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ON THE COVER: Solar panels located at a solar power station on the Tremiti Islands, Italy, **Photo Researchers:** Tommaso Guicciardini/Science Photo Library.

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PICTURE CREDITS: Peter Arnold: Fred T. Busk, p.4 (train); Phil A. Harrington, p.15 (computer chip); IFA, p.4 (windmill); SIU, p.9 top. Leon Borensztein: p.16 (center far left). Bruce Coleman, Inc.: M.P.L. Fogden, pp. 10-11. Comstock: Art Gingert, pp.2-3 top. Courtesy of General Motors, Inc. p.17 top center. The Granger Collection: p.3 center right, p.15 (Otto). Courtesy of Human Powered Machines: p.16 (supercycle). Peter Menzel: p.15 top left & right (robots), p.16 (tires), pp.16-17 bottom (train), p.17 solar cars (6). PhotoEdit: Tony Freeman, p.9 center left (3), p.15 (toaster); Dennis MacDonald, p.7 (burning sugar cane); Rhoda Sidney, p.9 (fire). **Photo Researchers:** Chris Bjornberg, p.8 (X-ray); Martin Bond/SPL, p.6 center; Scott Camazine, p.6 bottom left; Ray Coleman, p.4 (waterwheel); Jack Fields, p.6 top left; Eunice Harris, p.6 center left (solar phone); Fritz Henle, p.4 (clipper ship); Dana Hyde, pp.2-3 bottom; Phil Jude/SPL, p.8 (rainbow); Paolo Koch, p.16 center left (trash), pp.16-17 top; Krafft-Explorer, pp.6-7 top; Mehau Kulyk/SPL, p.5 top left; Library of Congress/Mark Marten, p.9 (Einstein); Los Alamos National Laboratory/Mark Marten, p.7 center right; Tom McHugh, p.5 (oil well); John Mead/SPL, p.5 (wind turbines); David Parker/SPL/Science Source, p.8 (prism); Porterfield/Chickering, p.4 center (ocean liner); Earl Roberge, pp.6-7 center (dam). Sovfoto/Eastfoto: p.7 lower right.



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ORIGINAL ILLUSTRATIONS:

Acme Design Company: Potential energy, p.3; Fission and Fusion, pp.6-7; Moving heat molecules, p.9; Piano keys, Swing machine, p.14; Energy experiments, p.18.
 Michael Kline Illustration: Cartoons, cover; Earth's energy bill, p.2; Energizers, pp.3,7,9,15; Check It Out sun, p.5; Light waves, pp.8-9; Sun-powered cars, PRT illustration, p.17; Energetic Acrostic, Rooting for Roots, p.19.
 Wood Ronsaville Harlin, Inc.: Photosynthesis and Digestion, Carol Schwartz, pp.12-13.

ANSWERS:

PAGE 5: How does the sun's energy create wind power? *The sun heats up the earth in uneven patches. Sandy and rocky areas get hotter than areas with lots of plants and trees. The land heats or cools the air above it. Since warm air is lighter than cool air, warmer air rises and cooler air comes in to replace it. This movement of air is wind.*

PAGE 7: When will water stop running downhill? *When it gets to the bottom.*

PAGE 8: Which is faster, heat or cold? *Heat. It's easy to catch cold.*

PAGE 13: Why do marathon runners eat large quantities of pasta the day before a race? *Pasta is made up of carbohydrates, and carbohydrates are the form of plant energy most easily converted into energy that people need to live and move about.*

PAGE 16: Why can't a bicycle stand by itself? *Because it's two-tired.*

PAGES 18-19:

ENERGETIC ACROSTIC:

- Source of most of earth's energy (it's big and very hot.) **S U N**
 - Particle source of nuclear energy. **A T O M**
 - Electromagnetic radiation (Opposite of dark.) **L I G H T**
 - Labor-saving device (A dishwasher is one.) **M A C H I N E**
 - Visible spectrum (Somewhere over the _____) **R A I N B O W**
 - Thinking machine (It can play chess with you.) **C O M P U T E R**
 - Glucose stored in plants (It is found in spaghetti—and on some shirt collars!) **S T A R C H**
 - Kind of energy produced by boiling water (Rhymes with beam.) **S T E A M**
 - This kind of light causes sunburn **U L T R A V I O L E T**
 - Stored energy **P O T E N T I A L**
 - Energy in motion **K I N E T I C**
 - Name of first sun-powered car **S U N R I D E R**
 - The ability to get work done (Some days you have lots of it.) **E N E R G Y**
 - The energy of moving molecules and atoms (It comes from a radiator.) **H E A T**
 - A machine that can look like a person **R O B O T**
- The letters in the suns spell **S O L A R C H A L L E N G E R**

ROOTING FOR ROOTS: 1. c; 2. f; 3. e; 4. a; 5. d; 6. b.

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