Unit 8, Lesson 4

Dot Plots

Let's investigate what dot plots and bar graphs can tell us.

4.1 Math Talk: What Percent?

Find each value as a percentage.

- 18 out of 50
- 7 out of 20
- 6 out of 60
- 12 out of 30

4.2 Computer Upgrades

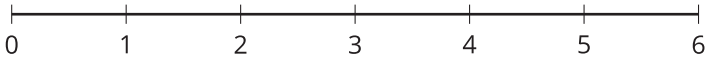
A computer shop offers upgrades to computers such as better graphic cards, additional memory, a larger monitor, or a wireless mouse. Fifteen customers are asked, "How many upgrades did you add to your computer?" Here are their responses:

1 2 1 3 0 1 1 2 0 3 0 0 1 2 2

1. Complete the table.

number of upgrades	frequency (number)
0	4
1	5
2	
3	

2. Use the frequency table to make a dot plot. Label your drawing clearly.



3. Use your dot plot to study the distribution for the number of upgrades. What do you notice about the number of upgrades that this group of customers ordered? Write 2–3 sentences summarizing your observations.

Are you ready for more?

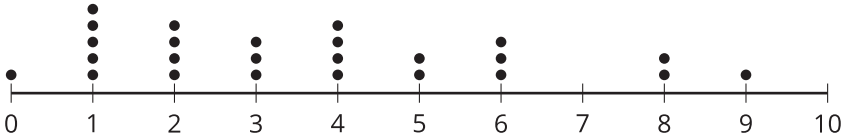
Think of a statistical question that can be answered with the data about the number of upgrades ordered, as displayed on the dot plot. Then answer your question.

4.3 Homework Time

Twenty-five sixth-grade students answered the question: "How many hours do you generally spend on homework each week?"

This dot plot shows the number of hours per week that these 25 students reported spending on homework.





hours spent on homework per week

Use the dot plot to answer the following questions. For each, show or explain your reasoning.

1. What percentage of the students reported spending 1 hour on homework each week?

2. What percentage of the students reported spending 4 or fewer hours on homework each week?

3. Would 6 hours per week be a good description of the number of hours this group of students spends on homework per week? What about 1 hour per week? Explain your reasoning.

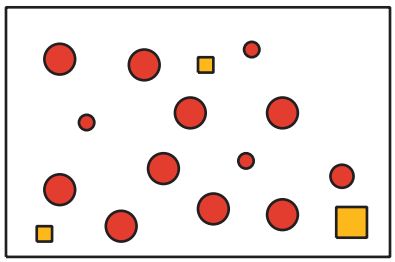
4. What value would you consider the center of the distribution of data? (Not necessarily the center of the number line shown.) Explain your reasoning.

5. Would the value you chose for the center be a good description of the number of hours spent on homework for these students?

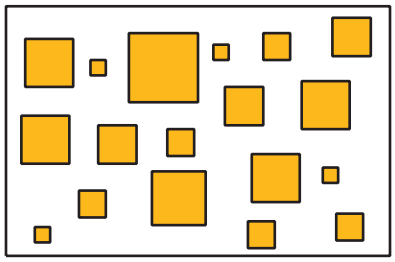
Lesson 4 Summary

We often collect and analyze data because we are interested in learning what is "typical," or what is common and can be expected in a group.

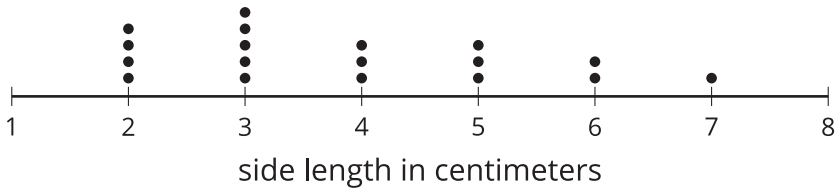
Sometimes it is easy to tell what a typical member of the group is. For example, we can say that a typical shape in this set is a large circle.



Just looking at the members of a group doesn't always tell us what is typical, however. For example, if we are interested in the side length typical of squares in this set, it isn't easy to do so just by studying the set visually.



In a situation like this, it is helpful to gather the side lengths of the squares in the set and look at their distribution, as shown in this dot plot.



We can see that squares with 3 centimeter sides are the most common and many others are about the same size. That means we could say that side lengths of about 3 centimeters are typical of squares in this set.