



LIFE·PAC<sup>®</sup>

Science



Alpha Omega Publications<sup>®</sup>

# Science 309

## HEAT ENERGY

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<b>Author:</b>	<b>Phyllis A. MacDonald, M.A.Ed.</b>
Editor-in-Chief:	Richard W. Wheeler, M.A.Ed.
Editor:	Mary Ellen Quint, M.A.
Consulting Editor:	Harold Wengert, Ed.D.
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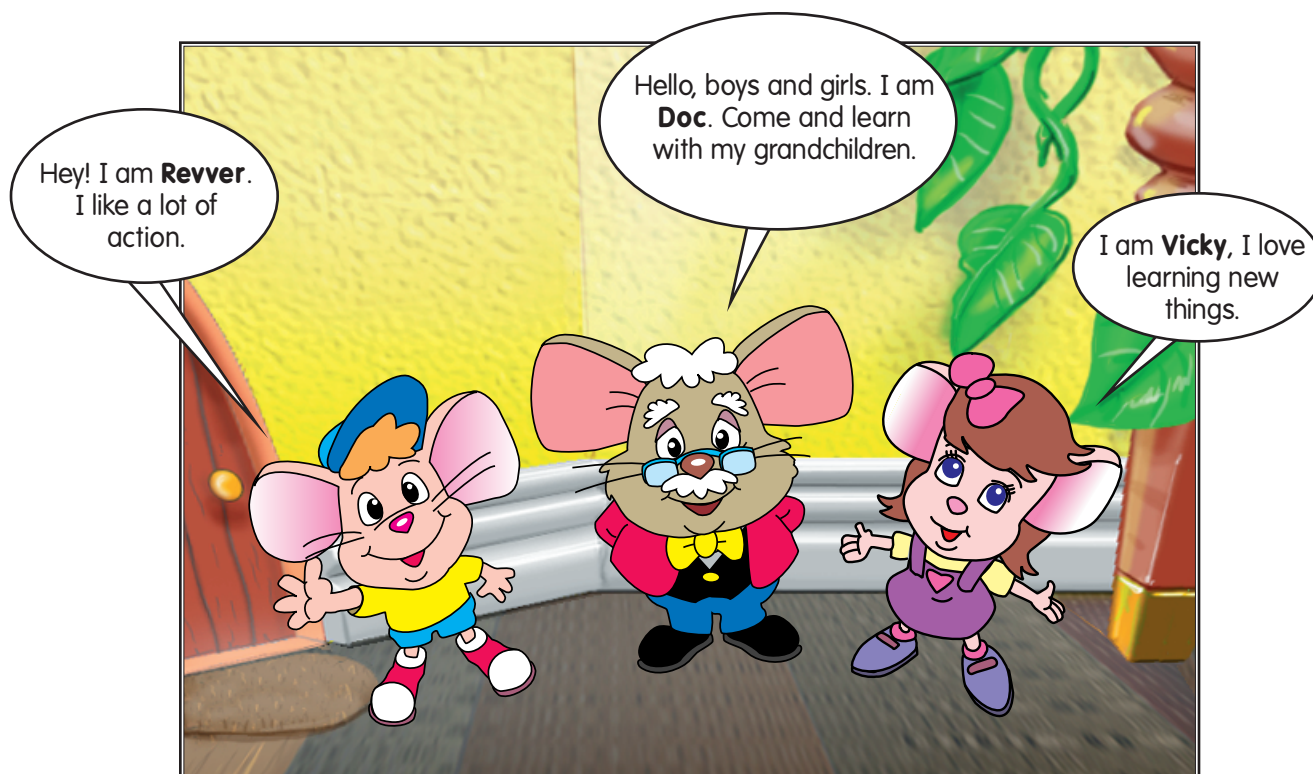
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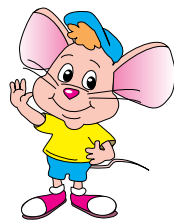
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## Learn with our friends:



When you see me, I will help your teacher explain the exciting things you are expected to do.



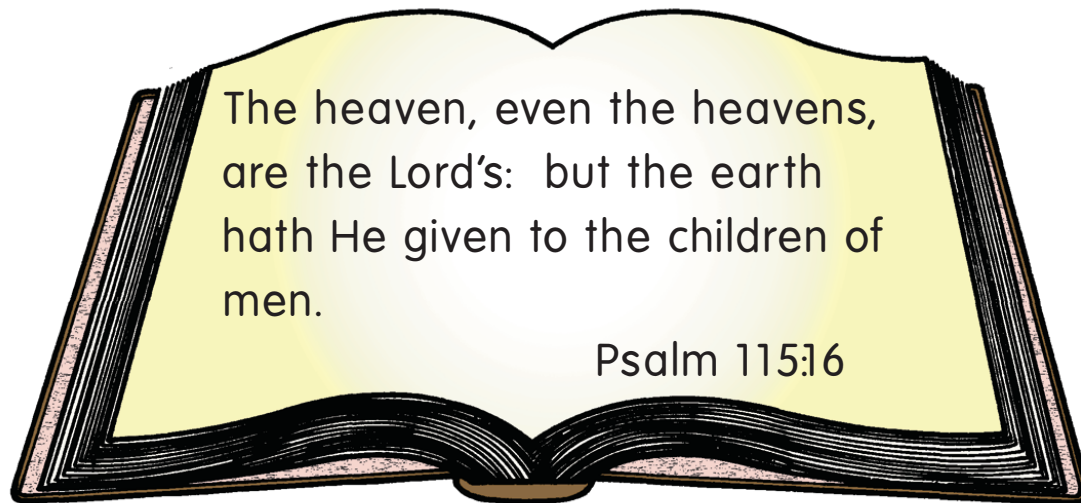
When you do actions with me, you will learn how to write, draw, match words, read, and much more.



You and I will learn about matching words, listening, drawing, and other fun things in your lessons.

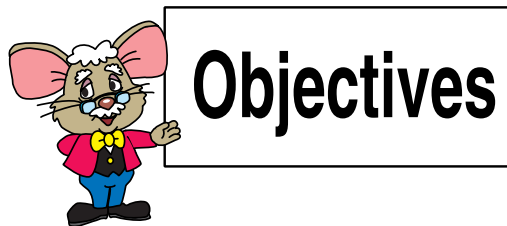


# HEAT ENERGY



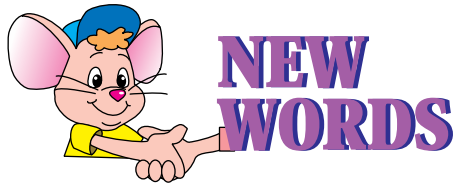
Heat, light, and all the resources of earth are a part of God's gift. You will need to learn as much as you can about the earth in order to save these resources for your children and their children.

This LIFE PAC<sup>®</sup> will help you to understand heat. You will find out where heat energy comes from and some things it can do. You will learn that heat energy is both good and bad for life on earth.



**Read these objectives.** They tell you what you will be able to do when you have finished this LIFE PAC.

1. You will be able to tell about five things that cause heat energy.
2. You will be able to show what heat energy does to gases, liquids, and solids.
3. You will be able to list some benefits and problems of heat energy.



**absorb** (əb sôrb'). To take in.

**ashes** (ăsh' iz). What is left after wood burns.

**benefit** (bĕn' ə fĭt). Anything that is good for a person or a thing.

**cinders** (sĭn' dĕrz). What is left after coal burns.

**conduct** (kən dŭkt'). To move energy from one molecule to another.

**conduction** (kən dŭk' shən). The movement of energy from one molecule to another.

**conductor** (kən dŭk' tĕr). Something that can move energy from one molecule to another.

**contract** (kən trăkt'). To make smaller.

**convection** (kən vek' shən). The movement of heat energy in gases and liquids.

**definition** (dĕf' ə nĭsh' ən). The meaning of a word.

**duct** (dŭkt). A tube or pipe for carrying air or liquid.

**dynamic electricity** (dĭ năm' ĭk ĭ lĕk trĭs' ĭ tē). A moving stream of electric energy.

**ecology** (ĭ kŏl' ə jē). The study of living things and their environment.

**effect** (ĭ fĕkt'). Something made to happen.

**energy** (ĕn' ər jē). Power or force.

**environment** (ĕn vĭ' rən mĕnt). Everything around someone or something.

**evaporate** (ĭ văp' ə răt). To change from liquid or solid to a gas.

**evaporation** (ĭ vǎp' ə rā' shun). The act of changing from liquid or solid to a gas.

**expand** (ĭk spǎnd'). To make larger.

**friction** (frĭk' shən). Rubbing two things together to make heat.

**fuel** (fyōō' əl). Something that can be burned to make a fire.

**furnace** (fûr' nĭs). A place to make and hold a fire.

**liquid** (lĭk' wĭd). Something that can be poured; like water.

**mercury** (mûr' kyə rē). A silver-colored liquid metal.

**microscope** (mĭ' krə skōp). Something used to make very small things look larger.

**molecule** (mōl' ə kyōōl). The smallest part of something.

**natural** (nāch' ər əl). Not made by man; God-given.

**neon** (nē' ōn). A gas burned to make light.

**observe** (əb zûrv'). To look; to see and learn.

**oxygen** (ōk' sĭ jən). A gas we cannot live without.

**perspire** (pûr spĭr'). To have water come out of the skin when a person gets hot.

**pollute** (pə lōōt'). To make dirty.

**pollution** (pə lōō' shən). The act of making dirty.

**produce** (prə dōōs'). To make.

**product** (prōd' əkt). Something that is made.

**provide** (prə vĭd'). To give.

**radiant** (rā' dē ənt). Sending out rays of light or heat.

**radiate** (rā' dē āt). To send out waves of light or heat.

**radiation** (rā dē ā' shən). The act of sending out waves or rays.

**resources** (rē' sôr sĭz). Things that meet the needs of people.

**solar** (sō' lər). Of the sun.

**solid** (sōl' ĭd). Not a liquid or a gas; hard to the touch.

**static** (stāt' ĭk). A kind of electrical energy.

**thermometer** (thər mōm' ĭ tər). Something used to measure heat.

**thermostat** (thər' mə stāt). Something used to control heat.

**transparent** (trāns pār' ənt). Can be seen through.

**vibrate** (vī' brāt). To move quickly to and fro.

These words will appear in **boldface** (darker print) the first time they are used.

**Pronunciation Key:** hat, āge, cāre, fār; let, ēqual, tērm; it, ĭce; hot, ōpen, ōrder; oil; out; cup, pūt, rŭle; child; long; thin; /TH/ for then; /zh/ for measure; /u/ represents /a/ in about, /e/ in taken, /o/ in lemon, and /u/ in circus.

## I. WHERE HEAT ENERGY COMES FROM

Did you ever rub your hands together when they were cold? Have you stood near a campfire on a chilly day? Perhaps you turned on the **thermostat** in your house to start the **furnace**. Did you ever put on a jacket or a sweater? Maybe you moved out of the shade into the sun.