

Op Art Spinners

Why settle for a manufactured spinner when you can take a one-of-a-kind piece of art for a spin?

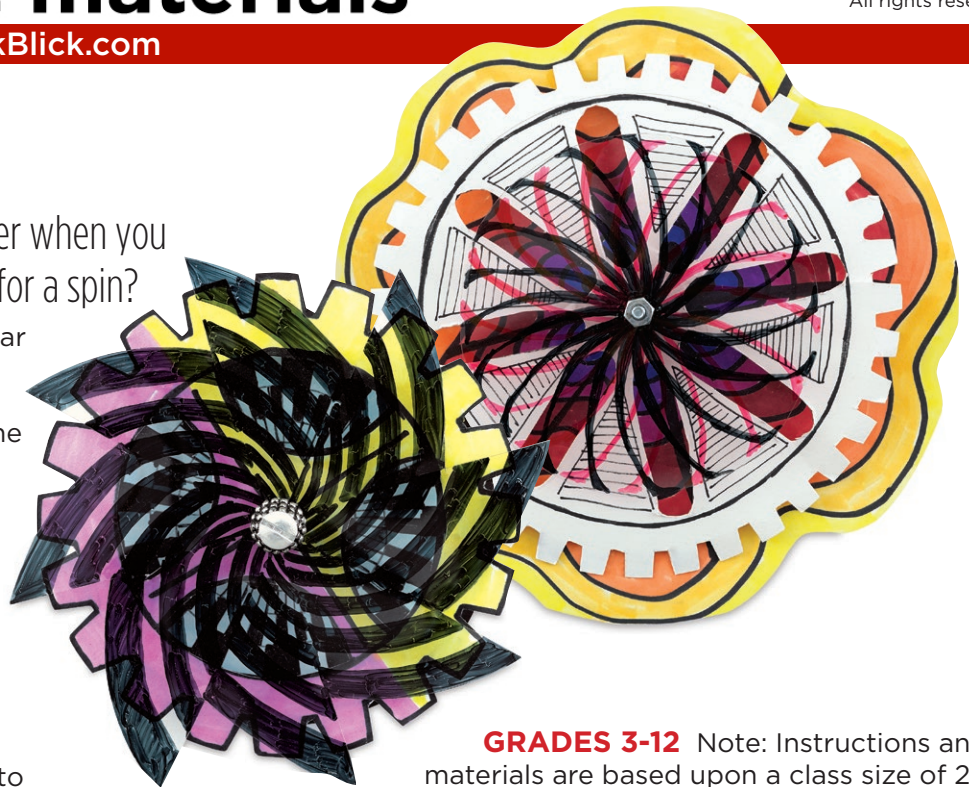
"Fidget spinners" became wildly popular because of their reputation as a concentration aid or a means of releasing stress and anxiety. In the same manner as a stress ball, they give the hands something to keep them busy.

Op Art (short for Optical Art) is a movement that rose to popularity in the 1960s as a means of keeping the eyes busy.

Optical illusions were not invented by scientists or optometrists but by artists who understand the workings of the human brain and eyes and how to trick them into believing they see something they don't actually see. A design that is completely stationary can appear to have movement as a result of carefully placed color and pattern.

Art that is designed to incorporate motion is known as Kinetic Art, and Op Art is considered kinetic even if the motion is only illusionary.

In this lesson plan, students create their own hand-held "fidget spinners" as kinetic art — discs, gears, and designs that rotate around a center axis. When patterns and colors on multiple layers spin together, they can fool the eye and create colorful illusions. Take one for a spin!



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

Preparation

1. View mind-boggling examples of Op Art from artists such as Victor Vasarely, Bridget Riley, Richard Allen, and Richard Anuszkiewicz.
2. Use a paper trimmer to cut heavyweight Dura-Lar into 5" squares. A 25" x 40" sheet will produce 40 pieces. You'll need one per student.
3. Use a paper trimmer to cut matboard in half to 16" x 20" pieces, then cut one of those pieces in half to a 16" x 8" size. Cut 2" squares from one half of the smaller pieces and save the remaining matboard for other projects. A one-quarter sheet of matboard will produce 24 pieces.

Materials (required)

[Bienfang Bristol Board](#), 20-sheet pad, 9" x 12", smooth finish (13302-1013); need one sheet per student

[Maped Precision Stop System Compass](#) (56640-1039); share one between two students

[Grafix Dura-Lar Clear Acetate Alternative](#), .010" heavyweight 25" x 40" sheet (55506-1100); share one sheet across class

[Books by Hand Screw Posts](#), package of 6, 1-3/4" (12846-1002); need one per student

[Bic Marking Color Collection Permanent Markers](#), assorted color sets and Black fine line marker (22165-); share one set among four students and provide one Black per student

[Crescent Decorative Matboard](#), any color, 20" x 32" (13007-); share one sheet across class



Materials to create spacer rings to fit over the book posts, plan on 3-4 per student.

Paper scraps may be used to create tubes or provide:

Hex nuts with 1/4" opening

Beads with 1/4" opening

Large diameter "smoothie" straws, cut into 1/4" pieces

[Scotch Transparent Tape](#), 1/2" x 12-1/2 yd roll (24162-1000) share 4-5 across class

Optional Materials:

[Roylco Jumbo Stencil Sets](#), Gear set of 15 (22795-1015) or Snowflake set of 12 (22795-1001)

[Staedtler Triangular Colored Pencils](#), set of 12 (22452-1129)

[Books by Hand Bookboard Hole Punch](#) (12839-1000)



Process

1. Using a compass, create two circles on a sheet of 9" x 12" bristol board. The circles do not have to be the same size, but they should be as large as possible to fill the page.
2. Using markers, colored pencils, gel pens, or other drawing media, create an Op Art-inspired design on one side of the largest circle. This will be the back layer of the spinner.
3. The second circle should be designed with openings that reveal the layer beneath. For example, a gear shape, a fan blade shape, a pinwheel shape, or a snowflake. Stencils can be used to create and alter shapes to suit this project.

To cut openings in the bristol board, bend the sheet slightly at the middle of the desired cut area and snip a line just large enough to insert scissors. Cut from that line to finish the opening.

4. For the top transparent layer, draw a circle with the compass on the Dura-Lar before removing the plastic protective film. Cut out the circle, then remove the plastic from either side. Create a pattern on the clear sheet using permanent markers.
5. Students will now have three disks to spin. A piece of matboard about 2" square can be used as a hand grip. In the center of each piece, create a hole at least 5 mm (3/8" Dia). This can be accomplished with a bookbinding hole punch, a long-reach hole punch, or by starting the hole with a push pin, then widening it slowly and carefully with pointed scissors.
6. Each spinner will need spacer rings between the spinning disks. Rings may be created from scraps of Dura-Lar or construction paper. Cut a 1"-2" long x 1/8" to 1/4" wide piece, wrap it around a pencil to create a tube and use a piece of tape to secure it. Trim away any excess tape that might create friction.

As an easier option, use hex nuts or beads with a 1/4" to 3/8" opening. Large plastic "smoothie" straws cut into 1/8" to 1/4" pieces provide an easy a very inexpensive way to create spacer rings.

7. Assemble the spinner onto a book post. Start with the long end of the post and place the matboard square over it, then add a spacer ring. Next, place the largest circle on the post, followed by another spacer ring. Finish the circle with cut-outs, then the transparent circle, using a bead as a spacer between each layer. Screw the top of the bead post in place, then hold the square with one hand and spin the disks with the other.

Options

1. A 2" long bolt and hex nut from the hardware store can be used instead of the book post.
2. Posterboard or railroad board may be used in place of bristol, but lighter-weight papers will not spin well.

National Core Arts Standards – Visual Arts

Creating

Anchor Standard 1: Generate and conceptualize artistic ideas and work.

Responding

Anchor Standard 9: Apply criteria to evaluate the artistic work.

Connecting

Anchor Standard 11: Relate artistic ideas and works with societal, cultural, and historical context to deepen understanding.



Step 1: Design Op Art-inspired circles with markers and create holes in each center.



Step 2: Assemble onto a book post, with a spacer ring between each circle.

Step 3: Hold onto the back piece with one hand and use the other to give it a spin!

