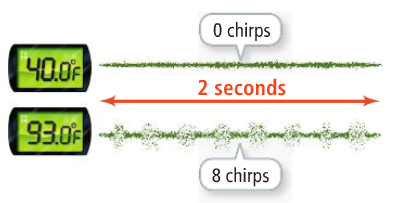
**Section 2–4B: Application of Linear Equations**

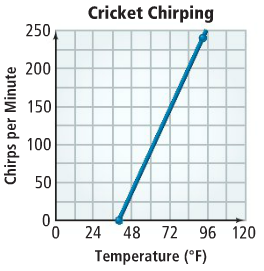
**Example: Drawing and Interpreting a Linear Graph**

**BIOLOGY:** the number of times a cricket chirps per minute depends on the temperature. The numbers of chirps in 2 seconds for two temperatures are shown here,



1. **What graph models the situation?**

First, you need to find the number of chirps per minute – because there are 8 chirps for every 2 seconds, so you need to multiply **30** in order to know the chirps per minute.



Let *x* = temperature in degrees Fahrenheit.

Let *y* = number of times a cricket chirps.

Plot and .

Now draw a line through the points.

1. **What is an equation of the line in standard form?**

Start with the slope formula:

Use the point-slope form: Substitute one of the points: .

Simplify.

Write in standard form.

1. **If the temperature is , how many times would a cricket be expected to chirp in one minute?**

Let .

Use the equation from part (b): Substitute.

Simplify.

If the temperature is , the cricket would be expected to chirp **135 times** in one minute.