▶ ACTIVITY 4.1
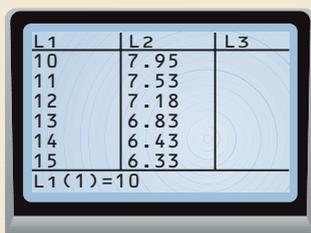
Using Technology

Graphing a Scatter Plot

▶ EXAMPLE

The table below shows the maximum time allowed for boys in the 1-mile run to qualify for the President's Physical Fitness Award. Use a graphing calculator or a computer to make a scatter plot of the data.

Age (years)	10	11	12	13	14	15	16	17
Time (minutes)	7.95	7.53	7.18	6.83	6.43	6.33	6.13	6.10

▶ SOLUTION

1 Write the data as a set of ordered pairs. Use age as the x-coordinate and time as the y-coordinate, for example (10, 7.95). Use the STAT EDIT feature to enter the ordered pairs as List 1 and List 2.

```
L1      L2      L3
10      7.95
11      7.53
12      7.18
13      6.83
14      6.43
15      6.33
L1(1)=10
```

2 Use **WINDOW** to describe the size of the graph. The x-values are between 0 and 20. The y-values are between 0 and 10.
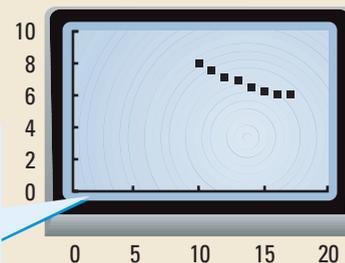
The x-scale is the number of units per mark on the x-axis of the graph.

```
WINDOW
Xmin=0
Xmax=20
Xscl=5
Ymin=0
Ymax=10
Yscl=2
```
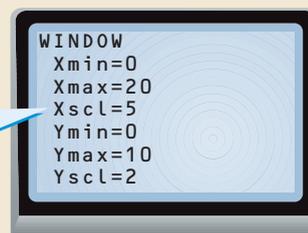
3 Use STAT PLOT. In this window, select scatter plot, List 1 for the x-values, and List 2 for the y-values.

```
Plot1  Plot2  Plot3
On  Off
Type: ▦ ∠ ⊪
      ⊹⋯ ⊹⊹ ∠
XList:L1
YList:L2
Mark:▫ ♦ ·
```

4 Use **GRAPH** to draw the scatter plot.

Tick marks will be 5 units apart on the x-axis.

▶ EXERCISES

1. LOOK FOR A PATTERN Describe any patterns you see in the scatter plot you made in the example above.

The table below shows the maximum time allowed for girls in the 1-mile run to qualify for the President's Physical Fitness Award.

Age (years)	10	11	12	13	14	15	16	17
Time (minutes)	9.32	9.03	8.38	8.22	7.98	8.13	8.38	8.25

2. Use a graphing calculator to make a scatter plot of the data.

3. LOOK FOR A PATTERN Describe any patterns you see in the scatter plot.

4. How does this scatter plot differ from the scatter plot for the boys' times?