



Diamond Fold: Star Variation

This lesson plan outlines the star variation of a diamond fold book. It is called a star book because when you open the book it looks like a star from the side. This diamond fold star book has a circular form and easily supports teaching cyclical content like the water cycle, rock cycle, and telling time. There are many other variations of diamond fold books that can be made depending on how you glue together your folded paper squares and how many squares you glue together.

Grades/Age Group: K-12

Approximate Time Required:

Prep: 30-45 minutes

Teaching: 10 minutes

Making the Book: 20-60 minutes depending on age and the depth of information students write

Materials Needed:

5 pieces of 8 ½ in. square text-weight paper

2 pieces of 4 ¼ in. square cover-weight paper

Prep Instructions:

1. Cut text-weight paper to 8 ½ in. squares: 5 per person. You can cut down 8 ½ X 11 in. copy paper.
2. Cut cover-weight paper to 4 ¼ in. squares: 2 per person. You can use cardstock, tagboard, or any recycled mat or cardboard. These will be used for the covers.

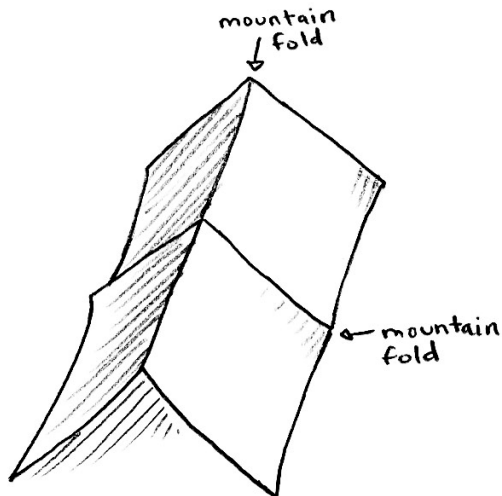
Teaching Overview:

Materials needed:

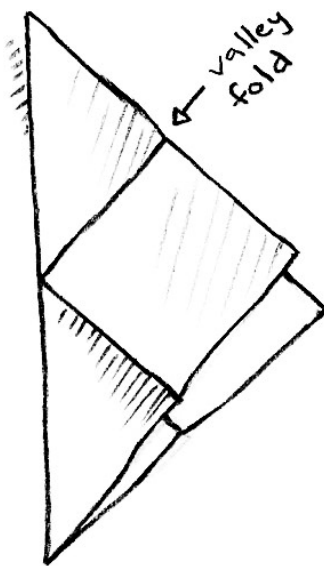
1. Pre-cut paper
2. Glue sticks
3. Writing and drawing materials

Procedure:

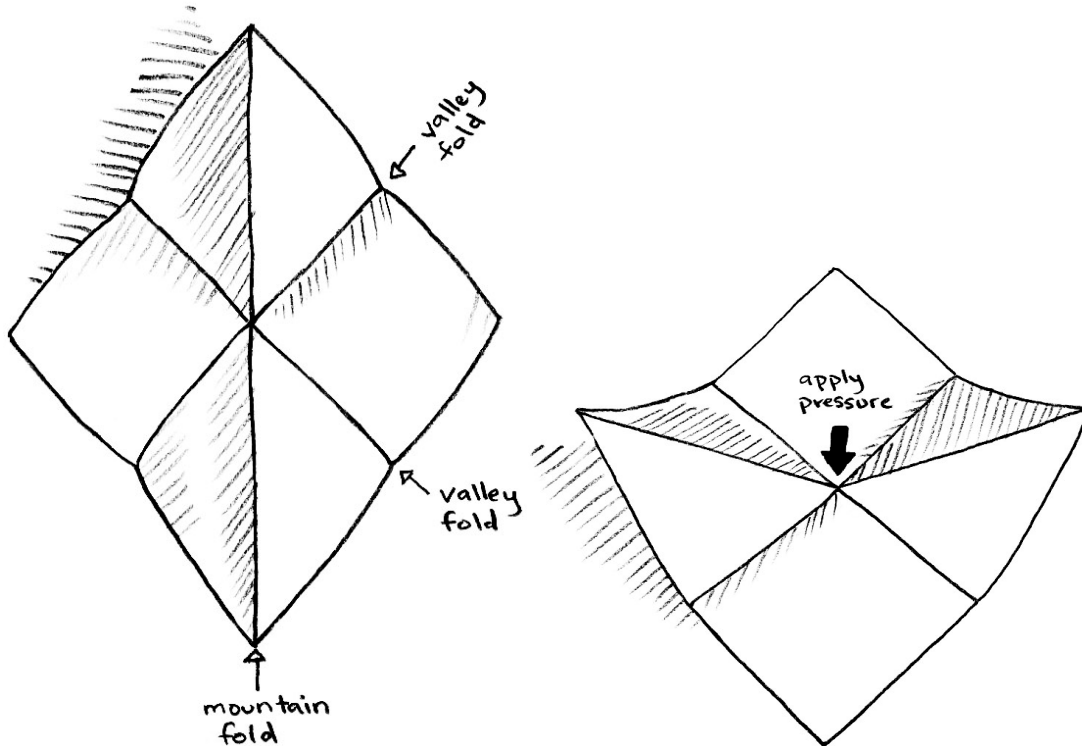
1. Each student gets 5 pieces of 8 ½ in. square text-weight paper.
2. The 8 ½ in. pieces are all folded in the same manner as outlined in steps 3-6:
3. Fold paper in half both ways, with the two folds on the same side. The two folds you just made will both pop up, making what looks like a mountain (see diagram on following page).



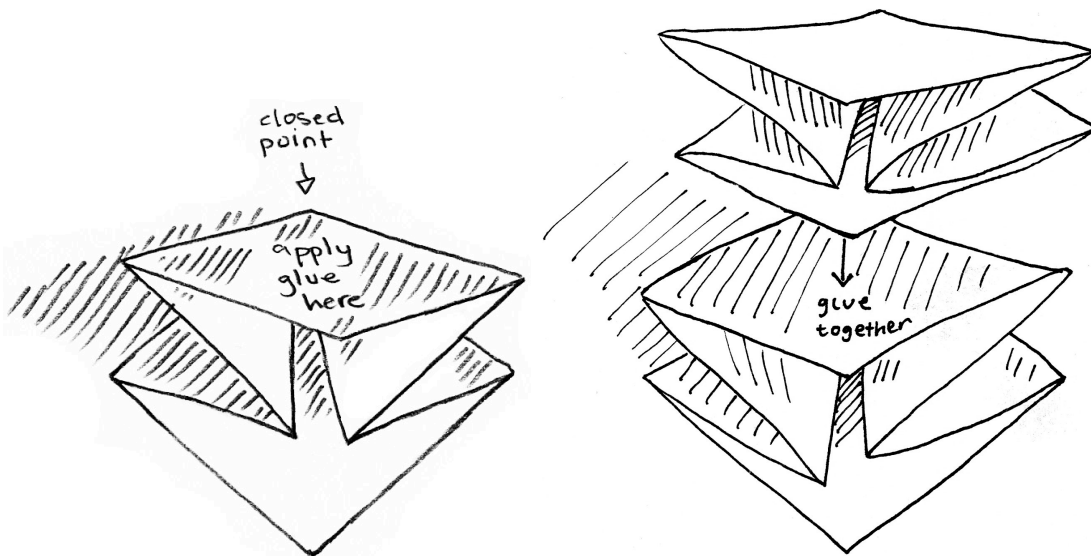
4. Fold in half diagonally on the *opposite* side of the two folds made in the previous step. The first two folds you made in step 3 will now look like a valley.



5. Open folds you just made so it stands as a mountain fold on top. Apply pressure with finger to the very center to *pop* the paper (see diagram on following page).



6. Gather the square and close it. There will be a *closed point*, and an *open point* on each folded square.



7. Put glue on the outside of one of the folded squares. Then press it to the outside of another of your folded squares. Make sure that the closed points are stacked on top of each other. Continue until all folded squares are glued in a stack, then glue covers to the front and back of the book. When open, the book will look like a star shape when viewed from the side.



Diamond Fold Star Variation – Lecture Overview:

Key Points:

1. Books can come in many forms that can present information in different ways.
2. Students are creating a book that stores information in a cyclical format instead of a linear format. This book can store linear information as well, such as information about the plot of a book, but it is uniquely formatted and suited to hold cyclical information.

Learning Objectives:

1. Students will increase their dexterity skills by folding and gluing accurately.
2. Students will learn content knowledge through book making.

Examples of Common Core applications:

Math:

- 6th grade math. Objective: ratios and proportional relationships: understand ratio concepts and use ratio reasoning to solve problems. Have students make a book about ratios.
- 4th grade math. Objective: operations and algebraic thinking: use the four operations with whole numbers to solve problems. Application: have students make a star book that helps them remember the steps in the order of operations.

Science:

- 8th grade science. Standard: Students will understand the processes of rock and fossil formation. Objective: Describe the nature of the changes that rocks undergo over long periods of time.)
- 4th grade science. Standard: Students will understand that water changes state as it moves through the water cycle. Objective: Describe the relationship between heat energy, evaporation and condensation of water on Earth. Describe the water cycle.

Language Arts:

- 11th-12th grade writing. Standard: Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences. Application: Have students make a star book and write on one of the panels each day for a series of days, perhaps adding illustrations if they like. Pick a theme for them for their project so that they are reflecting on the same topic at different times.



- 6th grade reading: Objective: Describe how a particular story plot unfolds in a series of episodes, as well as how the characters respond or change as the plot moves toward a resolution. Application: Have students make star books that outline the course of the plot of a work of literature.

Social Studies:

- 9th Grade U.S. History. Objective: The students will understand the emergence and development of the human rights and culture in the modern era. Application: Have students draw or paste pictures of important civil rights leaders on each of the panels of their star book and write about how they influenced human rights.
- Kindergarten Social Studies. Objective: Students will recognize and describe how schools and neighborhoods are both similar and different. Application: Students will learn about their different neighborhoods and draw different things in their neighborhood on their square papers before folding them into a star book.