Looking at Data

What do data show?

When you **analyze** data, you decide what the data show. The data table below shows the data collected by a student doing an experiment on the growth of four plants over time. The last column of the table lists each plant's total growth. These numbers are based on the range of the data. **Range** is the difference between the greatest and least value in a set of data. From these data, you can see that Plant 2 grew the least and Plant 3 grew the most during the 9-week experiment.

The average, or **mean,** of a set of data is the sum of the values divided by the number of values. For example, here's how to find the average height of the plants in Week 9.

Heights of all the plants =
135 + 136 + 137 + 134 = 542 mm

Average height of plants =
542 mm ÷ 4 = 135.5 mm

You can use data in a table to find patterns. For example, the **mode** of a set of data is the value that occurs most often. Notice that in Week 1, 42 mm appears twice, but 34 and 41 appear only once. The mode in this case is 42 mm, because this value occurs most often. Data may show more than one mode or no mode at all. For example, the data for Week 3 has two modes 63 mm and 65 mm. However, no mode is shown in the data at the start of the experiment or in Week 5.

Plant Growth Over Time

	Height (mm)						
Plant #	**Start**	**Week 1**	**Week 3**	**Week 5**	**Week 7**	**Week 9**	**Total Growth**
1	21	42	65	89	111	135	114
2	25	42	63	92	111	136	111
3	15	34	65	91	110	137	122
4	20	41	63	90	109	134	114

Show What You Know

Use the data in the table above to find these values.

1. _____ the mean plant size at the start

2. _____ the mode in Week 9

3. _____ the range in total growth