

ACTIVITY: MIXING COLOUR

Materials

- Photocopied/printed water-colour ratio chart
- Primary colour inks: cyan, magenta, yellow
- 1 mL pipettes
- Plastic shot glasses
- Brushes
- Trays

Skills

Motor

- Using a pipette
- Mixing ink
- Painting

Cognitive

- Recording data
- Matching colour

Affective/metacognitive

- Persevering
- Focusing on a task
- Adapting
- Problem solving

Outcomes (Nova Scotia Curriculum)

Grade 4-6 Visual Art

Outcome 1: Students will explore the creative process, individually and collaboratively, using a range of materials and technologies, to create with respect and sensitivity a variety of artworks that express feelings, ideas, and understandings.

Performance Indicator

- Use a variety of materials, technologies, and tools to create art in many forms, referencing examples from diverse cultures for inspiration.

Grade 6 Mathematics

SCO N05 Students will be expected to demonstrate an understanding of ratio, concretely, pictorially, and symbolically. [C, CN, PS, R, V]

Performance Indicators

- N05.01** Represent a given ratio concretely and pictorially.
- N05.02** Write a ratio from a given concrete or pictorial representation.
- N05.04** Identify and describe ratios from real-life contexts and record them symbolically.
- N05.06** Solve a given problem involving ratio.
- N05.07** Verify that two ratios are or are not equivalent using concrete materials.

Essential Graduation Competencies (EGCs)

COMMUNICATION (Com)

- listen and interact purposefully and respectfully in a variety of contexts
- express ideas, information, learnings, and feelings through various media, considering purpose and audience
- engage in constructive dialogue

CREATIVITY AND INNOVATION (CI)

- gather information through senses to imagine, create, and innovate
- reflect and learn from trial and error

CRITICAL THINKING (CT)

- demonstrate curiosity, inquisitiveness, creativity, flexibility, and persistence
- ask relevant questions that support inquiry, decision making, and problem solving
- work individually, cooperatively, and collaboratively to draw conclusions, make decisions, and solve problems based on evidence

TECHNOLOGICAL FLUENCY (TF)

- recognize technology encompasses a range of learning tools and contexts
apply technology effectively and productively

Big Idea

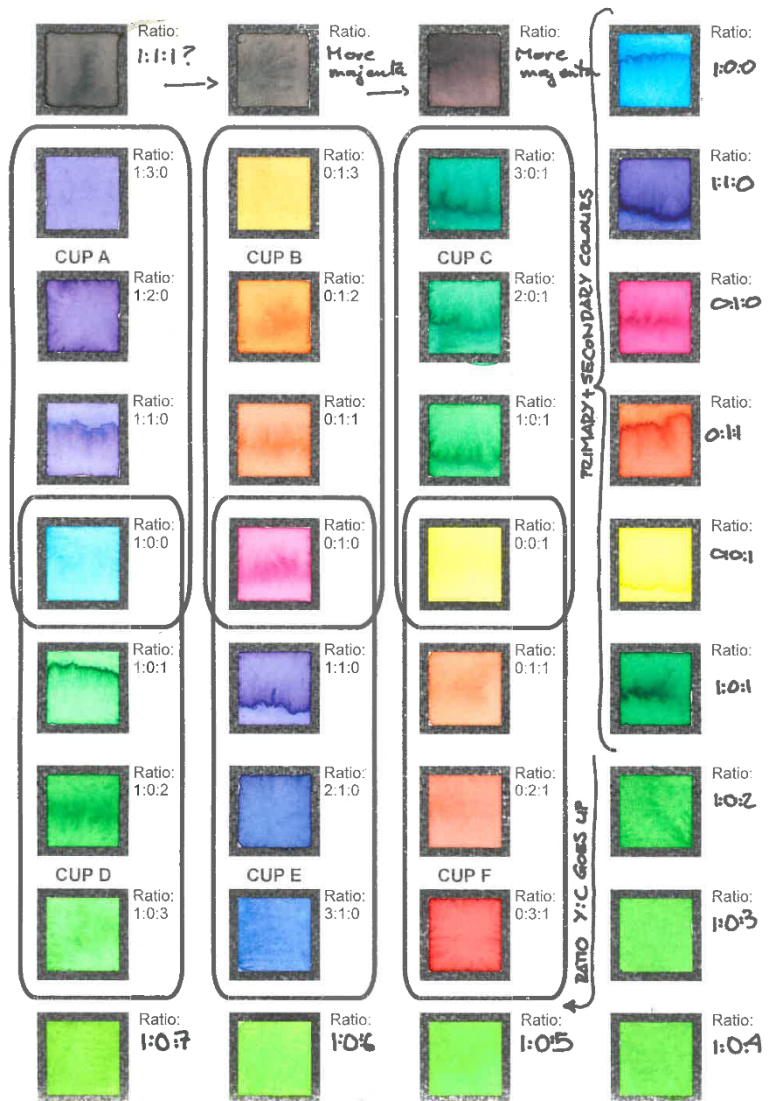
Colours are mixed using proportions of three 'primary' colours. Based on vision physiology, in printing these three colours are: cyan (a greeny-blue), Magenta (a strong pink) and yellow. Using various proportions of combinations of these three inks, students can discover how controlling ratios can help to control the outcome of colour mixing

Activity

In this activity, you will develop a “feel” for the ratio of the three ink primaries for making colours. When using the pipettes, always keep using the same pipette for the same base colour (C, M, Y) so that they do not become contaminated.

1. Mark 6 mini cups with the letters A-F.
2. Fill each cups with water to a height of about 5 mm.
3. Using a pipette, measure 1 mL of Cyan and add it to water cup A.
4. On the colour mixing samples chart, find the box marked with the correct ratio (Cyan to Magenta to Yellow, e.g. 1:0:0) and, using a brush, fill in the box with the mixture in cup A.
5. Repeat steps 3 and 4 with cup B and Magenta.
6. Repeat steps 3 and 4 with cup C and Yellow.
7. Starting with one of the three cups, add 1 mL of another primary colour to create a new mixture. Find the correct ratio next to a box and, using the brush, fill in that box. Do this for all the ratios marked (they are all in the larger marked, rounded rectangles).
8. Using the remaining boxes, experiment with ratios to get a feel for colour mixing. Consider what happens if all three primaries are involved.

Colour mixing samples (C:M:Y)



What if...?

...you mix the mixtures? Would the order matter? Are the ratios affected? What is the calculation then?

...you use different materials (ex. plasticine, poster paints, coloured sand, or cloth instead of paper)?

...you change the amount of water used?