

CUB KALEIDOSCOPE

MONKEY CITY
Creative Expression



THE ADVENTURE:

Kaleidoscopes reflect light off and through colourful objects to create beautiful patterns. The image of ordinary objects is reflected on two or three mirrors, through a triangular prism (triangular tube), before it reaches your eye, changing what you see.

Build your own kaleidoscope and explore the world of reflected images.

PLAN:

- Where will you do this adventure? Indoors, outdoors or at camp?
- What will you use to fill your kaleidoscope?
- How will you design your kaleidoscope?
- How many mirrors will you use in your design?
- Do you need to cut any plastic or mirrors? What tools will you need? Do you know how to use these tools safely?

DO:

- Start with a tube about 20-30 cm in length. This will be the body for your kaleidoscope.
- Connect your rectangular mirrors along their edges with tape or glue to create a hollow triangular prism (tube). Change what you see by changing the angle between the mirrors.
- Slide the triangular prism into the outer body tube.
- For a different look, use two mirrors and a piece of black construction paper to create the triangular prism.
- Use black construction paper to make an eyepiece and attach it to one end of the kaleidoscope.
- Create a space for your colourful items at the other end of the kaleidoscope. Use plastic wrap, a small baggy, plastic discs or something else. Make sure the material is see-through, and that you can see shapes and colours through it.
- Hold the tube up to one eye and look through it. Turn it and watch your own light show!

REVIEW:

- What do you know now that you did not know before?
- What did you see when you looked through your kaleidoscope? What do you think is happening inside the kaleidoscope?
- How can you change what you see through your kaleidoscope?
- How could you use what you learned today to build a telescope or periscope?
- What elements of STEM were in this adventure? Science? Technology? Engineering? Mathematics?

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It starts with Scouts

CUB KALEIDOSCOPE

MATERIALS:

- Mirror acrylic sheets (or other reflecting material)
- Tube (cardboard, plastic or PVC)
- See-through material such as a small baggy, plastic wrap or wax paper
- Elastic
- Glue and tape
- Paper/bristle board
- Foam pieces
- Beads, glitter, sequins or other colourful, see-through or reflective objects

SAFETY TIP:

- When looking through your kaleidoscope, be sure to stand still to avoid tripping or bumping into other Cub Scouts.

ONLINE RESOURCES:

- [How to make a kaleidoscope](#)
- [Making a Kaleidoscope](#)
- [All Things Reflected](#)
- [Kaleidoscope Physics](#)
- [Kaleidoscope](#)

