**Backbone**

**Purpose**
To make a model of the spine.

**Materials**
- 6 thread spools
- 12-inch (30-cm) piece of string
- One-hole paper punch
- Scissors
- Transparent tape
- Ruler
- Piece of poster board 4-by-5-inch (10-by-12.5-cm)

**Procedure**
1. Place the flat end of a thread spool on the poster board.
2. Draw five circles on the poster board by tracing around the end of the spool.
3. Cut out the five circles and use the paper punch to make a hole in the center of each circle.
4. Thread one end of the string through the hole in one of the spools. Then tape the short end of the string to the end of the spool.
5. Stand the spool on end and thread the free end of the string through the hole in one of the poster board circles. Continue to add spools and circles to the string until all are used. Then, tape the end of the string to the top spool.
6. Holding the bottom spool on a table, push the top spool about 2 inches (5 cm) to one side.
7. Push the spool in different directions.

**Results**
The spools are able to bend in different directions.

**Why?** Your backbone, commonly called the spine, is made of separate bones called vertebrae. You can bend because your vertebrae, like the spools, are able to separate a little. Thus your spine can bend. A large bundle of nerves (fibers that carry messages to and from the brain) called the spinal cord runs through holes in the vertebrae. Between each vertebra is a pad, like the circle, called a disk. The disks keep the vertebrae from rubbing against each other.