In these activities you will work together to interpret ratios as rational numbers and graph equivalent ratios. After completing each activity, discuss and/or present your findings to the rest of the class.

Activity 1 [Page 1.3]

1. A recipe for salad dressing calls for 2 tablespoons of vinegar and 3 tablespoons of olive oil.

   a. Using the ratio 2:3 on page 1.3, enter the numbers 1 to 9 in the top row and find the corresponding values in the second row. What do the numbers in the column starting with 7 mean in terms of the vinegar and olive oil?

   b. Jenny claims she can use the columns for 3 tablespoons of vinegar, 1 tablespoon of vinegar, and 7 tablespoons of vinegar to find the number of tablespoons of olive oil for 11 tablespoons of vinegar. Do you agree with Jenny? Why or why not?

   c. Use the table in at least two ways to help you figure out how much olive oil you would need for $5\frac{2}{3}$ cup of vinegar. Describe each of the ways.

Activity 2 [Page 2.2]

1. The table below shows the different mixtures of paint that the students made.

	A	B	C	D	E
Yellow	1 can	2 cans	3 cans	4 cans	6 cans
Blue	2 cans	3 cans	6 cans	6 cans	9 cans

   a. How many different shades of paint did the students make? Explain how you can tell.

b. Plot the points (yellow, blue) for the mixtures. What do you notice about the points? Select the points and draw the segment to check your prediction.

c. Some of the shades of paint were bluer than others. Which mixture(s) were bluer? Show your work or explain how you know.

d. How does the graph help you think about which of the mixtures is the bluer?

2. Three students are reading the same book for English class. On average, Jenn can read 5 pages in 3 minutes, Silvia can read 11 pages in 4 minutes, and Loren can read 3 pages in $3\frac{1}{2}$ minutes. Use the TNS lesson to graph (number of pages, minutes).

a. Explain how to use the graph to estimate the time it would take each of the students to read 4 pages.

b. Who will read the most number of pages in 15 minutes? How many pages will that person read? Explain your thinking.

c. How could you use the graph to find how many pages each student could read in 1 minute?

3. The science class built some solar-powered rockets and raced them in the school parking lot. The table shows the distance, *d,* in meters each of three robots traveled after time, *t*.

	Robot A	Robot B	Robot C
Time (seconds)	1	6	5
Distance (meters)	5	9	2

a. If each robot traveled at a constant speed, find other values for the time and distance for each robot. Plot the points (time, distance) and display the lines for each robot.

b. Use the graph to find which of the three robots was moving the fastest. Explain your thinking.

c. Suppose there is a Robot D. Find a ratio of time to distance for Robot D that would make Robot D faster than Robot B but not as fast as Robot A. Explain your reasoning. Then, check your work using the TNS lesson.