

3. November 20 is **Absurdity Day**. No one knows why. Isn't that absurd? Absurd means illogical and senseless. Look through old newspapers and magazines. Find things that you think are absurd. Make an absurdities scrapbook that you can update regularly.

December

1. December is **National Tie Month**. Using permanent markers, draw a funny tie on the front of an old T-shirt. Or cut up and decorate an old sock to make a truly hilarious tie.

2. December 10 is **Nobel Prize Day**. Check newspapers, magazines, and Internet news sites for information about this year's winners. Pick a winner in one of the categories and write a letter of congratulations.

3. **Nights grow long and days grow short** in December. In fact, the shortest day of the year—the winter solstice—occurs (in the Northern Hemisphere) around December 21 each year. From your local newspaper or on Almanac.com, obtain the times of sunrise and sunset for December 15 through 25 in your area. Do the math to figure out the length of the days. Which day is the solstice?



ASTRONOMY

1. A *mnemonic* is a series of words or letters that aid memory. You can recall the order of the eight planets, for example, using this silly sentence: “**M**y **V**ery **E**ager **M**other **J**ust **S**erved **U**s Noodles.” (**M** = Mercury, **V** = Venus, **E** = Earth . . . you get the idea.) On index cards, **make a file of mnemonics** to help you and your friends remember important pieces of information about our solar system, galaxy, and universe. Find and copy mnemonics other people have invented or invent your own.

2. Today, our Sun is a yellow dwarf star. Five billion years from now, it will grow to become a red giant. As it dies, it will cast off its outer layers. Its core will be a white dwarf. Slowly, its light will fade until it becomes a black dwarf. **Make a poster** to describe and illustrate the events that will occur as our Sun dies.

3. **Make and play an astronomy game** that works like bingo. Make STAR cards that look like the example below. Use the names of planets, constellations, and celestial bodies, and other astronomical words. Use as many words as you want and make as many cards as you like. (The more terms and the more players, the harder the game.) Write the words on slips of paper and have the “caller” draw and say the names. Let players use pennies to mark their STAR cards. The person who yells “Star!” after completing a row diagonally, vertically, or horizontally is the winner.

**Sample
STAR Card**

S	T	A	R
Mercury	Quasar	Wormhole	Mars
Ursa Major	Supernova	Cosmos	Comet
Black Hole	Universe	Uranus	Sun
Jupiter	Moon	Asteroid	Perseus

4. You must not watch a solar eclipse. You'll damage your eyes. But you can **watch what happens as the Moon moves between Earth and the Sun.** Get a small hand mirror. Use tape to cover most of the mirror's surface, but leave a ½-inch square in the middle. Stand with your back to the Sun, and hold the mirror at an angle so that the image of the eclipse reflects onto a shaded wall or garage door. Be careful not to flash the light into someone's eyes.



5. During a lunar eclipse, Earth blocks light from the Sun, forming a shadow in space. The darkest part of the shadow, where all of the Sun's light is blocked, is the umbra. The lighter part, where blockage is only partial, is the penumbra. **Observe a partial lunar eclipse and make sketches of where the umbra and penumbra fall on the Moon.** If you have a video camera, you may be able to record the Moon's movements through the umbra and penumbra.

6. Magnets are sometimes used in recycling centers to separate certain types of recyclable materials from other items in trash. Use a bar magnet and some clean discards from your family's kitchen to **demonstrate how a magnet can help in the recycling process.**

7. **Design and carry out an experiment** to determine which kinds of metals are attracted to a magnet and which are not.



8. **Challenge a friend to a magnet game.** Place some small items in a paper bag. You might put in a paper clip, a wooden block, a plastic bottle cap, a small glass, a nail, a metal spoon, a key, a marble, a piece of aluminum foil, a coin, a battery, a screw, some staples, and a small pair of scissors. Use your imagination to add other items. Ask your friend to pick an item from the bag and predict whether a magnet will be attracted to it. Test the prediction with a magnet. If your friend's prediction proves correct, he or she gets a point. If your friend is wrong, you get a point.

9. A year is 365 days (of 24 hours) on Earth, but not so on other planets. Visit NASA's "Planet Profiles" at <http://pds.jpl.nasa.gov/planets/special/planets.htm> to find the length of each planet's year in Earth-days. Then **calculate your age in your favorite planet's years.** For example, the length of a year on Mercury is 88 Earth-days. So, if you are 9 in Earth-years, you are 37 in Mercury-years ($9 \times 365 = 3,285$; $3,285 / 88 = 37.33$).

10. **Make a Jeopardy! game of facts about Jupiter.** Fold index cards in half. Inside, write a question about Jupiter. On the outside, write the answer. Tape the cards closed with a little piece of masking tape. Let players draw cards from a box or bag. The challenge is to ask the question that goes with the answer. Let players remove the tape and open the cards to check their questions. The player who asks the most correct questions wins.

11. Jupiter was the name of a Roman god, but the names Europa, Callisto, Ganymede, and Io trace their origins back to Greek mythology. Get a book of Greek myths from your library and **learn the legends that gave Jupiter's moons their names.**

12. With ordinary field binoculars, **you can easily see Jupiter's moons.** Go to www.skyandtelescope.com/observing/ataglance or Almanac.com or Almanac4kids.com for weekly information on where and when to look for Jupiter and its moons in the night sky.

WEATHER



1. Don't wait for a sunny day to **have a weather-theme party.** Ask each guest to come prepared to tell about a true extreme weather event (one could be Hurricane Katrina). Play weather songs such as "Singing in the Rain," "Stormy Weather," "Heat Wave," "You Are My Sunshine," and "Let It Snow." Decorate with paper weather vanes. Make streamers out of newspaper weather reports and set them a-blowin' with a fan to make pretend wind. Serve sugar cookies frosted yellow like the Sun, with Cloud Punch. **To make the punch:** In a big punch bowl, mix one large can (46 ounces) of pineapple juice, 1 large can (46 ounces) of orange juice, and one 2-liter bottle of lemon-lime carbonated soda. Float scoops of vanilla ice cream on top to look like clouds.

2. Using a file box and index cards, **make a "Weather Factoid File."** If you have PowerPoint on your computer, use it to make a presentation of what you learn. Here are some facts from the National Lightning Safety Institute to get you started:

- **The total amount of rain, snow, and other moisture falling on the surface of the Earth each year equals 10 million gallons for every person on the planet.**
- **If spiders leave their webs, expect a storm. If they work when it is raining, expect a short storm.**
- **Count the number of cricket chirps in 14 seconds. Add 40. The total will equal the air temperature in Fahrenheit within one degree.**

3. **Make a poster or PowerPoint presentation** of weather map symbols and their meanings. Use real weather maps from the newspaper or the Internet as examples. End with a depiction of the weather conditions across the country for a given day.



4. **Will red water make red rain?** Put some hot water in a quart jar. Color it red with food coloring. Stretch plastic wrap over the top of the jar. Put an ice cube on the plastic wrap. Watch for water droplets to form on the underside of the plastic wrap. Are they red?

5. **Take digital or film photographs** of weather changes in your community. Make a photo album to show people what kind of weather is most common where you live.