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about what you are
reading in this space.

Science Shorts -7

Keeping the Body in Homeostasis

All living things require certain conditions to survive. They need specific resources from their external (outside) environment to survive. All living things need oxygen, food and water to be able to live. Living things must also be able to control their internal (inside) environments. Animals that are warm-blooded must be able to maintain a constant temperature inside their bodies. Animals that are cold-blooded do not maintain a constant temperature and must rely on the external environment to warm their bodies.

Homeostasis is the ability to maintain a stable internal environment. Homeostasis allows an organism to find balance. This could be balance between hot and cold, too wet or too dry, or any of many other conditions.

All living things have mechanisms for sensing when they need to adjust their internal environments. These can be complex systems or simple cells, but all of them provide information that tells the organisms that something needs to change. The environment inside or outside the organism affects it, and in response, parts of the organism provide feedback about how that environment is affecting the organism.

Temperature is an important part of the internal environment. Human beings are constantly creating heat since many of the chemical reactions in the body produce heat. However, people must also maintain an internal body temperature near 37° C (98.6°F). If the internal temperature climbs too high, as with a fever, it can cause brain damage and death. This means that people must release internal heat into the environment.

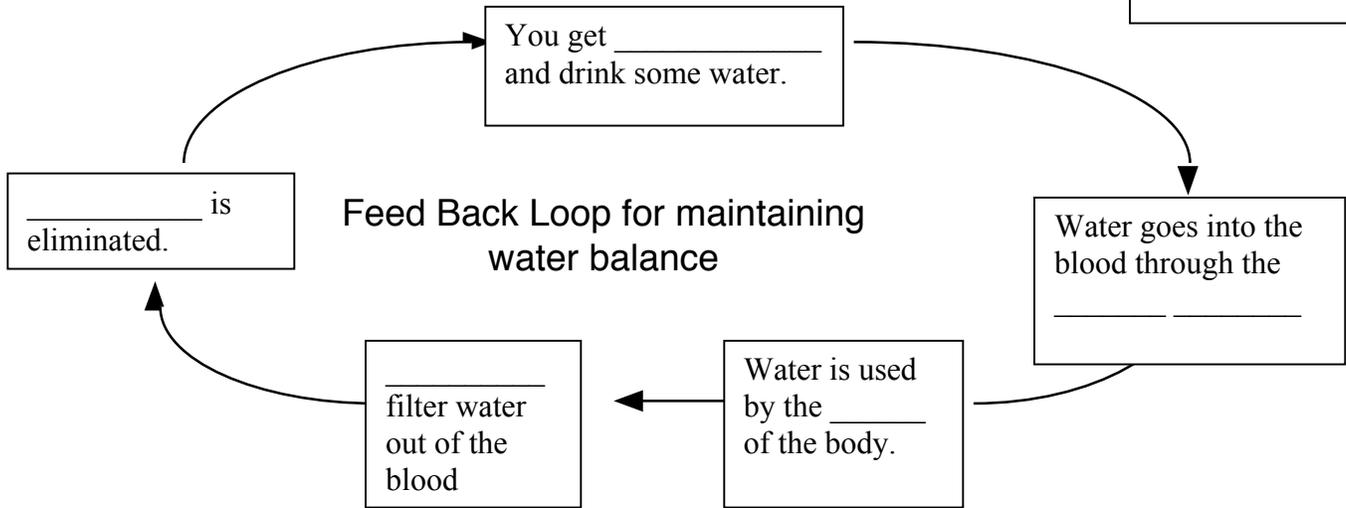
No special effort is required to maintain a normal body temperature when temperatures are mild. When the weather is hot, however, feedback mechanisms tell the brain that the body is overheating, and the brain takes steps to change the internal body temperature. The brain sends signals to the skin and sweat glands, causing people to perspire.

When we get thirsty we usually drink water. After the water has been put into the blood by the large intestine, it is used by the cells in your body. The kidneys filter the water and that increases the amount of water in the urine. When we have gotten rid of the extra water, then we get thirsty again. Thus maintaining homeostasis in our body.

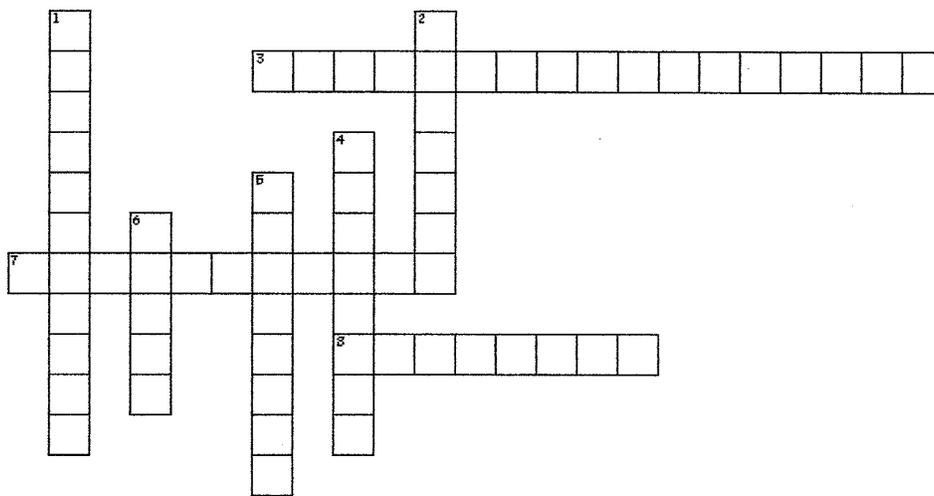
Directions:

Fill in the feedback loop below that tells us to drink water.

Word Bank
Large intestine
Thirsty
Cells
water
kidneys



Homeostasis



Across

- 3. How humans create heat
- 7. The ability to maintain a stable environment
- 8. Inside

Down

- 1. Animals that maintain a constant body temperature
- 2. Organs that filter water
- 4. Another word for sweat
- 5. Outside
- 6. When the internal temperature climbs too high