

The Old Farmer's Almanac for Kids

ACTIVITY GUIDE

by Faith Hickman Brynie

Welcome, teachers, parents, and kids!

We at *The Old Farmer's Almanac for Kids* want you to have fun with our latest book. What's more, we think you'll agree that there's a lot to be learned from the articles, stories, and features on its pages. This guide is designed to help you identify opportunities for extending the fun and the learning beyond the printed page. In some cases, we ask questions, but we don't provide answers. That's because looking for the answer is often more important than the answer itself. It's the process—not the product—that matters.

To get the most from *The Old Farmer's Almanac for Kids* . . .

- 🎬 Begin by reading and talking together about interesting items in the Almanac.
- 🎬 Use entries in the Almanac to spur further discussion and research, whether in your classroom or library or on the Internet.
- 🎬 Encourage questions. You may not know the answers, but perhaps you can find them together. In such cases, the journey is as important as the destination.
- 🎬 Take every opportunity to turn your discussions or research into a tangible product. Write a poem, story, or original song. Build a model. Make a scrapbook. Take photographs. Paint pictures. Draw diagrams. Make bulletin board displays or a refrigerator gallery. (You'll find specific suggestions for these in this guide.)

We offer some ideas for each chapter at these links, but the interests and ideas of children and adults exploring and learning together will generate many more. Have fun!

ABOUT THE AUTHOR

Faith Hickman Brynie is the author of 17 science and health trade books for children and young adults. Some of her books have earned awards from the American Association for the Advancement of Science, the National Science Teachers Association, the Children's Book Council, and the International Reading Association. She holds a Ph.D. in science education (curriculum and instruction) from the University of Colorado, Boulder. A former high school biology teacher and university professor, she also was the first "Scholar in Residence" to serve overseas schools of the U.S. government (for children of embassy personnel, for example). She is a frequent contributor to *ODYSSEY*, a popular science magazine for middle-school children, and edits the *ODYSSEY* Teacher's Guide.

Foreword: A Young Farmer With a Big Idea

FO1. Accept the invitation to e-mail the editors and publishers of *The Old Farmer's Almanac for Kids*. Tell us what you think Robert B. Thomas would have thought about this newest addition to his "family." Then add your own ideas and opinions. We want to hear from you! Contact us at Almanac4kids.com/tellus.

ASTRONOMY:

A1. Don't wait for a blue Moon to have a Moon-theme party. Play classic songs like "Moon River," "Shine on, Harvest Moon," "Moonlight Bay," and "By the Light of the Silvery Moon." Invite your guests to make and wear Moon masks. Serve a Moon cake, and offer blue Moon punch. To make the punch, combine 1 quart purple grape juice, 1 cup white grape juice, 1 cup grapefruit juice, 1/2 cup honey, and 2 quarts club soda. To make a crescent Moon-shape ice cube to float in the punch bowl, put a little water into a freezer-proof bowl and tilt the bowl when you place it in the freezer.

A2. Use a pencil, a Styrofoam ball, some black paint, and a friend to demonstrate why we always see the same side of the Moon. Paint one-half of the ball. Poke the pencil through the ball along the axis defined by the black/white edge. Have the friend pretend to be Earth and stand in one place. Move your Moon model in a circle around Earth. Keep the white side toward Earth. By the time you return to your starting point, the Moon will have rotated once on its axis. It will also have revolved once around Earth.

A3. Make a calendar for next year using Moon months. Make up your own names and add appropriate calendar art. How about "Shamrock Moon" for March or "Watermelon Moon" for July? Make sure that you put the phases of the Moon in every Moon month. To see when the Moon phases will be each month, go to Almanac.com/astronomy/moon.
Ready for a math challenge? Calculate your age in Moon months.

A4. Greenland's traditional Inuit people believed that the Moon chases his sister, the Sun, across the sky. He races so fast that he forgets to eat, so he grows thin, becoming the sliver of the crescent Moon. He must stop to eat, so for three days every month, he disappears, only to return and grow, strengthened once more for the chase that never ends. Collect stories like this one into a scrapbook. Better yet, write and illustrate a Moon myth of your own.

A5. Make a picture that looks a little like an aurora. Put some milk in a shallow baking dish. Add a few drops of red and green food coloring. Swirl gently. When you see a pattern you like, press a piece of white paper straight down on the surface; then lift, turn, and set right-side-up on newspaper to dry. Like the real aurora, no two are alike!

A6. Build a pinhole viewer for safely watching eclipses. Punch a pinhole in a piece of white cardboard. Stand with your back to the Sun. Hold a second piece of white cardboard behind the pinhole. Let the sunlight pass over your shoulder and through the pinhole. You'll see the image of the eclipse on it. Remember, stand with your back away from the Sun. Never look into the Sun.

A7. Use a bar magnet from a toy construction set to make a compass. Tie a thread around the middle of the magnet. Tape the thread to the edge of a table. When the magnet stops swinging, it will hang on a north-south line.

A8. Need a science fair project? Here's an idea. Make a big ice cube in a bowl. Turn it out, small side up, into a shallow pan. It is your model of a mountain in winter. Set a desk lamp close to the mountain, with its rays coming from the south. It represents the Sun in winter. Watch closely and take photographs or draw pictures of what happens. Use your model to explain why evergreens grow on the north sides of mountains, while deciduous trees—sometimes even grasses and shrubs—grow on the south side.

A9. Find out how some famous comets got their names. Do some research on Comets Encke, Hale-Bopp, Donati, Shoemaker-Levy, and Ikeya-Seki. Some comets are noted for their years. Look up the “Great Comets” of 1843 and 1861.

A10. Visit NASA's “Planet Profiles” at <http://pds.jpl.nasa.gov/planets/special/planets.htm> to find the diameter, mass, and other data for all the planets in the solar system. Do some arithmetic to find out how many trips from Miami, Florida, to Los Angeles, California, it would take you to travel the same distance as straight through the center (across the diameter) of each planet. How does the mass of each planet compare with the Moon's 500 quintillion (5×10^{20}) tons?

A11. The ancient Romans named Earth's nearest five planetary neighbors after their mythological gods. When the three outer planets were discovered, the tradition continued. Research the Latin names of the planets and the gods they honor. In your library or on the Internet, find the older planetary names that the ancient Greeks, Babylonians, and Sumerians used.

A12. If meteorites have landed in your backyard, you may be able to find them. Glue or tape a strong magnet to the end of a broom handle. Meteorites contain a lot of iron, so your magnet will stick to them. Some ordinary Earth rocks contain a lot of iron, too, so they will stick also. You can tell which are meteorites by looking for the fusion crust, a thin, glassy coating that formed when the meteorite superheated during its fall through Earth's atmosphere.

A13. In the mood for a good book? Mars enthusiasts will love *Fourth Planet from the Sun: Tales of Mars from the Magazine of Fantasy and Science Fiction*, edited by Gordon van Gelder (Thunder's Mouth Press, 2004). It's an anthology of stories penned by some of the great science-fiction writers, including Ray Bradbury, H. G. Wells, and Arthur C. Clarke.

WEATHER:

W1. If you play a musical instrument, compile a sheet music collection of weather-related songs and play them for your friends. Try such old favorites as “Singing in the Rain,” “Stormy Weather,” “Heat Wave,” and “Blue Skies.” If you don’t play, you can still sing along to “You Are My Sunshine” and “Let It Snow.” If you prefer to listen, you’re sure to enjoy the “Cloudburst” movement of Ferde Grofé’s *Grand Canyon Suite*. Check out CDs of this music at your library.

W2. Set up your own weather station equipped with homemade weather instruments. An olive jar makes a great rain gauge. A flag on a pole reveals wind direction. Measure wind speed by building your own anemometer. You’ll find construction techniques and tips on many Web sites and in books at your local library.

W3. How accurate are weather forecasts? Keep a weather diary for one month. Each evening, record the forecast for the next day (get a report from the TV, on the radio, or at Almanac4kids.com/weather). Then, record what you see when you look out your window in the morning and again later in the afternoon. Calculate a percentage to express how accurate the forecasts were in the morning, in the afternoon, and for the entire day.

W4. Everybody *talks* about the weather, but they don’t *do* anything about it. Or do they? Research cloud seeding, artificial snow, and other ways that people try to change the weather. How well do they work? Tape record or videotape a “news report” of your findings that you might present on a radio show or a TV news magazine program.

W5. An *ode* is a formal, lyrical poem that praises a person or an object. Write an “Ode to a [pick the type] Cloud.” Use descriptive terms to convey the cloud’s beauty, its architecture, and a sense for the weather it brings.

W6. Take digital or film photographs of clouds. Make a photo album to show people which cloud types you see most often where you live.

W7. The average radius of a water droplet in a cloud is 10 micrometers. The radius of a raindrop is 1,000 micrometers. How many cloud droplets make one raindrop? To find the answer, use the formula for the volume of a sphere: $1.33 \times \pi \times r^3$ (“pi,” which is 3.14) $\times r^3$ (the radius cubed). (You’ll find our answer at the end of this section.) By the way, a small cumulus cloud weighs about 500 metric tons. That’s more than a fully loaded Boeing 747!

W8. Pick a recent day and make a weather map depicting the conditions. Use real weather maps from the newspaper or the Internet as examples, and create a key code to explain the symbols on your map.

W9. Make a cloud in a jar. Set a small candle in the bottom of a 1-quart canning jar. Put about 1 inch (2.5 cm) of hot water in the jar, around the base of the candle. Put ice in a plastic bag. Make the bag full enough to sit on top of the jar without falling in, but don’t

put it on yet. Light the candle and let it burn for a minute. Then quickly blow out the candle (it should smoke a little) and immediately put the ice bag on top of the jar. Put a black piece of paper behind the jar and shine a flashlight into it. You should see a cloud forming.

W10. Make a Fahrenheit/Celsius temperature conversion board. Cut a vertical slit near each end of a strip of poster board about six inches wide. Glue or staple the end of a piece of red ribbon to the end of a piece of white ribbon. Thread the glued ribbon through the slits and tie, glue, or staple its ends together in the back. (By moving the ribbon, you should be able to slide the red/white junction back and forth along the front of the board.) Copy the Fahrenheit and Celsius scales above and below the ribbon, so that the red/white seam lands at equivalent temperatures at any point on the scales. Notice that at -40° both scales read the same.

W11. One way to test for acid rain is to use packaged pH indicator strips. (You can buy them at aquarium shops and at pool and spa supply stores.) Like red cabbage water (page 30), they change color in acids and bases. A color-code scale on the package gives you a number for how strongly acidic or basic the rain is.

W12. On the night of December 25, 1776, George Washington led his revolutionary troops across the Delaware River to attack the British at Trenton, New Jersey. They battled raging winds, driving sleet, and floating ice to reach their target and earn a major victory in America's war for independence. Make a poster or bulletin board display of other events in history in which weather played a major role.

W13. Tennis ball-size hail is bigger than golf ball-size hail, but exactly how *much* bigger? To answer that question, find the volume of each ball. Fill a container to the brim with water and place the container in a shallow pan. Place one ball into the water and totally submerge it. Pour the runoff in the pan into a glass. Refill the container, place it in the pan, and submerge the second ball. Pour the runoff water into a glass the same size as the first. The amount of water that runs over the edge of the container when each ball is submerged equals the volume of the ball.

W14. Reread the limerick on page 35. Then write a weather limerick of your own, beginning with the first line,

“When snow fell in Uzbekistan,” . . .

W15. Why do you feel colder when it's wet and windy? Try this demonstration for an answer. Wet your hand. How does it feel? Now blow on it. What explains the difference?

W16. Find out how far away you are from a thunderstorm. When you see a flash of lightning, start counting seconds like this: “1,001, 1,002, 1,003, . . .” and so on. Stop when you hear thunder. Divide the number of seconds by 5 (for miles) or by 3 (for kilometers) to estimate the distance between you and the center of the storm. This works because sound travels more slowly than light. A clap of thunder needs about 5 seconds to travel 1

mile. By the way, thunder sounds sharp and loud when it's close. The low, rumbling rolls of thunder you hear are far away. What's the distance limit for hearing thunder? Ten to 15 miles.

W17. Play weather charades. Write proverbs about weather on slips of paper and put them in a bowl. Players must act out the proverb they draw for others to guess. Use the weather proverbs on pages 44–45 to get your game started. When you run out of these, research to find more or make up your own.

ANSWER: W7. One million.

FARMING:

F1. Every language has its own words for mimicking animal sounds. In English, for example, a rooster crows *cock-a-doodle-doo*, but he awakens the French with *cocorico*. Use some translating dictionaries of other languages or look on the Internet to compile your own international dictionary of animal sounds.

F2. A riddle is a word game that requires a clever listener to reason or guess an answer, such as “Where do cows go on Saturday night?” Answer: “To the MOO-vies.” Make up riddles about barnyard animals and put them on index cards. Have friends, family members, or classmates do the same. Then trade the cards and try to guess the answers.

F3. Do a research project on farm animals and global warming. Find out the extent of the contribution cows make with their gaseous methane wastes. Find out, also, how power plants that use animal wastes for making electricity may be part of the solution. (Minnesota is just one state that has plans to produce power from turkey droppings. Is this a trend?)

F4. People have been playing with eggs perhaps since the first chicken laid one. You don't have to wait for spring holidays to color and hide eggs for friends to find or to have spoon-propelled egg-rolling races as they do annually on the White House lawn. If you like history, you can reenact popular egg games of the 19th century, including “Egg Picking,” “Egg Ball,” “Toss and Catch,” and “Egg Croquet.”

F5. Don't throw out the bones from a roast chicken dinner. Boil them and remove all the meat. Then soak the bones for two or three days in vinegar. They will get soft. Dry them thoroughly. Then use fishing line to tie the bones back together into a real chicken skeleton!

F6. Measure the circumference of (distance around) an egg and then soak it in vinegar for two days. What happens to the shell? Does the egg's circumference change? Then soak the egg in corn syrup and measure again. Try to think of an explanation for what happens.

F7. Some popular dances of the past were “The Funky Chicken” and “The Monkey.” Invent and perform a dance that mimics the movements of your favorite farm animal.

F8. Perhaps the most famous barnyard puppet is Miss Piggy of Muppets fame. She's unforgettable, but your puppets can be, too. Make your own from found materials such as socks, paper bags, paper plates, straws, and Styrofoam cups. If you can get some friends to help, you can write, direct, and perform your own "Barn-way Productions" on a homemade stage you can even build to look like a henhouse!

F9. It's said that pigs are very smart, but how can you measure a pig's IQ? Devise an IQ test for a pig. If you live on a farm, maybe you can even try it out!

F10. Start a collection of farm animal *idioms*. Begin with "She got your goat," "He chickened out," and "When pigs fly." Draw pictures to illustrate what each idiom means.

F11. A *simile* is a figure of speech in which two unlike things are explicitly compared (usually using "like" or "as"), as in, "He is as stubborn as a mule." Brainstorm a list of farm animal similes we use in everyday speech, such as "mad as a wet hen" or "proud as a rooster."

F12. Write, edit, and publish the *Barnyard Daily News*. Interview a farmer for the front-page story. Write and illustrate "A Day in the Life of a [Farm Animal of Your Choice]" for the magazine section. Don't forget the comics, crossword puzzle, horoscope, and movie reviews. Anyone for renting *Babe*?

F13. You don't have to be a farmer to hatch eggs and raise animals. At your local aquarium store (or in toy departments in kits called "Sea Monkeys"), you can buy the eggs of brine shrimp. It's easy to hatch them and observe them as larvae and adults. Ask at the aquarium shop how to do this or follow the instructions that come with the kit.

GARDENING:

G1. Many of the plants we grow in our gardens are immigrants. Their ancestors lived somewhere else. Find out where some of our favorite flowers and food plants originated. Cut pictures of plants from magazines or seed packets. Tack the pictures to a big wall map of the world to show the plants' native lands.

G2. Draw plans for a robot that can perform all your gardening chores. Label the robot's parts to explain how it's the perfect weeder, tiller, planter, and pruner.

G3. Your state probably has an agricultural extension service associated with a college or university. Contact the service and find out which vegetables and flowers grow best in your climate zone.

G4. Don't throw away the pumpkin seeds from your next jack-o'-lantern. Roast them as a snack. Here's how: Place them in a single layer on a cookie sheet. Sprinkle with a little salt or your favorite spice mixture for added flavor. Bake at 250°F until dry and golden brown, about 15 to 30 minutes.

G5. Many of the foods from the garden that we call vegetables aren't. They are fruits. Biologists define fruits as anything that forms in the flower. Other edible parts of plants, including roots, stems, and leaves, are vegetables. Make a chart with two columns, vegetables in one and fruits in the other. Some of the entries may surprise you.

G6. The flowers of many garden plants are edible. Find out what they are and write a recipe for a flower salad.

G7. Learn about the permeability of compost. Fill two olive or similarly tall, skinny jars full of sand (in one) and compost (in the other). Tap down lightly. Then add 1/4 cup of water to both. Use the color change to see how far down the column the water travels. What does this tell you about permeability differences?

G8. Some fruits and vegetables are natural batteries: They generate a slight electrical charge. You can make a battery from a potato or a lemon. Insert a galvanized (zinc-coated) nail in one spot. Insert a thick copper wire in another. Set an electrical tester (voltmeter) at its lowest voltage range and touch its probes to the nail and the wire. You may detect a slight current. Research the chemistry that accounts for this electrifying reaction.

G9. The term "spud," for potato, has become part of the English language. Some people believe that it comes from the acronym S.P.U.D., for the Society for the Prevention of Unhealthy Diets. Invent acronyms for carnivorous plants, compost worms, giant pumpkins, and other gardening phenomena. Tell why your acronyms are both descriptive and memorable.

G10. Make a musical instrument out of a garden vegetable.

G11. Design a seed packet for a giant vegetable that does not exist.

G12. Arrange a centerpiece made only of vegetables—no flowers allowed!

G13. Visit a nursery or garden center to find out about careers in horticulture. Go to a garden club meeting to find out about gardening as a hobby.

G14. The mathematical rule for seesaws is this:

Force x Distance (on one side of the fulcrum) = Force x Distance (on the other side)

Draw a diagram of the seesaw arrangement that would let a 50-pound child balance a 1,446-pound pumpkin.

HISTORY:

H1. Pick a famous person from history. Research how that person dressed. Then make a costume that's as close to the real thing as possible. Dress in character and deliver a *soliloquy*. That's a "talking-to-myself" device, or practice, often used in drama to reveal a character's innermost thoughts.

H2. *Alliteration* is the starting of two or more words of a word group with the same letter or sound. "Tiny Tim," "Peter Piper picked," and "phone fun" are examples. Select some famous people from history and give them alliterative nicknames that say something about who they were and what they accomplished.

H3. Every person's fingerprints are different from everyone else's. Not even Chang and Eng had the same fingerprints. Make the point by studying your own. Using a soft lead pencil, rub a dense, dark spot on paper. Then rub your finger on the spot. When your fingertip is good and black, put a piece of transparent tape on it. Pull the tape off and stick it to white paper. There's your fingerprint! Look for loops, arches, and whorls. They are the patterns experts analyze when they identify people.

H4. Today, Siamese twins (conjoined twins) have nothing to do with Siam. Chang and Eng simply got the name because of the country of their birth—which, by the way, is no longer Siam. It is now Thailand. Compare old and new maps and encyclopedias to find countries that have changed their names. Then find out why. Here's one to get you started. What did Myanmar used to be called?

H5. A *eulogy* is a speech that honors a person after death. Write and deliver eulogies for Chang and Eng, emphasizing all they achieved in their lives.

H6. Roll colored chalk and salt together, using a can or a rolling pin. The more you roll, the more intense the color of the salt will become. Make salts of different colors and layer them in a jar for a desert look. You've made a Death Valley in miniature! (But don't eat the salt!)

H7. Death Valley may seem an unlikely location and name for a national park, but it isn't the only one. Find others that surprise you in the National Park Service's complete listing at <http://data2.itc.nps.gov/parksearch/atoz.cfm>.

H8. John Wesley Powell didn't get the Colorado River named after him, but many famous explorers are immortalized in the names of towns, rivers, and mountains. What explorers are honored in place names in your state or region? How did they get their names? Once you find out, make a crossword puzzle of names and clues.

H9. Some explorers are as famous for the diaries they kept as they are for their travels. Older and advanced readers may enjoy *Margaret Mee's Amazon: Diaries of an Artist Explorer* by Margaret Mee (Antique Collectors' Club, 2004); *The Lewis and Clark Journals: An American Epic of Discovery* by Meriwether Lewis and William Clark,

abridged edition edited by Gary Moulton (University of Nebraska Press, 2003); or *The Wilderness Journals of Everett Ruess* by Everett Ruess, edited by W. L. Rusho (Gibbs Smith Publishers, 1998).

NATURE AND OUTDOORS:

N1. In an egg carton, make a mini-museum of fish memorabilia. You might display different types of fishing lines, hooks, or lures. Put different types of fishing knots on display, too.

N2. Contact your state’s department of fish and game for information on the fish native to your state and the regulations that govern catching them.

N3. According to biologists who classify living things, earthworms or “segmented worms” belong to the phylum Annelida in the kingdom Animalia. Find the phylum names and characteristics of flatworms, velvet worms, proboscis worms, and roundworms. Draw a family tree of worms to show how they are related.

N4. Earthworms aren’t the only animals that live in soil. You know about moles, pill bugs, and prairie dogs, but have you ever looked for tiny soil animals? To find some, build a Berlese Funnel. (It is pronounced “bur-LAY-zee” and named after Augusto Napoleone Berlese, an Italian entomologist who invented the trap more than 100 years ago.) Pack some soil and decaying leaves into a funnel. Put the funnel in a jar. Shine a bright desk lamp down on the top of the funnel. Tiny animals in the soil will move down—away from the heat and light—and fall into the jar. Use a hand lens or magnifying glass to study the rich mix of species you collect there.

N5. Fruit flies have made major contributions to science. They are the ideal lab animal because they have many observable characteristics and multiply quickly and in large numbers. In genetics, they have shown us the rules of inheritance and how genes program cells to make proteins. In developmental biology, they have revealed a great deal about how differentiated cells develop from the single cell of the fertilized egg. Do some library research on fruit flies in science. Then pretend you are presenting an award to the fruit fly at a scientific meeting. Write and deliver your award speech.

N6. Many of the living things that inhabit your home are too small to see, but given the right food, they will grow into visible “colonies.” Put a piece of bread in a zip-top plastic bag and keep it in a warm, dark place. Look at it daily. Use a hand lens or magnifying glass to get a better view. Draw pictures of what you see. Do not open the bag. (When you perform this experiment, you’ll see why!) Discard the bag and the bread inside when your observations are complete.

N7. Make an easy bird feeder to attract birds to your yard or school grounds. Tie a string around a pinecone so that you can hang it. Cover the pinecone with creamy peanut butter.

Then roll it in birdseed. Hang it outside and watch for birds. Describe those that visit your feeder. Use a bird identification manual to find their names.

N8. You may not have a frog handy for hypnotizing, but it's easy to train a goldfish. For several days, turn on a light above the fish bowl just before you feed the fish. The fish will rise to the food. Before long, the fish will rise when you turn on the light, whether food is there or not.

N9. Say the letters of the alphabet. It's easy, right? Count from 1 to 26. That's easy, too. Now try saying numbers and letters alternately (A1, B2, C3 . . .). This task requires sustained attention. It's hard, but you can do it. Now try doing it when you are tired. This little experiment should demonstrate how important sleep is to brain function.

N10. We all have to sleep, but is all sleep the same? Find out about sleep stages and how they differ. Do some research on the echidna (spiny anteater), a rare Australian animal that has taught us a lot about how and why we sleep.

N11. Find or take pictures of animal tracks. Use a computer or photocopy machine to transfer the pictures to fabric. (You'll find photo-transfer fabric in craft shops and office supply stores.) Sew or glue the pieces of fabric together to make an animal tracks quilt.

PETS:

P1. Stories of animal heroism sometimes attain the status of local legends. Talk to senior citizens who have lived for many years in your community. Ask about incidents they remember or have heard about or witnessed. Try to verify their reports with some digging in the archives of the local newspaper. Compile a compendium of animal hero stories for your local historical society.

P2. Do some creative writing. Pick an animal you would never expect to be capable of heroism (perhaps an insect, reptile, or amphibian) and write a short story about how your unlikely hero rescues a human or another animal.

P3. If "Jim the Wonder Dog" sounds too good to be true, perhaps he was. Without disrespect to his memory or his family, make a list of his feats. Then brainstorm a way that his accomplishments might have been the result of training, signaling, or the desire of eager spectators to observe something amazing.

P4. Few toads live 31 years—especially lacking water, air, and food like Old Rip—but some animals do have a remarkable capacity to lower their body temperature and survive in a state of reduced metabolism for months. Find out what animals "chill out" for long periods and how they do it. Make a scrapbook or bulletin board display of your findings.

P5. Carrier pigeons work for their living! So do drug-sniffing dogs and dolphins that locate mines and unexploded bombs in the sea. Brainstorm a list of other animals that work for people. Keep the list on the refrigerator door at home or the chalkboard at

school and add to it each day. Discuss the “deal” that animals make with humans when they perform such services. What benefits do they get in return for their labors?

P6. Attend an animal competition, whether a dog show, a horse show, or a local or state fair. Ask event organizers for information on how the competitions operate and what criteria are applied to assessing the animals.

P7. If you think cattle travel only in herds, think again. They may also be seen together in droves, bows, or drafts. These are collective nouns, and every animal group has its own. Three or more geese are a gaggle. A barnyard full of peacocks is an ostentation. Discover the collective nouns for a list of animals you brainstorm. Then, for fun, try making up your own group names.

P8. Find the names of ten or more breeds of dogs—the more unusual, the better! Fit them into a crossword or word search puzzle, or make them into anagrams. Trade puzzles with neighborhood friends or classmates at school.

P9. If you have a pet and a camera or a sketchpad, you can make a dictionary of animal language. Photograph or draw your pet’s position and body postures. Write what you think each means. Ask other pet owners to look at your dictionary. Do they get the same “messages” from their pets?

P10. Hold an essay contest, using a panel of adult pet owners as judges. See which contestant can write the most humorous essay on how cats and dogs are different. The more specifics and the more laughs, the more likely the essay is to win. Publish all the essays in a book for friends, family, and classmates to share.

P11. Visit an animal clinic or talk to a veterinarian about the nutritional needs of animals. Find out what different animals need to stay healthy and how their needs differ from those of people. Ask a park or forest ranger about why it is seldom a good idea to feed wild animals—and why backyard bird feeders are a rare and delightful exception.

P12. Call or visit an animal shelter. Find out why people give up their pets, how the animals awaiting adoption are cared for, and who adopts homeless pets.

P13. You don’t have to live on a farm or be a member of the Future Farmers of America to care for an animal. If you live in a city or small apartment, consider fish, rodents, or reptiles as pets. We know one urban five-year-old who takes loving care of his pet stick insect named Debbie!

P14. It’s never too soon or too late to read some of the classic animal stories—as a family at home, as a class at school, or even by yourself. Horse lovers will like Anna Sewell’s *Black Beauty*, Mary O’Hara’s *My Friend Flicka*, and Enid Bagnold’s *National Velvet*. Among the classic dog stories are *Lassie Come-Home* by Eric Knight and *Lad: A Dog* by Albert Payson Terhune. Don’t forget some of the less likely animal heroes, such as Rudyard Kipling’s mongoose, *Rikki-Tikki-Tavi*, or Don Marquis’s Archy, the talking

cockroach, and Mehitabel, the alley cat. For help in obtaining these books, ask your school or public librarian or your local bookseller, or go online at a site such as Amazon.com. Too little reading time? Listen to the audiobook version or rent a classic video or DVD.

SPORTS:

S1. Pretend you are your favorite sports player. Write a day's entry in your diary. Try to capture some of the sensory details of the life of an accomplished athlete.

S2. Using only soda straws, aluminum foil, glue, and rubber bands, make a trophy for a sports championship. Give reasons for your trophy's size, shape, and design.

S3. Pick a sports champion you admire. Write a classified ad detailing what will be offered in the champion's garage sale.

S4. Jackie Robinson overcame racism and discrimination to achieve success. Read biographies of other sports heroes who also overcame prejudice. You might enjoy Jesse Owens from A&E Biography (Lerner Publications, 1999) or *Wilma Rudolph (On My Own Biography)* (Carolrhoda Books, 2000). More advanced readers will appreciate *Born to Win: The Authorized Biography of Althea Gibson* by Frances Clayton Gray and Yanick Rice Lamb (Wiley, 2004) and *Hank Aaron and the Homerun that Changed America* by Tom Stanton (HarperCollins, 2004).

S5. Write an illustrated training manual for beginners trying to learn your favorite sport. If you know unusual methods of training or tips for making mastery easier, include them.

S6. Write a poem about your favorite sport using *iambic pentameter* in some of the lines. This is a classic rhythmic pattern of stressed and unstressed syllables alternating in five pairs, like this: ho-HUM, ho-HUM, ho-HUM, ho-HUM, ho-HUM. (To get an idea of its rhythm, sing, "Heigh-**ho**, heigh-**ho**, it's **off** to **work** we **go**!") Make sure that your poem captures the excitement and movement of your sport in its words, images, and pacing.

S7. Compile your own book of sports records. Pick a favorite sport or competition game. Then do some research to learn what statistics are kept for your game and what records are waiting to be broken. Make a calendar of when each record was set and name the person who set it.

S8. Technology has changed the face of sports, whether it's through lighter, stronger bats for baseball or titanium bicycle frames in the Tour de France. Pick a sport and make a collage of pictures from the past and the present to show how technological innovations have revolutionized the sport.

S9. Design a logo for a sports team that has a farm animal as its mascot. Apply it to banners, coffee mugs, and T-shirts. (Don't laugh. Many teams do. The University of Oregon's mascot is the duck. And who hasn't heard of the Chicago Bulls?)

S10. Write a rhythmic cheer or competition fight song for a game or sport that doesn't usually have cheerleaders. Consider chess, weightlifting, golf, or doubles tennis.

S11. You'll find more sports activities in Useful Things. (See Facts, Funnies and Useful Things section, questions U4 and U5.)

HEALTH:

HE1. Create a sightseeing guide for tourists visiting a part of the human body. Imagine that travelers can actually walk through the "attraction." Show them—in words and pictures—the wonders of the body part's structure and function.

HE2. On the average, redheads have about 80,000 hairs growing from the scalp. Brunettes have about 100,000, and blondes have about 120,000. Make a bar graph that shows the differences.

HE3. Many of our most valued body parts provide our brains with sensory input. Make a photomontage of sense organs and the information they give us.

HE4. Interview a dental hygienist. Ask how teeth should be cared for and what dental professionals can do to help people protect and preserve their smiles.

HE5. Brainstorm a list of things to do with old toothbrushes. They are just the thing for cleaning fingernails, and they make great finger puppets. Develop a similar list for using empty toothpaste tubes. For example, did you know that prisoners of war have used them as hiding places to exchange secret messages?

HE6. You can't control sneezing any more than you can control the hiccups. Find out what causes sneezing and what practical purposes sneezing serves.

HE7. Study the history of vitamin research. On freezer paper, make a large wall chart about vitamins, the people who discovered them, when, how, and so forth.

HE8. The *English sonnet* is a poem of 14 lines and four stanzas, with the end words in the lines rhyming in this pattern: abab cdcd efef gg. Since sonnets are often composed as love poems, write yours about how much you love leafy green vegetables and all the vitamins they contain.

HE9. Using the tune of "Twinkle, Twinkle, Little Star," write and sing a song that honors a vitamin. Include in your lyrics information on what the vitamin does and how to get it from food.

HE10. Design a menu for the Brain Food Cafe. Put calorie counts and nutrient contents on the menu.

HE11. Compile a sourcebook of natural remedies for common ailments, such as aloe for bug bites and burns. Include in your book a picture of each remedy and a discussion of the ailment the remedy is said to relieve. Include information on whether scientific research supports each claim.

HE12. The “Yankee Clipper” walked 3,895 miles in 104 days and 7 hours. Calculate his speed in miles per hour. (You’ll find our answer at the end of this guide.) Calculate the speeds in the following events: The Race Across America (on a bicycle): 2,922 miles in 7 days and 22 hours; speed sailing around the world, eastbound, 24,696 miles in 50 days. (These answers are also at the end of this section.)

HE13. Write a *cinquain* poem about feet, following these rules:

Line 1—One word (a noun) names the subject of the verse. (Your first line will be “Feet.”)

Line 2—Two words (adjectives) describe the subject.

Line 3—Three words (verbs) describe the subject’s actions.

Line 4—Four words give the writer’s opinion of the subject.

Line 5—One word (a noun) offers another name for the subject.

HE14. A *mnemonic* is a series of words or letters that aids memory. You can recall the order of the colors of the rainbow, for example, by using a man’s name: ROY G. BIV (Red, Orange, Yellow, Green, Blue, Indigo, Violet). On index cards, make a file of mnemonics to help you and your friends remember important pieces of information. You can find and copy mnemonics other people have invented, or you can invent your own.

HE15. Researchers have found that we remember things better if we hear the same things when we are trying to recall it as we did when we learned it. So, if your classroom is quiet when you take your test, try studying in a quiet environment. Is your score better than when you have music play or the TV on during study time?

ANSWER: HE12. “Yankee Clipper” = 1.55 miles per hour. Race Across America = 15.38 mph. Sailing = 20.58 mph.

FUNNIES AND FACTS, AND USEFUL THINGS:

FF1. Pick a superstition and use it as the theme for a science-fiction story. In your alternate world, the superstition is real. For example, walking under ladders really does bring tragedy. Plot your story so that your *protagonist* (main character) overcomes the obstacles presented by the superstition.

FF2. Got a minute? Play anagrams. See how many other words you can make from the letters in the word *superstition*. To check yourself, use a search engine on the Web to find a free, online “anagram server.”

FF3. Invent a tongue twister that uses the letter combination *th*. Challenge others to say it five times fast.

FF4. Write a “Mind Your Manners!” guide for your family or class. Which rules can everyone agree on? Which cause disagreement or are hard to follow?

FF5. Get 13 people to play musical chairs, Chinese horoscope–style. Set 12 chairs in two lines, back to back. Play some Chinese music and conduct the game in the usual fashion. The player left without a chair when the music stops must name one of the Chinese year animals and one characteristic of people born in that year. Doing so correctly earns that player the right to stay in the game, while ejecting someone else (with chair) from the game. Failing to do so means the player must leave the game, also taking a chair. Once a Chinese year has been correctly named and described, it cannot be used again. The winner gets a prize of fortune cookies or a gift certificate for a Chinese dinner.

U1. Make a card game of state and province names (on half of the cards) and the origin of the name (on the other half). Play the game “Go Fish”–style. The winner is the one who correctly matches the most state or province names with their origins.

U2. On a roll of adding machine tape, make a time line of the years when states entered the union. Decorate your time line with the official birds and flowers of each state. Learn and sing your state’s song.

U3. Get a foreign language dictionary and rename your state in that language. Give reasons for the name you devise.

U4. You probably can’t travel to all the sports halls of fame listed on pages 184–185, but you can take a virtual tour on their Web sites. Mark your online itinerary with pins on a real map.

U5. Select honorees for your own “Hall of Fame”—but not for a sport. Choose some other area of achievement such as science, visual arts, music, dance, or poetry.

QUESTIONS OR COMMENTS? Please feel free to contact us at Almanac4kids.com/tellus.

AND . . .

Thanks for using this guide!