

Mondrian Math

Fourth Grade + Math and Visual Arts

Adapted by Kara Moulds and Melissa Tingle

CORE SUBJECT AREA

Math

ART FORM + ELEMENTS

Visual Art

Line

Color

Space

MSCCR STANDARDS

4.NF.1

MSCCR CREATIVE ARTS STANDARDS

VA:Cr1.1.4 Generate and conceptualize artistic ideas and work.

a. Collaboratively set goals and create artwork that is meaningful and has purpose to the makers.

VA:Cr2.1.4 Organize and develop artistic ideas and work.

a. Explore and invent art-making techniques and approaches.

DURATION

At least 90 minutes

OBJECTIVES

Students will be able to know and/or do...

1. Convert mixed numbers to improper fractions and improper fractions to mixed numbers.
2. Create an art piece using the elements of space, color, and line to show mixed numbers and improper fractions.

MATERIALS NEEDED

Graph paper Colored Pencils (red, blue, yellow, and black) Worksheet (see attached) Powerpoint presentation on Piet Mondrian

VOCABULARY

Mixed number, Improper fraction, Whole number, Fraction, Numerator, Denominator, Primary colors, Positive shapes, Negative shapes, Occupied space, Unoccupied space

RECOMMENDED RESOURCES

Powerpoint on Piet Mondrian *Google Piet Mondrian. There will be several options to choose from.

LESSON SEQUENCE

1. The students will look at the art elements found in Piet Mondrian's artwork. The teacher will use a powerpoint presentation to show students and hold a discussion about the different elements found in his work, including line, color, and space.
2. The teacher will review how to convert mixed numbers to improper fractions and improper fractions to mixed numbers.

3. Students will complete eight problems on converting mixed numbers and improper fractions.
4. Students will choose three of the eight problems to represent in their masterpieces.
5. The students will complete a chart to show which primary color will represent their mixed number/improper fraction. If the student chose to use $2\frac{3}{8}$ for the color red, that student will “block” in 2 wholes (which would be 8 squares colored red for each since the denominator is 8). The student would color three more additional squares to represent $\frac{3}{8}$ and “block” it in with the additional five squares left white or uncolored. $\frac{3}{8} + \frac{5}{8} = 1$ whole. Every shape outlined represents one whole. (see attached picture)
6. The students will use graph paper and colored pencils to create their artwork. The teacher will remind students about the lines, shapes, colors, and positive and negative spaces Mondrian used in art. The students will use a black colored pencil to outline each block or section of eight squares.
7. The students will complete a reflection on today’s lesson.

EXTENDED LEARNING ACTIVITIES

1. Change the denominators to include mixed denominators instead of the same denominators to challenge students.
2. Allow students to create their own masterpiece and exchange with a partner. The partner writes the mixed number and improper fraction for each primary color.

SOURCES

Lesson Written by Kara Moulds and Melissa Tingle, 4th grade math teachers

TIPS + FREQUENTLY ASKED QUESTIONS

*It is a good idea to complete the first color together in order to guide students. Then, students can finish the artwork on their own.

*Students will need to see an example of the finished product, either a picture or an example completed by the teacher.

*Make sure students understand the concepts of positive and negative shapes, occupied vs. unoccupied space, and primary colors (mother of all colors).

*Examples of student art are in the uploaded worksheet.