

Standard: 6.RP.A.1. Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, “The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.” “For every vote candidate A received, candidate C received nearly three votes.”

Mathematical Practice or Process Standards:

SFMP 2. Reason abstractly and quantitatively.

Students solve problems by analyzing and comparing ratios and unit rates in tables, equations, and graphs.

SFMP 4. Model with mathematics.

Students model real-life situations with mathematics and model ratio problem situations symbolically.

SFMP 6. Attend to precision.

Students communicate precisely with others and use clear mathematical language when describing a ratio relationship between quantities.

Goal:

Students use real-world objects to compare two quantities such as the number of red candy pieces to the number of green candy pieces in the same bag (part to part) and the number of parts to a whole such as the number of red candy pieces compared to the total number of candy pieces in the entire bag (part to whole).

Planning:

Materials: plastic bags with approximately 35–40 pieces of M & M’s™ candies or 1-inch color tiles, paper and pencil to write the ratios

Sample Activity

- Give each student a bag of M & M’s™ to compare and model ratios. Divide students into partner pairs. Ask them to write a ratio comparing the number of M & M’s™ they have to the number their partner has. Students will count and compare the number of M & M’s™ each have in their own bags and then write the comparison such as $\frac{36}{40}$ or 36:40. Facilitate a discussion about how they just compared a whole to a whole.
- Next, ask students to compare the number of red M & M’s™ in their bags to the number of brown M & M’s™. Students will count and record comparisons such as 8 red/14 brown or 8:14. Facilitate a discussion about how this ratio compares a part of one whole to another part of the same whole (part to part). Ask students to create their own part to part ratios with their M & M’s™ and record.
- Ask students to count the number of yellow M & M’s™ and compare that number to the entire number of M & M’s™ in the bag, such as 7 yellow compared to all 36 in the bag. Have students record the ratio such as $\frac{7 \text{ yellow}}{36 \text{ bag}}$ or 7:36. Facilitate a discussion leading students to reason that the ratio they just created is a part:whole ratio. This can be done by reviewing the other types of ratios created earlier in this lesson.

