

## Sound Sculpture

Inspired by Jean Tinguely

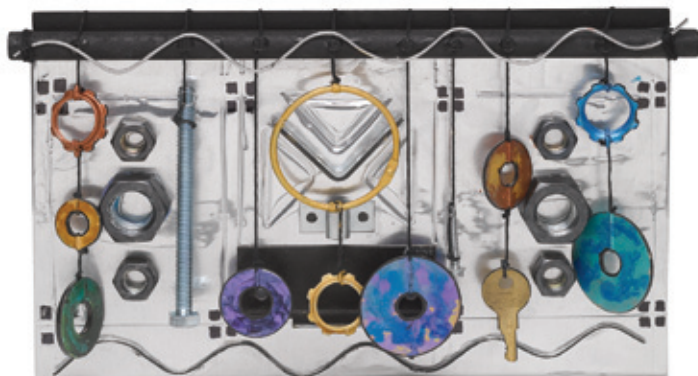
Renowned for his kinetic sculptures, Swiss artist Jean Tinguely (1925-1991) created whimsical machine-like contraptions of found metal parts, known as “metamechanics.” Like many artists in the “Dada” tradition, Tinguely’s art expressed his disillusioned view of industry, mass production, and their effect on society and humanity. He designed one sculpture to automatically create paintings, and others to self-destruct by wearing themselves down or even exploding. Many of his sculptures produce banging, clanking, whirring, squealing machine sounds, which he felt gave them a personality and a “voice” of their own.

In this lesson plan, students create a kinetic sculpture with repurposed metal hardware, found objects, and wire. The components are placed so that they deliberately move against one another, creating a variety of sounds. Much like Tinguely’s machines, some of the noises may be pleasant — others may not. Each sculpture, however, will have a very unique metallic, mechanical “voice.”

**GRADES 3-12** Note: instructions and materials are based upon a class size of 24 students. Adjust as needed.

### Preparation

1. Gather metal components, avoiding large and heavy pieces. Consider sources where one could find hardware, office supplies, tools and utensils, cast-off appliance or machine parts, jewelry scraps, and similar items. Avoid anything with rust or sharp edges. Provide boxes and containers for sorting.



### Materials

**All-Purpose Chipboard**, 30-ply 22" x 28" (13115-2232); share one sheet among eight students.

**Wooden Dowel Rods**, 1/2" dia x 12" long, package of 12 (60448-1212); need one dowel per student

**Blick® Matte Acrylic**, Black, 8-oz bottle (00727-2025); share one among class

**Weldbond® Universal Adhesive**, 4-oz (23819-1004); share 5-6 bottles among class

**Maysville Cotton Warp**, Black, 800-yd (62800-2050); share one among class

**Daler-Rowney® FW Acrylic™ Pearlescent Liquid Artist's Inks**, 1-oz assorted colors (21111-); share 4-6 colors among class

**Blick® Scholastic Wonder White Flat Brush**, size 4 (05380-1004); need one per student

Metal components, hardware, and found objects

**Scotch® Transparent Duct Tape**, 1-1/2" x 5-yd (24102-1004); share four rolls among class

### Optional Materials:

**Blick® Sculpture Wire**, 14-gauge, 350-ft coil (33400-1435)

**Hygloss® Book Rings**, 2", package of 50 (64203-1002)

**Two-Toned Tooling Foil**, 12" x 25-ft (60504-4050)

**Blick® Studio Markers**, assorted colors (22148-)

**Galvanized Wire**, 28-gauge, 100-ft (33405-1028)





**Step 1:** Glue dowel to chipboard panel and paint it with matte black acrylic. Plan the design using gathered metal components.



**Step 2:** Glue some pieces to the back, and suspend some pieces over the dowel in front using string.



**Step 3:** Paint the components with acrylic ink. Assemble and move the sculpture to enjoy its "voice"!

## Preparation, continued

- Using a guillotine-style trimmer, mat cutter or knife, cut chipboard into 7" x 11" pieces (8 per 22" x 28" sheet).

## Process

- Glue dowel to the long side of the chipboard panel, close to the top. Allow 1/2" overhang on either end. Once the glue sets, paint the panel and dowel with matte black acrylic. As an option, wrap metal tooling foil around the panel to make a metallic background. Crease edges tightly and tape them in place on the back side.

- The design will be composed of suspended objects and background objects secured in strategic contact positions. When the sculpture is moved, the suspended objects will strike the secured ones and produce sounds.

To begin, collect materials and decide how to position them. Cut 12" pieces of cotton warp and tie them onto the metal objects that will be suspended. Test the sound by holding the string and striking the background objects.

- Once the design has been planned, glue the background objects in position. While waiting for the glue to set, paint both sides of the suspended objects using acrylic ink. When the ink is dry, position the object so that the string goes over the dowel and secure it with tape on the back side.
- Position the suspended objects away from the background and apply ink as desired to the matte black surface or to the secured objects. Allow the ink to dry.
- Place a drop of glue over each string to suspend the objects in perfect position. For extra security, place a drop of glue on each knot in the string.
- If desired, create a hanger by wrapping the string over the ends of the dowel. Move the sculpture and enjoy listening to its "voice"!

## Options

- Permanent markers may be substituted for acrylic ink, but the marker ink will fade when exposed to UV light.
- Windchimes may also be considered sound sculpture. Substitute galvanized wire for cotton warp for greater outdoor durability.

## National Standards for Visual Arts Education

**Content Standard #2** — Using knowledge of structures and functions

**K-4** Students use visual structures and functions of art to communicate ideas.

**5-8** Students select and use the qualities of structures and functions of art to improve communication of their ideas.

**9-12** Students create artworks that use organizational principles and functions to solve specific visual arts problems.

**Content Standard #5** — Reflecting upon and assessing the characteristics and merits of their work and the work of others

**K-4** Students understand there are different responses to specific artworks.

**5-8** Students compare multiple purposes for creating works of art.

**9-12** Students identify intentions of those creating artworks, explore the implications of various purposes, and justify their analyses of purposes in particular works.

