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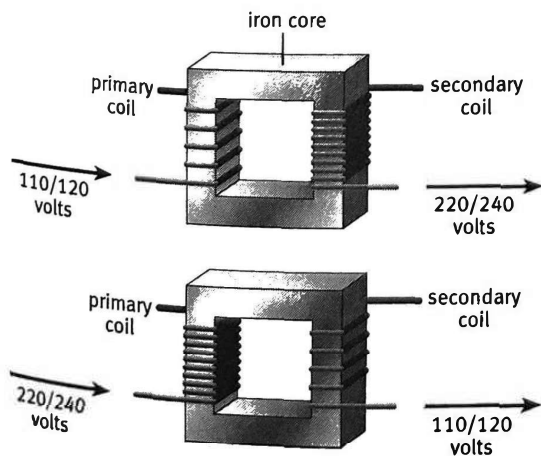
foods, and many fried foods. An excess of these fats in the diet raises lipid levels in the blood. The term *trans* refers to the opposed positioning of hydrogen atoms when unsaturated fats are partially hydrogenated.

transfer RNA (trăns/'fər) See under **RNA**.

transfinite number (trăns-fī'nīt') A number that is greater than any finite number.

transformation (trăns/'fər-mā'shən) 1. The genetic alteration of a bacteria cell by the introduction of DNA from another cell or from a virus. **Plasmids**, which contain extra-chromosomal DNA, are used to transform bacteria in recombinant DNA research. 2. The change undergone by an animal cell upon infection by a cancer-causing virus.

transformer (trăns-fôr'mər) A device used to change the voltage of an alternating current in one circuit to a different voltage in a second circuit, or to partially isolate two circuits from each other. Transformers consist of two or more coils of conducting material, such as wire, wrapped around a core (often made of iron). The magnetic field produced by an alternating current in one coil induces a similar current in the other coils. ► If there are fewer turns on the coil that carries the source of the power than there are on a second coil, the second coil will provide the same power but at a higher voltage. This is called a **step-up**



transformer

The increase or decrease in the voltage of a signal is related to the ratio of the number of turns of wire in the coils. In the upper transformer, the outgoing voltage is doubled because the secondary coil has twice as many turns as the first. In the lower transformer, the voltage is halved.

transformer. ► If there are fewer turns on the second coil than on the source coil, the outgoing power will have a lower voltage. This is called a **step-down transformer**. Compare **converter**, **rectifier**.

transform fault (trăns/'fôr'm') A type of strike-slip fault that accommodates the relative horizontal slip between other tectonic elements, such as tectonic plates, and is common along the edges of plates in mid-ocean ridge regions. The lateral displacement along transform faults often ends or changes form abruptly. See Note at **fault**.

transfusion (trăns-fyōō'zhən) The transfer of blood or a component of blood, such as red blood cells, plasma, or platelets, from one person to another to replace losses caused by injury, surgery, or disease. Donated blood products are tested for blood type and certain infectious diseases and stored in blood banks until they are used. The blood of the donor is shown to be histologically compatible, or *crossmatched*, with that of the recipient before transfusion. See more at **Rh factor**. See Note at **blood type**.

transgenic (trăns-jěn'ik) Relating to an organism whose genome has been altered by the transfer of a gene or genes from another species or breed. Transgenic organisms are used in research to help determine the function of the inserted gene, while in industry they are used to produce a desired substance.

transgression (trăns-grěsh'ən) A relative rise in sea level resulting in deposition of marine strata over terrestrial strata. The sequence of sedimentary strata formed by transgressions and regressions provides information about the changes in sea level during a particular geologic time. Compare **regression** (sense 4).

transistor (trăns-zīs'tər) An electronic device that controls the flow of an electric current, most often used as an amplifier or switch. Transistors usually consist of three layers of semiconductor material, in which the flow of electric current across the outer layer is regulated by the voltage or current applied at the middle layer. Having replaced the vacuum tube, transistors are the basis of much modern electronic technology, including the microprocessor. See also **logic circuit**, **logic gate**.

transit (trăns/'sīt) 1. The passage of a smaller celestial body or its shadow across the disk of

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