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Resource ID#: 42590

Primary Type: Problem-Solving Task

Art Class, Variation 1

Students are asked to use ratios and proportional reasoning to compare paint mixtures numerically and graphically.

Art Class, Variation 1 (Microsoft Word): This file includes the task and related information in Microsoft Word format.

Art Class, Variation 1 (PDF): This file includes the task and related information in PDF format.

General Information

Subject(s): Mathematics

Grade Level(s): 7

Intended Audience: [Educators](#), [Students](#), [Parents](#)

Instructional Time: 10 Minute(s)

Freely Available: Yes

Keywords: Art Class Variation 1, art, class, variation, ratio, graph, cpalms, icpalms, illustrativemathematics.org, illustrative mathematics, tasks, mathematics, math, Florida standards, resource, free, freely available, problems-based learning, student activities, proportional reasoning

Instructional Component Type(s): [Problem-Solving Task](#)

Resource Collection: Illustrative Mathematics

Additional Information/Instructions

By Author/Submitter

Giving the amount of paint in "parts" instead of a specific standardized unit like cups might be confusing to students who do not understand what this means. Because this is standard language in ratio problems, students need to be exposed to it, but teachers might need to explain the meaning if their students are encountering it for the first time.

Source and Access Information

Contributed by: Brian Carmichael

Name of Author/Source: Brian Carmichael

District/Organization of Contributor(s):

Is this Resource freely Available? Yes

Access Privileges: Public

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Aligned Standards

Name	Description
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Recognize and represent proportional relationships between quantities.

- a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.
- b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.
- c. Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p , the relationship between the total cost and the number of items can be expressed as $t = pn$.
- d. Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points $(0, 0)$ and $(1, r)$ where r is the unit rate.

[MAFS.7.RP.1.2:](#)

Clarifications:

Examples of Opportunities for In-Depth Focus

Students in grade 7 grow in their ability to recognize, represent, and analyze proportional relationships in various ways, including by using tables, graphs, and equations.