MATH

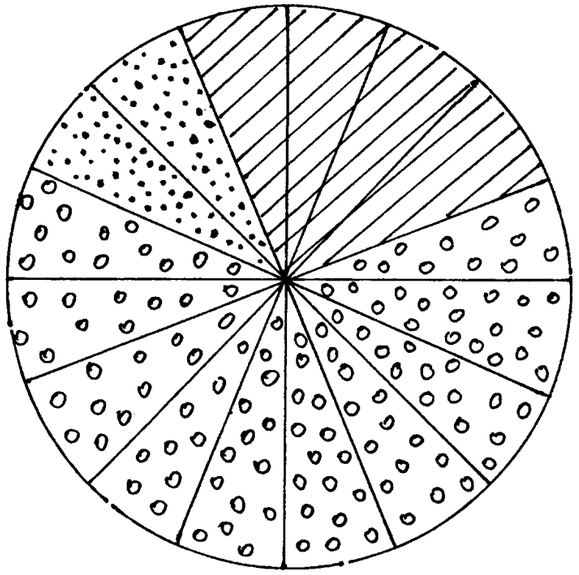
OBJECTIVE: Use fractional terms when making a fraction pizza.
SUGGESTED TIME FRAME: 30 minutes.
ADDITIONAL MATERIALS: Index card, markers and approximately one 10" round piece of white cardboard.
PROCEDURE: When looking into the kaleidoscope, the effect of the three-sided mirror makes it look like six equal parts. Discuss other things that can be divided into fractional parts (cake, pie, pizza, material and paper). Explain that students will be working in cooperative groups to create a pizza topping recipe using fractions. Using a variety of fractional terms that equal one whole, list toppings on an index card. When the index cards are completed, exchange cards with another group. Following the recipe and fractional terms, draw the appropriate toppings on the cardboard pizza. Option: Make real pizzas using a variety of toppings (pepper, mushrooms, pepperoni, hamburger) for a special class fraction pizza party.

Example of recipe

1/4 pepper 

1/8 onion 

5/8 hamburger 



SCIENCE

OBJECTIVE: Predict and record their observations of how light and water affect objects.
SUGGESTED TIME FRAME: 20 minutes.
ADDITIONAL MATERIALS: water, clear container, objects to place in water.
PROCEDURE: Explain to the students that light can change objects when objects are placed in water. Fill the clear container with water and place near the window. Choose three or four objects for this experiment (straw, popsicle stick, pencil, ruler, finger, spoon, leaf, paintbrush). Discuss what the students think might happen. List predictions and ideas on the board. Using one object at a time, lower it into the water so half of the object is above water. Have students explain what they see above and below the water and write results on the board. Discuss reasons why this might happen.

MATH/WRITTEN LANGUAGE

OBJECTIVE: Predict and record the effect of different colored backgrounds when looking through the kaleidoscope.
SUGGESTED TIME FRAME: 25 minutes
ADDITIONAL MATERIALS: kaleidoscope, colored tissue paper, plastic wrap, rubber bands
PROCEDURE: Explain to the students that light is entering the base of the kaleidoscope causing a reflection on the mirror. When the light is altered, what is seen through the kaleidoscope might also be altered. Place a variety of different colored tissue paper and plastic wrap pieces on a table. Have the students predict what might change if a specific color is placed over the base of the kaleidoscope. Record predictions on the board. Allow time for the students to experiment with different pieces of tissue paper and plastic wrap. Students might want to use a rubber band to hold the material over the base of the kaleidoscope. After five minutes, discuss the results and reasons why a change was seen.

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Kaleidoscopes (Pk/25)

PLEASE READ ALL INSTRUCTIONS BEFORE STARTING

AGE GROUP: 8 and up
PROJECT TIME: 60 minutes

YOUR KIT CONTAINS:
- Long Cardboard Tubes
- Short Cardboard Tubes
- Frosted Plastic Circles
- Clear Plastic Circles
- Cardboard Circles with Hole
- Silver Acetate Sheets
- Assorted Color Tri-beads
- Tape

YOU WILL NEED:
- Pencil
- Ruler
- Decorating Supplies

EACH PERSON SHOULD HAVE:
- 1 Long Cardboard Tube
- 1 Short Cardboard Tube
- 1 Frosted Plastic Circle
- 1 Clear Plastic Circle
- 1 Cardboard Circle with Hole
- 1 Silver Acetate Sheet
- 25-35 Assorted Color Tri-beads

The tape, pencils, rulers and decorating supplies will be shared among the group

Teaching Activities Inside

GP50

INSTRUCTIONS:

1. Each person should decorate his/her long cardboard tube. Let dry as needed.

2. Using the ruler and pencil, measure and mark two lines on the silver acetate. (See Fig. 1.)

3. Fold the silver acetate along the two lines. Tape together the edges that meet to form a triangle. Insert the triangle into the long tube.

4. a) Tape the cardboard circle with the hole to one end of the long tube.
   b) Using only a very short piece of tape, tape the edges of the frosted plastic circle to one end of the short tube. Place between 25-35 tri-beads into the short tube.
   c) Place the clear plastic circle between the open ends of both tubes. Tape the tubes together. (See Fig. 2.)

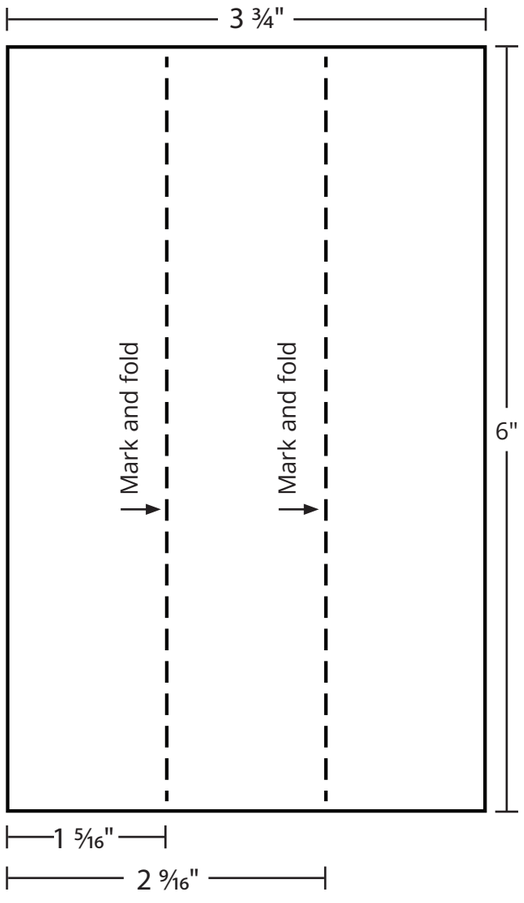


Fig. 1

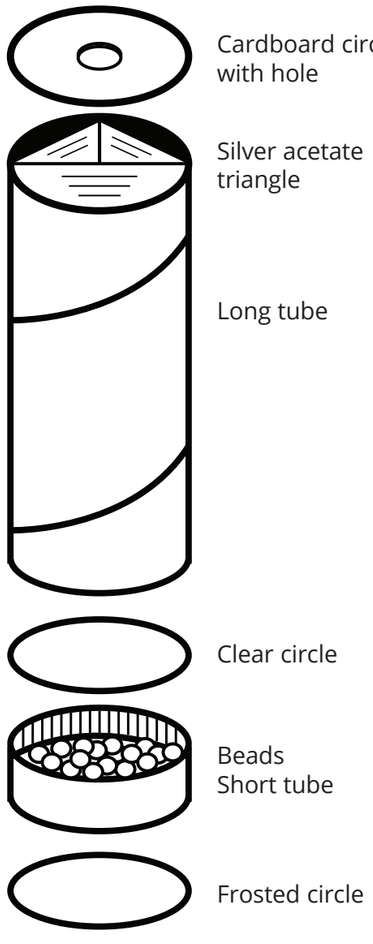


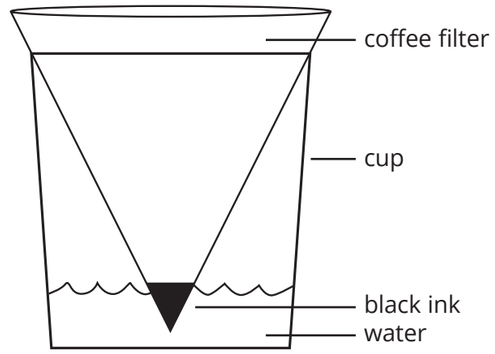
Fig. 2

SOCIAL STUDIES

OBJECTIVE: Research the history of the kaleidoscope.
SUGGESTED TIME FRAME: 30 minutes.
ADDITIONAL MATERIALS: encyclopedias, books on kaleidoscopes, teacher reproducible page (attached)
PROCEDURE: Using encyclopedias and books, have students research the history of kaleidoscopes. Encourage students to find information about the inventor as well as other uses of the kaleidoscope in the past. The students also might enjoy finding out about other toys of that era. Other research questions could include: the year the kaleidoscope was invented, the materials that were used to create color, why the kaleidoscope and its parts are shaped the way they are, how long it took the inventor to create the kaleidoscope, or what materials were used in making a kaleidoscope in the 1800s.

SCIENCE

OBJECTIVE: Create a rainbow from a single color.
SUGGESTED TIME FRAME: 20 minutes.
ADDITIONAL MATERIALS: coffee filter, water, jar of black ink, clear cup
PROCEDURE: Brainstorm how a rainbow is formed. Explain the effects of sunlight and water mixing and making reflections. Tell the students that a rainbow can be made using just one color, a coffee filter, water and light. Place a small amount of water in a clear cup. Fold the coffee filter into a triangle and place a dot of black ink on the point of the filter. Place the folded filter into the cup so the dot of ink is just barely touching the water. Place the container near the window. While waiting for the rainbow to appear, have students guess what they think is happening. After five to ten minutes, a rainbow will appear above the coffee filter.



SOCIAL STUDIES/SCIENCE

OBJECTIVE: Work in cooperative groups to explore a light source and present it to the class.
SUGGESTED TIME FRAME: 20 minutes – research; 20 minutes – presentation.
ADDITIONAL MATERIALS: encyclopedias, books related to light
PROCEDURE: With the students, brainstorm a list of light sources. Some light sources include: flashlight, sunlight, spotlight, candle and light bulb. Divide the class into small cooperative groups and assign one light source to be researched by each group. When researching a light source, have students look for the inventor, the year of the invention and important facts related to this light source. Take notes on the findings. Have students bring in an example of their light source from home, if appropriate. On another day, have one person from each group present their research findings.

MATH/WRITTEN LANGUAGE

OBJECTIVE: Create and describe a symmetrical creature.
SUGGESTED TIME FRAME: 35 minutes.
ADDITIONAL MATERIALS: clay, chenille stems, writing paper
PROCEDURE: Explain the meaning of symmetry. Symmetry is dividing an object or design down the middle and having each half identical. Discuss living and non living objects that would be considered symmetrical. Have the students make symmetrical creatures out of clay and chenille stems. Encourage the students to be as creative as possible. When the symmetrical creatures are complete, have students write a "Who am I?" paragraph describing their creatures. Display all of the creatures and take turns reading the "Who am I?" paragraph. From the descriptive information in the paragraph, have the rest of the class guess what creature is being described.