

THE LIGHT TRAP

SAMPLE

STUDENT WORKBOOK



PAINTING IT BLACK

Black is the darkest of all the colors, but did you know there are actually many shades of black? Let's "paint" a picture of how black paint works with some hands-on activities! Paint can take a while to dry, and you will get the best result from the paint in this kit if you have more than one coat. In this first activity, we'll put on our first coat of paint so that we can study the painted objects in later activities.

I

THE POWER OF PAINT

WHAT YOU NEED:

FROM THE KIT:

- 2 granite
- Cardstock
- Marker
- Paint brush
- Super-black paint

OTHER ITEMS:

- Scissors
- Water

WHAT TO DO:

STEP 1

Fold the cardstock into four square sections.



STEP 2

Cut the four sections apart, using the folds to guide you.



STEP 3

Take one of the cut sections and fold it in thirds. Label the three folded sections: "blank," "marker," and "super-black."



STEP 4

Leave the “blank” section white. In the “marker” section, above the label, draw and fill in a square shape with the marker. It doesn’t have to be exact. In the “super-black” section, paint a square shape with the super-black paint. Set aside to dry.

STEP 5 Take another of the four cut pieces of paper and fold it in half.



STEP 6

Cut out a design along the folded edge (similar to how you would to make a paper snowflake). You can throw away or recycle the scraps.

STEP 7 Open the cut-out piece of paper and set it next to another blank piece on your painting surface.

STEP 8 Use the super-black paint to paint the middle of the un-cut piece of paper, and paint along the cut-out edges of the “snowflake”-cut piece of paper. Set aside to dry.

STEP 9 Grab the two granite rocks and paint a different design on each of them.

STEP 10 Once you paint the rocks, set them aside to dry.

STEP 11 Close the paint cap tightly and store it in a dark, dry, and cool place.

STEP 12 Wash the paint brush with soap and water, and be sure to clean up any spills before they dry.

STEP 13 Leave all of your painted objects at room temperature in a safe place where they will not get bumped or scratched.

STEP 14 After two hours, apply a second coat of paint to all of the surfaces you painted in this activity.

GLOSSARY

Albedo – the ability of a surface to reflect light, rather than absorbing it and changing it to heat.

Coating – a material that sticks to and covers a surface.

Mixture – a type of matter that can be separated physically.

Molecules – the smallest pieces of matter.

Pigments – substances that give materials color.

Surface reflectance – the amount of light that reflects off of a surface.

Synthetic – a type of material that is made from chemicals in a laboratory.

SAMPLE

ACCELERATE



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