5.878	E12
58.78	E11
587.8	E10
5878.	E9
58780.	E8
587800.	E7
5878000.	E6
58780000.	E5
587800000.	E4
5878000000.	E3
58780000000.	E2
587800000000.	E1
5878000000000.	ΕO
5,878,000,000,000	

Figure 9-1: Scientific notation and the light year.

When you enter E numbers in the compiler, use the proper E format. To display the numbers in E format with printf(), you can use the %e placeholder. To see how it works, replace the %f in the JUPITER.C program with %e, save the change to disk, recompile, and run the result. The output is in E notation, something like the following:

```
Jupiter is 8.223886e-05 light years from the sun.
```

If the E has a negative number in front of it, as shown in this example, you hop the decimal point to the left *nn* places, to indicate very small numbers. You would translate the preceding value into the following:

.00008223886

- ✓ Scientific, or E, notation is required when numbers contain too many digits for the C compiler to eat.
- ✓ A negative E number means that the value is very small. Remember to move the decimal point to the *left* rather than to the right when you see this type of number.
- ightharpoonup Some compilers allow you to use the %E (big E) placeholder in printf() to display scientific-notation numbers with a big E in them.