

# Exploration 4: Decomposition, Part 2

**GRADE LEVEL** 4 - 6th

**DURATION** Prep time: 20 minutes; Activity time: 60 minutes

**SETTING** Classroom

In this activity, students will analyze the results of their decomposition investigation from Exploration 2. They then will use the knowledge they gained about the materials to create an artistic composition.

## MATERIALS

- Journal pages
- Colored construction paper (the cheaper the better, for faster fading)
- Scissors
- Tape
- The same light blocking materials that were used in Part 1: foil, plastic wrap, waxed paper, tissue paper, card stock, etc. This time, materials should not be pre-cut. Allow students to cut them into their desired shapes and sizes.

## EDUCATOR BACKGROUND

Students will use what they learned about decomposition in Part 1 to create an abstract composition of various shapes and contrasts through the deliberate use and manipulation of the fading process. They should consider the following:

- » What type of composition do they want to create, e.g., symmetrical, geometric, organic?
- » To create a layered effect, students can use two materials, each with varying abilities to let light through or block it out.
- » Areas where the paper is left uncovered will become lighter

## PROCESS

1. Begin by having students look back at their reflection from the previous session and respond to the prompt: Since last

time I . . .

2. Introduce the theme, vocabulary word, skill, and career of the day as follows:
  - » **Theme: Discovery**
  - » **Vocabulary: Composition.** The way pieces or elements are put together or arranged
  - » **Skill: Creativity.** The ability to generate original, imaginative ideas
  - » **Career: Designer.** Designers consider how people interact with an object, and then try to make that interaction better.
3. Give students time to record these concepts in their notebooks using their own words and/or drawings. Ask students to predict if this skill used by artists, scientists, or both.
4. Have students look back at their notebook pages from Exploration 2 to refresh their memories about the decomposition investigation and the predictions that they made.
5. Give students the construction paper that has been exposed to sunlight and let them remove the materials. Encourage them to compare their pages to their neighbor's sheets and discuss what they notice.
6. Have the whole class discuss the results, first focusing on general observations. You can use the I notice, I wonder prompts to guide the discussion.
7. Next have students work in small groups to rate each material based on how well it protected the paper from sun exposure. Use the rating system outlined in the notebook: 1 = did not block the sun, 2 = somewhat blocked the sun, 3 = mostly blocked the sun, and 4 = blocked the sun completely. Be sure that they understand that the lightest sections represent the areas with the least blockage, while the dark areas are those that were most protected from the light.
8. After each group has rated their materials, compile the class ratings on the board. As a class, review the ratings



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- and discuss any differences in how groups rated the materials.
9. If appropriate for your grade level, have students calculate an average score for each material based using the ratings of all the individual groups. If desired, students can also make a bar graph or other graphic display to represent the data.
  10. Discuss the results with students. Ask them if any of the results surprised them. Ask them to explain why they think certain materials were better at blocking the light than other materials.
  11. Students can paste their faded pieces of construction paper into their notebooks to save the results.
  12. Understanding the properties of materials is important not just for scientists, conservators, and architects; designers also need to be familiar with the materials they use. Tell students that now that they have learned so much about how these materials affect the paper, they will use that knowledge to create an abstract composition. They will have access to the same materials and a new piece of fresh construction paper. They can cut the materials into any shapes and sizes and place them on the paper in any arrangement.
  13. Encourage students to think first about how they want the construction paper to look after it has faded and the materials are removed. What shapes do they want to create? What shades of color do they want? How might these shapes and colors fit together within the whole composition? Once students have a clear idea of their desired end product, have them figure out how to use the available materials to create that effect. They should remember that the areas that are not covered will fade the most.
  14. Give students time to make their compositions. Place their works in an area with plenty of sun exposure, where they will be left for several days.
  15. Reflect on the skill of the day and ask students how they used this skill in today's activity. Ask students how the skill might be useful for designers and for scientists. Revisit the predictions they made at the beginning about who might use the skill and discuss how their thinking about this might have changed.
  16. End Exploration 4 by giving students time to respond to the reflection question in their notebooks: Designers use their creativity to imagine the things they want to make, but to make their ideas real, they must understand how their materials work. If you were a designer, how would you use the materials from today's activity to create something that would protect a work of art from being damaged by light? Students can also sketch their design on this page.

