

## Lesson 8: Mondrian's Art (Optional)

### Standards Alignments

Addressing 4.OA.B.4

Building Towards 4.OA.B.4

### Teacher-facing Learning Goals

- Apply understanding of factors, multiples, prime and composite numbers to create a geometric design.

### Student-facing Learning Goals

- Let's make art with rectangles.

### Lesson Purpose

The purpose of this lesson is for students to apply their understanding of the area of rectangles and factor pairs to create and analyze Mondrian-inspired art.

This lesson is optional because it does not address new mathematical content standards. It does give students an opportunity to develop mathematical modeling skills while applying the ideas of area, factors, multiples, prime numbers, and composite numbers.

Students create a piece of artwork that is based on area of rectangles and multiplication facts within 100. They begin by learning about Piet Mondrian and analyzing a number of his abstract paintings. They recognize that the paintings are composed of rectangles—some with the same area and some with different areas.

Students then outline their own composition, by dividing a 18-by-24 grid into rectangular spaces with certain requirements. Next, students examine a peer's artwork. They identify rectangles with equal areas and those that represent prime or composite numbers.

When students isolate and describe the mathematical elements in art and adhere to mathematical constraints to create art, they model with mathematics (MP4).

This lesson may take more than 60 minutes, as students may need additional time to color, analyze, and present their designs. Consider modifying the activities or expanding the lesson across 2 days to meet students' needs and any time constraints.

### Access for:

#### Students with Disabilities

- Action and Expression (Activity 1)

#### English Learners

- MLR8 (Activity 2)

## Instructional Routines

Notice and Wonder (Warm-up)

### Materials to Gather

- Colored pencils, crayons, or markers: Activity 1, Activity 2
- Glue or tape: Activity 2
- Rulers or straightedges: Activity 1
- Sticky notes: Activity 2

### Lesson Timeline

Warm-up	10 min
Activity 1	20 min
Activity 2	20 min
Lesson Synthesis	10 min

### Materials to Copy

- Centimeter Grid Paper - Standard (groups of 2): Activity 1

### Teacher Reflection Question

With which math ideas from today's lesson did students grapple most? Did this surprise you or was this what you expected?