

## Section 9.5 Science Link

This worksheet will help you with the Science Link on page 341.

### Relative Measurements

The table shows the number of hours of sleep that certain creatures need in a day, relative to the sleep that adult humans need.

Creature	Hours of Sleep Relative to Adult Humans
Koala	+14
Pig	+11
Three-toed Sloth	+6
Cheetah	+4
Chimpanzee	+2
Human	0
Goat	-3
African Elephant	-5

1. **a)** How many more hours of sleep does a cheetah need than an African elephant?
  - b)** How many less hours of sleep does a goat need than a koala?
2. **a)** Adult humans need to sleep about eight hours a night. Explain why the value shown in the table above for adult humans is 0.
  - b)** Modify the table below to show the actual number of hours that each creature needs to sleep in a night. Koala is done for you.

- c) Repeat both parts of #1 using your modified table. Do the answers change?
  - How many more hours of sleep does a cheetah need than an African elephant?
  - How many less hours of sleep does a goat need than a koala?

Creature	Hours of Sleep Relative to Adult Humans
Koala	Example $(+8) + (+14) = +22$
Pig	
Three-toed Sloth	
Cheetah	
Chimpanzee	
Human	8
Goat	
African Elephant	

3. **a)** Make your own table using the ages of some people you know, relative to your age. Make sure that you include both positive (older than you) and negative values (younger than you) in the table.
- b)** Write two problems based on your table.
- c)** Have a classmate use your table to solve your problems.