

# NEWTON'S CRADLE

## Materials:

- ◆ **Craft Sticks (18)**
- ◆ **(6) Marbles**
- ◆ **String – Six (6) 8” lengths**
- ◆ **Scissors**
- ◆ **Tape**
- ◆ **Ruler**
- ◆ **Pencil**
- ◆ **Hot Glue Gun/Super Glue**

## Instructions:

- ◆ **Step 1** Cut string into (6) equal pieces approximately 8” long
- ◆ **Step 2** Glue (4) craft sticks together at the corners to make a square. Repeat with (4) more crafts sticks. Let dry. These will be the sides of the frame.
- ◆ **Step 3** Using hot glue, assemble the frame. Take the two sides and hot glue a craft stick perpendicular to each corner. The final frame will be a cube.
- ◆ **Step 4** Make (6) marks along two craft sticks every  $\frac{1}{2}$ ”. Make sure the marks are centered on the sticks.
- ◆ **Step 5** Hot glue a marble to the center of one of the pieces of string. Repeat to end up with (6) separate marbles, each glued to the center of a string.
- ◆ **Step 6** Glue sticks perpendicular to the tops of the squares so you form the base of your Newton's Cradle.
- ◆ **Step 7** Glue one end of the strings with marbles attached along one of the craft sticks at each mark. Set aside.
- ◆ **Step 8** Glue the craft stick with the taped string/marbles to one side of the frame.
- ◆ **Step 9** Glue the second marked craft stick to the opposite side of the frame.
- ◆ **Step 10** Tape the loose end of each string with a marble attached to the marked craft stick. Pull on the strings gently to make sure the marbles align. **The marbles must line up both horizontally and when viewed from the top.**

Pull one of the end marbles up and let go! Watch what happens!