جامعة سوهاج
كلية الآداب
برنامج الترجمة الانجليزية
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الفرقة الرابعة
ترجمة نصوص علمية
الزمن: ساعتان

Translate the following texts into Arabic:

(1) Matter is frequently classified according to its electrical conductivity as a conductor, nonconductor, or semiconductor. Conductors have many electrons that are free to move and are useful in carrying, or conducting, electric current. All metals, particularly silver, copper, gold, and aluminum, are good conductors. Substances with few free electrons are called nonconductors, or insulators, because they do not carry electric charge and can be used to prevent electricity from flowing where it is not wanted. Air, wood, glass, and plastic are insulators. A few substances, like carbon, silicon, and germanium, do not fall into either of these categories. They are classed as semiconductors and are used in such electronic devices as transistor radios.

(2) Biomass is organic material such as trees, crops, manure, seaweed, and algae. Biomass captures and stores energy though a process called photosynthesis. Carbon dioxide from the air enters the leaf through the stomata. Water travels to the leaf cells from the soil through the xylem in the roots and stems. The captured light energy is then used to break down the water into oxygen molecules and hydrogen atoms and to join these hydrogen atoms to the carbon dioxide molecules to make sugar molecules. Six molecules of oxygen are produced as a waste product and are released into the air through the stomata. This energy can be released from any form

of biomass through conversion processes to produce a variety of useful energy forms—gas, steam, hydrogen, charcoal, methane, and synthetic oils with by-products for food, fertilizers, and chemicals as a bonus. These energy forms in turn can be used to produce electricity, heat, and transportation fuels, reducing the use of conventional nonrenewable energy sources.

(3) A tapeworm is a parasite that lives in the intestines of humans and animals. Some tapeworms attach themselves to the intestinal wall by means of suckers in their heads. Others float freely in the intestines and absorb food through the walls of their bodies.

A tapeworm consists of numerous segments. When a new segment forms, older ones move to the back of the animal. Each segment contains hermaphroditic sexual organs (that is, organs of male and female). The uterus of each segment fills with eggs, which develop into embryos. Generally, when the egg is ready to hatch, the segment breaks off and is eliminated through the host's excretory system. These embryos continue their development only if ingested by an intermediate host. One may be infected by tapeworms by eating undercooked beef, pork, or fish. Symptoms include irregular appetite, abdominal discomfort, anemia, weakness, and nervousness.

(4) Measurement ranks as one of our oldest skills. Many of the questions people ask every day begin with "How many?" or "How much?" A person may ask a friend, "How many brothers and sisters do you have?" or, "How much do you weigh?" The answers to both questions use numbers. But the first question is answered by counting, and the second by measuring. Each child in a family is a whole person and must be counted, not measured. But

a person's weight must be measured, and this is done by standing on a scale. Almost everyone uses measurement daily. The food we eat, the clothes we wear, the work we do, and many of the games we play involve measurement. For example, shoppers buy meat by the kilogram and cloth by the meter. Many workers are paid by the hour. An athlete who runs 100 meters in the shortest time wins the race. People also use measurement to help them understand one another and to work together easily. A boy could write to someone living far away and describe himself as tall and heavy. But it would be better if he described himself as 137 centimeters tall and weighing 40 kilograms. In the same way, a carpenter building a house can order a door that measures 76 centimeters wide and know it will fit the opening allowed for it. Every measurement involves two things: (1) a number and (2) a unit. A number by itself is not a measurement. There would be no point in saying that a stick has a length of 6. No one would know whether the stick was 6 centimeters or 6 meters long. But if someone described the stick as being 6 centimeters long, then the measurement would have meaning. There are two major systems of measurement: (1) the imperial system and (2) the metric system. The measurement units in each system are related to one another. The imperial system of measurement started in about the 1200's, though its units may be traced back even earlier. Most nations--and all scientists--use the metric system. The official name of this system is the Systeme International d'Unites (International System of Units). To make accurate measurements, people have invented such measuring tools as clocks, scales, tape measures, thermometers, and other devices.

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الزمن: ساعتان

Translate the following texts into Arabic:

(1) A robotic NASA explorer is poised to set sail Monday, July 30 on a mission to catch the solar wind and then return to Earth with a representative sampling of the primordial stuff that seeded the solar system.

Some 4.6 billion years after an interstellar cloud of gas, dust and ice collapsed and spawned the Sun and its attendant planets, the spacecraft will blast off in late July for a distant space harbor where conditions remain much the same as those at hand when the solar system formed.

Pristine material tossed off the turbulent sun then will be snatched up before the spacecraft swings back by Earth, flinging a sample return capsule toward a daring helicopter recovery over the Utah desert in September 2004.

The scientific prize: A cache of interplanetary matter that could enable 21st century researchers to decipher the elemental and isotopic make-up of the original solar nebula.

(2) Atoms, the basic building blocks of matter, are made of three basic components: protons, neutrons and electrons. The protons and neutrons cluster together to form the nucleus, the central part of the atom, and the electrons orbit about the nucleus. Protons and electrons both carry an electrical charge. The charges

they carry are opposite to each other; protons carry a positive electrical charge while electrons carry a negative electrical charge. Neutrons are neutrally charged - they carry no charge at all.

Electricity is the movement of charged particles, usually electrons, from one place to another. Materials that electricity can move through easily are called conductors. Most metals, such as iron, copper and aluminum, are good conductors of electricity. Other materials, such as rubber, wood and glass, block the flow of electricity. Materials which prevent the flow of electricity are called insulators. Electrical cords are usually made with both conductors and insulators. Electricity flows through a conductor in the center of the cord. A layer of insulation surrounds the conductor and prevents the electricity from 'leaking' out.

Objects usually have equal numbers of positive and negative charges, but it isn't too hard to temporarily create an imbalance. One way scientists can create an imbalance is with a machine called a Van de Graaff generator. It creates a large static charge by placing electrons on a metal dome using a motor and a big rubber band. Since like charges repel, the electrons push away from each other as they collect on the dome. Eventually, too many electrons are placed on the dome and they leap off, creating a spark that looks like a bolt of lightning.

(3) Magnets are materials that attract pieces of iron or steel. In ancient times, people first discovered magnetism when they found some naturally magnetic pieces of rock in the earth. They called these rocks lodestone. Loadstones have a lot of iron in them, but we now know that other materials can be magnetized as well. Nickel, cobalt, certain types of ceramics and certain blends of metals can also make good magnets.

If you could look at a magnet at the atomic level, you would notice that the magnet was divided into a number of smaller regions called domains. All of the atoms in a

domain point in the same direction and, since each atom acts like a little magnet, all of their little magnetic fields add together to make a larger, stronger field. A magnet can be weakened if some of its atoms are thrown out of alignment. Hitting or heating a magnet is usually enough to scramble some of its atoms.

Magnets have north and south poles. The north pole of one magnet will repel, or push away, the north pole of another magnet, and the south pole of one magnet will repel the south pole of another magnet. But, if you put the north pole of one magnet near the south pole of another magnet, you'll feel an attractive force. You may have heard the saying "opposites attract." This is just one of the rules of nature that scientists have discovered.

(4) Understanding scientific material requires an awareness of the basic method used by scientists. Western science began with the ancient Greeks, who believed that there was order in the universe and that events in nature could be predicted. Democritus originated the idea of the atom, Aristarchus suggested that the earth moved around the sun, and Anaximander proposed that human beings had developed from simpler forms of life.

It is interesting to wonder how much more advanced we might be if the progress of science had been steady since antiquity. By now, we might have communicated with other worlds or discovered a cure for cancer. Instead, science made very little progress during the Middle Ages. People were opposed to new ideas. Scientists were even thrown into prisons for trying to uncover the secrets of the universe. The great Italian genius Galileo was threatened with death when he refused to take back his statement that the sun rather than the earth was the center of our universe. Even as late as the 1800s, French biologist Louis Pasteur was laughed at when he suggested that diseases are caused by living things that are too small to be seen and can float through the air.

Modern science advanced only when people learned to open their minds to

new ideas and to make judgments based on facts that could be tested with experiments. A procedure known as the scientific method was developed for gathering and testing information.