Chapter Science Investigation Name _____

Remembering Your Dreams

What You Need

pencil

Find Out

Do this activity to see if you can recall what your brain does when you're asleep.

Process Skills

Observing
Communicating
Measuring

Time

- 5 minutes each morning for three weeks
- 30 minutes on the last day of the third week

What to Do

1. Set up your *Dream Journal*. Use three charts, one for each week. Keep your *Dream Journal* and a pencil near your bed.

2. Each morning when you wake up, quickly **record** everything you can recall dreaming. Also, **record** how many hours of sleep you got that night, and what time you woke up. Don't worry about whether your dreams make sense to you. Just be as accurate as possible with your descriptions. You may not always be able to recall your dreams. If not, leave that section of your *Dream Journal* blank.

3. At the end of three weeks, **evaluate** your dream data. Look for a pattern in the amount of detail you were able to recall and the time you woke up or the amount of sleep you got.

Dream Journal			
Week:	**Recall of Dreams**	**Amount of Sleep**	**Time You Woke Up**
Night 1			
Night 2			
Night 3			
Night 4			
Night 5			

Conclusions

1. Did you see a pattern in how much of your dreams you could recall and the time you woke up? Explain.
   Answers will depend on individuals' experiences.

2. Did you see a pattern in how much of your dreams you could recall and the amount of sleep you got?
   Answers will depend on individuals' experiences.

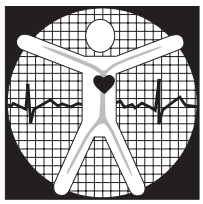
3. Which was more important to your recall of your dreams, how much sleep you got or the time that you woke up?
   Accept any reasonable answer.

New Questions

1. Why do you think your brain keeps working even when you are sleeping?
   because it is part of the autonomic nervous system

2. Write a new question you have about dreams.
   Questions will vary. Students should be encouraged to check references in the library or on the Internet to see if their question is a subject of current investigation.

Name _____



ACTIVITY

Modeling Neurons

Using your **model** as a basis, **write** a brief explanation of how neurons work.

The dendrites pick up nerve impulses from other nerve cells and pass them on to the axon. The axon carries the impulse out of the cell to the dendrites of the next nerve cell.

Name _____

Conclusions

1. How do dendrites function in the neuron?
Dendrites receive impulses and transmit the impulses through the nerve cell to the axon.

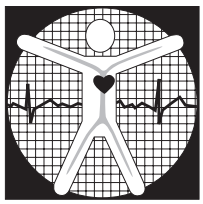
2. How does the fluid help send messages to the brain?
The fluid transmits the chemical impulse across the space between the axon of one neuron and the dendrites of another neuron.

Asking New Questions

1. What would happen if the fluid was somehow damaged?
Transmission of nerve impulses might be impaired.

2. Where do you think the impulses eventually go as they travel from neuron to neuron?
to the brain or spinal cord and then from the brain or spinal cord back to the source of the impulse

Name _____



ACTIVITY

Testing Short-Term Memory

Write the **order of numbers** you will use to **test** your partner.
Answers will vary.

List the numbers your partner remembers.
Answers will vary.

How many numbers did your partner get right before making a mistake?
Answers will vary.

After fifteen minutes, have your partner try to recall the same numbers. How many remain in his or her short-term memory?
Students will probably find that their partner cannot remember all the numbers.

Name _____

Conclusions

1. Compare your results with your partner's results.
Answer will vary.

2. Who remembered the most numbers?
Answer will vary.

3. Who has the longest short-term memory?
The same person identified in question 2.

Asking New Questions

1. Do you think testing your short-term memory on a regular basis would improve it?
Answers will vary, but most students will probably correctly conclude that such testing would improve short-term memory.

2. On an everyday basis, when do you need to use short-term memory?
Students may realize that a lot of testing in school involves short-term memory. They also use it when recalling homework assignments and running errands.

