stitching when you have finished?
- **Answer:** It is in two **parallel** lines.

VOCABULARY

Parallel: Lines that follow the same path a distance apart, but never touch or cross.