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Aloe polyphylla

Photo courtesy of Botany Photo of the day: www.ubcbotanicalgarden.org

We will be known forever by the tracks we leave. - Native American Proverb

THE WATERDROP

Can You Hear It?

Step outside. Do you hear it? Do you see it? Nature, it's all around you. It's like an orchestra performing a beautiful song. The birds are singing, the trees are swaying and playing the oboes, the crickets are on the violin, the streams and oceans are tickling the piano keys, the prairie grasses are playing the flute, the mountains are standing tall in the background singing the chorus, and the heartbeat of the animals are keeping the rhythm. What or who do you think is strumming the guitar? What instruments are humans playing?

It takes many members to make the orchestra sound great and it takes all kinds of players to make the earth function and keep it healthy. We are all part of a huge complicated web or chain. Think about a spider web. It is only as strong as the links that make up the web. Miss-

ing or broken links can lead to the web coming apart.

In order to have all the players of the "orchestra" we need

Each moment of the year has its own beauty..a picture which was never before and shall never be seen again. Ralph Waldo Emerson

places for all those musicians to live. In other words, we need habitat for all of them. Habitat is food, water, shelter and space. If one of those components is missing the orchestra members will either move to another location or die. Each plant and animal on this planet has particular habitat requirements. Some plants and animals require very specific habitats and are unable to adapt if the habitat changes. This does not mean the plant or animal is weak or that we shouldn't care about it. It's important that we rec-



ognize the need for diversity and that every plant and animal plays a role or is a link in making this planet healthy even though we may not know what that role or link is.

One way we assess the health of habitats is to assess our waterways. After all, waters drain our land so how we treat our land is reflected in our rivers and streams.

Streams should be free of pollutants. Pollutants include trash, sediment (soil), chemicals such as pesticides, herbicides and other things that simply do not belong in the water. Did you know the number one water pollutant in the U.S. is sediment (soil)? Excess sediment in the stream clogs fish gills, decreases the amount of light that can penetrate the layers of the water column,

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Inquiring Minds...



Earth Facts:

- * The oldest rainforest on earth is the Queensland Rain Forest in Australia.
- * There are flower petals strong enough to hold bats. These bats feed on pollen and nectar. They require an enormous amount of nectar every day. These little guys are an important part of the food chain. They help pollinate the rain forest.



Glossophaga soricina, a nectar eating bat. Photo courtesy of Cosmos Magazine, August 2007.

Amazing Animals and Plants

Tacca chatrieri, (black bat flower)

This rare flower often reaches 12 inches in diameter and has whiskers that can be greater than 2 feet in length. It is native to Southeast Asia. Additionally, it is said the "eyes" of the plant follow you around the room.



Archelon Ischyros

The largest turtle weighed more than two tons. This marine turtle was greater than 13 feet long and 16 feet wide and lived 70 million years ago during the Cretaceous Period.



Endangered Friends

Species and the military

Many military installations are home to endangered species. The Department of Defense manages almost 25 million acres. Due to training requirements, development on these lands has been limited. That can be a win win for the military and wildlife species that need a home because of large scale habitat loss due to widespread development.



The military identified 188 threatened and endangered species on installations in 2007. Plants make up the largest number (62%) of listed species. Birds make up about 14% of the listed species. The remainder of the species vary from reptiles to mammals. Per the U.S. Fish and Wildlife Service some of the finest examples of rare wildlife habitats are found on military lands.



The Great Outdoors

Camping Connection

By Gene Zirkle

Has the work week made you feel out of touch, lost, downtrodden? Do you feel like you need a break from the hustle and bustle of your job? Well, I have a quick and simple solution to your problem – camping. Yes, camping, the one activity that gets us away from the stresses of our daily work lives and gets us back to nature.

Camping is an outdoor activity shared by

millions of Americans every year. It pro-



vides us with a “vacation” away from our daily stresses and allows us to have a rustic

adventure away from all our electronic devices. It’s amazing how refreshed you will feel after a weekend away from civilization in the company of like minded souls and not to forget nature. Fall is a great time to share the outdoors with nature. The weather is nice and evenings are cool enough to sit around the bon fire and relax. The flicker of the flames may possibly be the best stress reliever because it tugs on that primitive gene we all have deep inside. So go wild and spend a couple of nights alone with nature. You’ll be glad you did.

Going Local

Bulbs - A Bright Idea

By Peggy Luensmann

Tulips, daffodils, and other spring blossoms are a welcome sign that spring has arrived. These early flowers begin with bulbs planted in the fall. Full sunlight and a rich, well-drained soil is required for vigorous spring growth. Mixing in peat, compost, vermiculite, or coarse sand, or planting in raised beds promote soil drainage. Organic fertilizers such as bonemeal and bloodmeal are excellent for bulbs and may help keep rodents away. Mix all soil amendments 12 inches deep in your soil. Soil should be worked when it is dry enough to crumble between your fingers. Bulbs can be planted at any time in fall or early winter as long as the soil is soft enough to dig a hole. However they will have more time to grow roots if planted early.

As a general rule, plant bulbs 2 - 3 times deeper than the size of the bulb with the

pointy end up. Bulbs should be at least 6 to 8 inches apart. Choose large, healthy bulbs. Dry, spongy, or moldy bulbs will not grow well. Cover bulbs with soil and water thoroughly. To avoid planting something else in the same spot, mark where you planted your bulbs. After planting, water periodically in fall and winter. The foliage of your flowering bulbs should dieback naturally in summer. Once flower stalks are completely brown, cut them back to ground level.



Over time, bulbs multiply and become crowded. When this happens, they need to be divided. To identify bulbs that need to be divided, pay attention to the flower

clumps in your yard during the spring. If there is a patch of flowers that are not flowering like they used to, those flower bulbs

probably need to be divided. Clumps that you plan to divide in fall should be marked with a flag or other type of marker in spring so you can identify them later. Shortly after the plants have withered in the fall, it is time to dig up and divide bulbs. Place your shovel a few inches from the clump of bulbs and gently lift the clump out of the ground. Brush away the excess dirt and separate the bulbs from

each other. Return about half of the bulbs to the hole, leaving plenty of room around each flower bulb so that they can multiply again.

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Tree Talk

Forest Management Timing Is Important

By Steven C. Stedman CF/FCA

Forest management includes management for aesthetics, fish, recreation, urban values, water, wilderness, wildlife, wood products and other forest resource values. Forest management aspires to maintain the productivity of the forest while conserving trees to meet specified goals and objectives.

One goal of forest management activities is to minimize visual and audible impacts by scheduling such activities during the appropriate seasons of the year and during lower levels of recreational use. For example, bark on trees is very tender and easily damaged from first bud break through mid-July. Moreover, many aesthetic concerns are exacerbated during wet conditions. And finally, recreation is an important part of Fort Campbell's outdoor experience that depends upon an attractive forest background. Harvesting activities that are scheduled to avoid peak use will help to minimize potential conflicts.

The following practices are observed before a harvesting operation occurs on Fort Campbell:

- Limit or prohibit access during wet weather conditions when road or skid trails are especially susceptible to damage.
- Minimize the impact on sensitive sites by limiting harvests to dry or frozen ground conditions.
- Avoid harvesting trees during the late spring/early summer, when the bark is still soft and vulnerable to damage.
- When operating near residential areas reduce the impact of noisy equipment by modifying working hours, shutting down idling equipment, reducing truck noise (by using lower rpm's) to and from the cleared area where logs are loaded, and consider using equipment with noise-reducing features.
- Hang flagging ms to keep logging equipment out of wetlands and streams and to minimize the potential of soil erosion.
- Lay out skid trails and truck haul roads to minimize the potential damage to residual (remaining) trees after the harvest.
- Notify neighbors or others that may be impacted by the harvest, so that they are aware of the details.

The following practices are observed during a harvesting operation on Fort Campbell:

- A timber harvest administrator and a Corps of Engineers representative supervise the job so problems can be identified and solved .
- Avoid operating during or immediately following prolonged periods of wet weather.
- Ensure that all best management practices during a harvest operation are followed such as keeping the water off skid trails, protecting wetlands and streams from erosion, and keeping the tops of cut trees out of the streams and other sensitive areas. 🌲



Trash, Perhaps It's Not as Trashy as We Think

Healthy watersheds begin with proper care of our natural resources. Each of us will generate over 2,000 pounds of garbage a year. In a lifetime, each of us leaves behind a huge and dirty footprint. We can clean that footprint by not buying items we don't need, especially single use items that are a waste of our money and our resources. Reuse items as often as you can and then pass to others or recycle those items when possible. The majority of your garbage (~80%) is recyclable. Take advantage of local recycle centers.



Don't forget to recycle live Christmas trees! You may take live trees to the Dunbar Cave parking lot (be sure to remove all decorations), one of the 17 Montgomery and Stewart County recycle centers, http://www.montgomerycountyttn.org/county/bi_county/location.aspx or if you live on the post you may take your tree to the Fort Campbell Convenience Center. 🌲

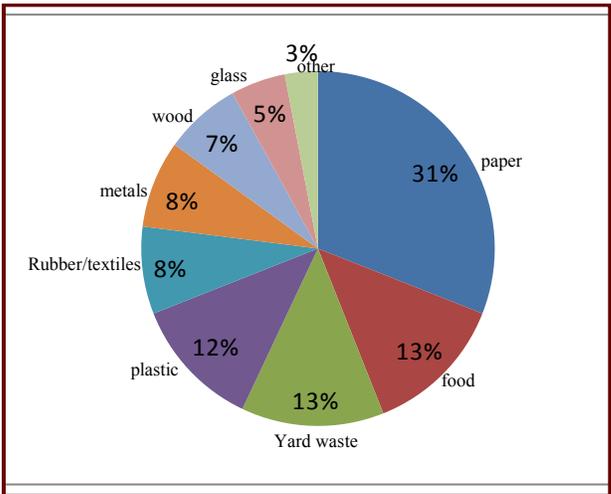


Figure 1. Percentage of materials found in a typical American garbage container.



“Snowbird”

Species Profile: Dark-eyed Junco

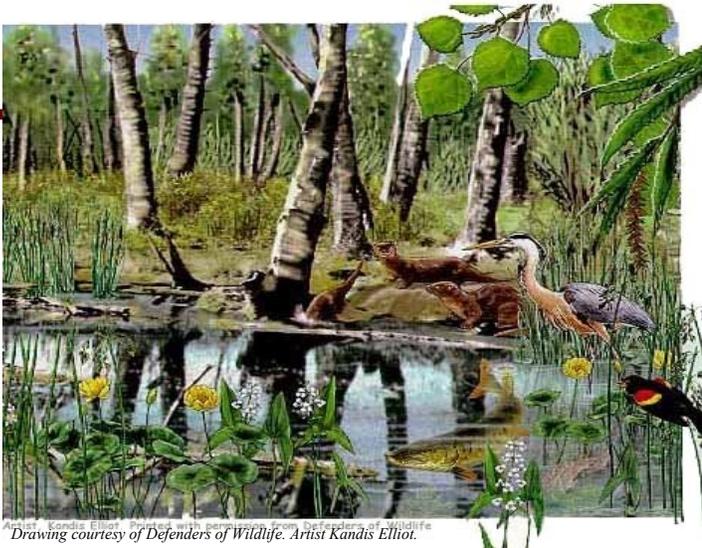
One of the most common birds of North America is the Dark-eyed Junco (*Junco hyemalis*), commonly called the “Snowbird” because it arrives in most of the US in the fall and stays through the winter. Juncos primarily breed in Canada and Alaska although some populations breed in the Appalachian Mountains and mountains in the Western US. The Dark-eyed Junco is a medium-sized sparrow with a round head, a short, stout bill, and a fairly long tail. Juncos vary across the country, but typically have a gray or blackish (sometimes brown) head, back, and chest contrasting with its white belly. Juncos also have a pink bill and white outer tail feathers that “flash” when the bird takes flight.

This fairly tame bird is often found around bird feeders, open woodlands, parks, farms, and along road edges and stream sides. Juncos tend to stay on the ground mostly – hopping around under feeders or scratching the leaf litter at the bases of trees and shrubs. Dark-eyed juncos are mainly seed-eaters; at feeders they prefer millet over sunflower seeds. Like most other songbirds juncos switch to eating mostly insects during the breeding season.

During winter juncos can form fairly large flocks and also forage with other birds. Within junco flocks typically there is a hierarchy or pecking order; earlier arrivals tend to rank higher in the group than later arrivals. The widespread abundance of this bird has made it an ideal species for ecological research. Fortunately, Dark-eyed junco populations appear to be fairly stable.



Daniel



Those darn wetlands!

A habitat is a home for you and the plants and animals living on the earth. A habitat must provide food, water, shelter and space. If one of those components is missing, the plant or animal will eventually die or if possible move to another location. The best indicator of a healthy watershed is the diversity or number of different habitats to support lots of different plants and animals. The larger the diversity across the planet the better. This quar-

Healthy Habitats

ter’s habitat focus is *wetlands*.

Wetlands out produce almost all other types of ecosystems. Tropical rain forests are the only ecological community that comes close to equaling wetland production level. Wetlands cover ~ 6.4 % of the earth’s surface, yet account for ~24 % of total global productivity.

Wetlands are home and smorgasbords to 100s of types of creatures from bacteria to beavers to crocodiles to people. 80% of all breeding birds in the U.S. and about half the migratory bird population rely on wetlands.

Wetlands provide food (rice, cranberries, fish, shellfish, etc.), sediment traps, ground water recharge areas, coastal protection, flood control, atmospheric equilibrium, toxic residue processing, fuel, and recreation (hunting, fishing, birding, and hiking).

Types of wetlands include: bog, fen, marsh, mire, moor, muskeg, peatland, playa lake, potholes, slough, swamp, wet meadow, bottomlands, Carolina bay. Anyone can see that life is teeming in wetlands. The immense number of birds, insects, reptiles, mammals and plants relying on this habitat tells a wetland’s worth.



Waterdrop In Review

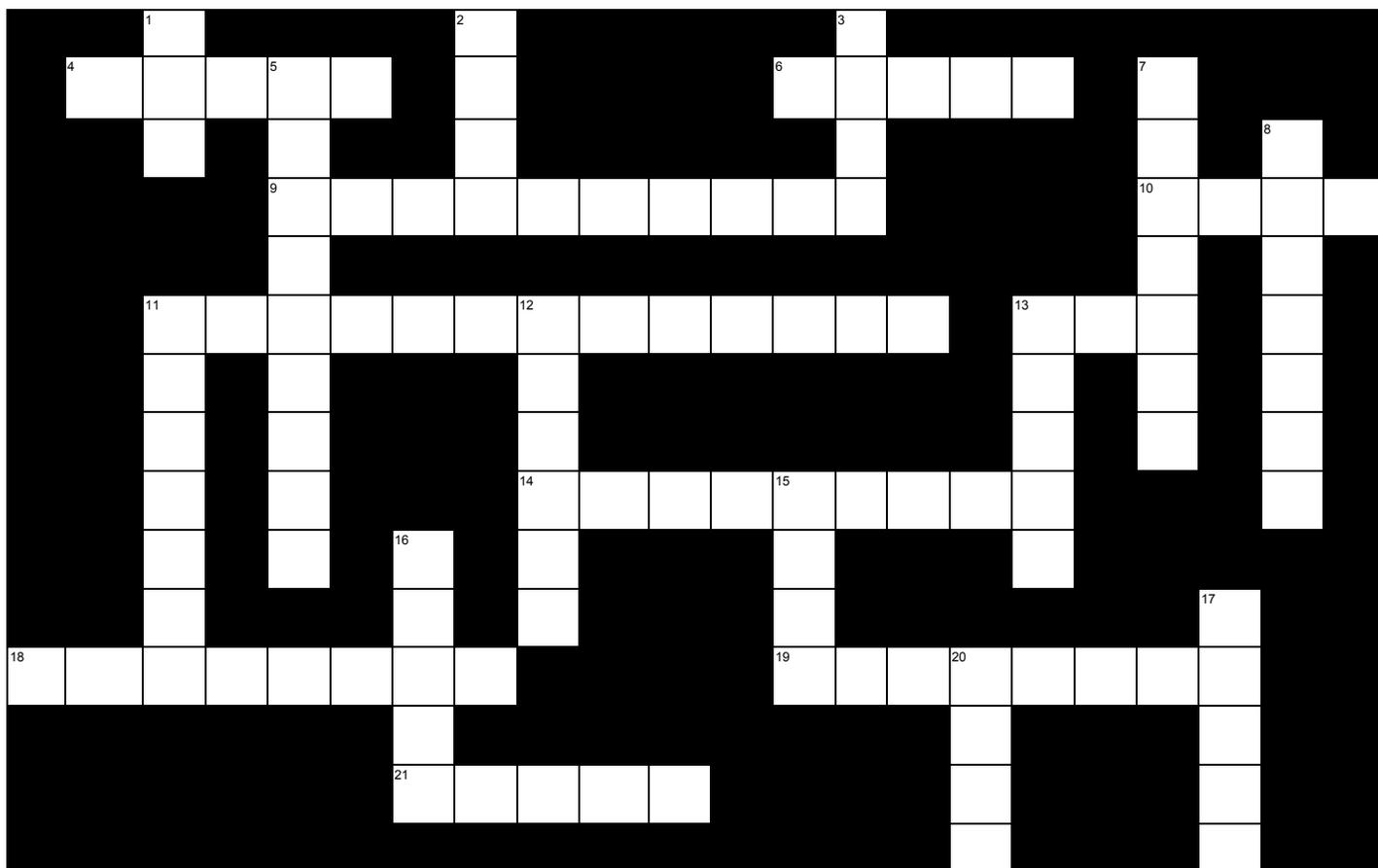
If you were able to read our previous editions you'll complete this crossword in no time. All editions of our newsletter can be found at: www.campbell.army.mil/envdiv. Just click on the "water" link.

Across:

4. Animals that fly during the day
6. Liquid found in lakes and streams
9. Food you can grow in a garden
10. Used to catch fish
11. Place to buy locally grown fruit and vegetables
13. Insect that lives in a colony
14. Egg-laying mammal, i.e. spiny echidna
18. Fungus that grows on the ground
19. to preserve or manage the environment and natural resources
21. Planet where we live

Down:

1. What we breathe
2. Tall plant with bark
3. Animals that fly at night
5. Having a variety of organisms living in an ecosystem
7. The type of environment that an organism needs to live
8. An animal; the larvae live in streams and the adults can fly
11. Plant communities made up of trees
12. Fish that migrate to the ocean after hatching and back to a stream to lay eggs
13. Tree species that form large colonies
15. The world's softest mineral; used to make a powder
16. Protects us from the sun's ultraviolet rays; also produces smog at ground level
17. A fungus that is used to make bread
20. Another word for dirt



Answers on page 6.



Recipes

Pumpkin Parfaits

Prep Time: 15 Minutes; **Servings:** 6

INGREDIENTS:

- 3/4 cup cold milk
- 1 (3.4 ounce) package instant vanilla pudding mix
- 2 cups whipped topping
- 1 can pumpkin pie filling
- 1 teaspoon pumpkin pie spice
- 1 cup chopped pecans
- 1 1/2 cups crushed gingersnaps
- Additional whipped topping

DIRECTIONS:

In a large mixing bowl, beat milk and pudding mix on low speed for 2 minutes. Stir in the whipped topping, pumpkin pie spice; mix well. Fold in pecans. Spoon half of the mixture into parfait glasses; top with half of the gingersnap crumbs. Repeat layers. Top with additional whipped topping.

Hot Spiced Cider

Prep Time: 5 Minutes; **Ready In:** 15 minutes

Servings: 16

INGREDIENTS:

- 1/4 cup packed brown sugar
- 1/2 teaspoon whole allspice
- 1 teaspoon whole cloves
- 1/2 cup chopped fresh cilantro
- 1 cinnamon stick
- 1/4 teaspoon salt
- 1 pinch ground nutmeg
- 1 large orange, quartered with peel
- 2 quarts apple cider

DIRECTIONS:

Combine all ingredients in a pot and set on the stove over low-medium heat. Do not let the mixture boil. Serve when hot. Alternately, all ingredients can be combined and heated in a slow cooker. Serve when hot.

Roasted Vegetables

Prep Time: 15 Minutes; **Cook Time:** 40 Minutes; **Ready In:** 55 minutes

Servings: 16

INGREDIENTS:

- 1 small butternut squash, cubed

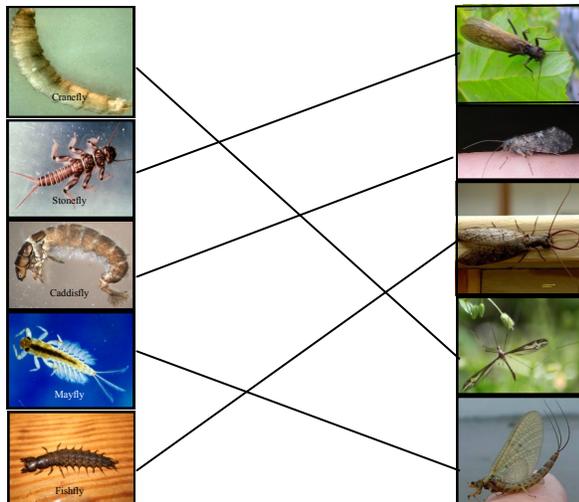
- 2 red bell peppers, seeded and diced
- 1 sweet potato, peeled and cubed
- 3 Yukon Gold potatoes, cubed
- 1 red onion, quartered
- 1 Tablespoon chopped fresh thyme
- 2 Tablespoons chopped fresh rosemary
- 4 large garlic cloves, sliced
- 1/4 cup olive oil
- 2 Tablespoons balsamic vinegar or lemon juice
- Salt and black pepper to taste

DIRECTIONS:

Preheat oven to 475 degrees F. In a large bowl, combine the squash, red bell peppers, sweet potato, and Yukon Gold potatoes. Separate the red onion quarters into pieces, and add them to the mixture. In a small bowl, stir together thyme, rosemary, garlic, olive oil, vinegar, salt and pepper. Toss with vegetables until they are coated. Spread evenly on a large roasting pan. Roast for 35 to 40 minutes in the preheated oven, stirring every 10 minutes, or until vegetables are cooked through and brown.

Puzzling Answers

Below are the answers to last quarter's puzzle. Were you able to guess what each larvae looked like as an adult?



Waterdrop in Review Answers



Can You Hear It continued...

and it smothers the bottom of the stream (home for many creatures as well as a place for fish to lay eggs). When sediment covers the bottom of the stream clean water which contains oxygen will not be able to reach the aquatic life that lives there. If the aquatic life does not receive enough oxygen it will die.

These aquatic creatures have many jobs. They clean our



water and provide food for many creatures. They are one of the links of the web and most certainly are a necessary component of habitats. Just about every member of our orchestra depends upon clean water.

You are the key to healthy water. Be sure to use it wisely. This means making sure you do not litter or dump anything down a storm drain. One of the easiest ways to help keep our water

clean and make sure all the links in the web or the players in the orchestra are present is to practice the 3Rs, reduce, reuse and recycle. It's that simple.

So step outside and check out the orchestra around you. Take notice of all the links in the web that make this planet a place for us to live. Enjoy nature! It's been around and fine tuning the symphony the orchestra has been working on for a very long time.



Dawn

Going Local continued...

The leftover bulbs from the clump can be planted elsewhere or given away. Next spring, you should see a fantastic flower display.

Garlic cloves should be planted like flower bulbs. The best time to plant garlic is in October to November. Once your garlic is planted, add some organic nitrogen fertilizer or compost and then mulch the bed six to eight inches deep with loose mulch such as straw. Mulch will keep the cloves from being pushed up when the ground freezes and thaws, conserve moisture in the spring, and help prevent growth of weeds. Once the garlic

Healthy watershed tips.

The next time aphids are attacking your roses, try spraying them with a mixture of crushed garlic and water. The aphids will drop almost immediately.

is up, it is important to keep it well wa-

tered. It is also important to keep the garlic bed weeded. Garlic will produce new cloves until hot weather kills the leaves in early July. Garlic is ready to harvest when roughly half the leaves



have yellowed. Stop watering your garlic about a week before the harvest. Carefully pull the garlic, keeping entire plant intact. Remove dirt from roots and dry bulbs in a cool, shady place with good ventilation. After three or four weeks, trim the dried plants to half an inch in length and remove the outer skin.

Garlic will also grow in a pot on your balcony. Keep each clove at least two inches from the side of the pot and four inches from each of the other cloves you plant.



<http://pubs.caes.uga.edu/caespubs/pubcd/B918.htm>

<http://www.gourmetgarlicgardens.com/growing.htm#anchor17762005>

<http://www.garlicsmiths.com/planting.php>

Tidbits of good news.

Garlic tastes great and is good for you . Research is focusing on garlic properties that decrease blood pressure and lower cholesterol. Did you know that garlic was the antibiotic of choice during WW I? The antibacterial properties of garlic were discovered in the early 19th century during an outbreak of infectious fever. It is recorded that the English priest caught the fever, but the French who ate garlic every day did not.

Do you have a question or comment for us? Please feel free to contact us. We'd love to hear from you.

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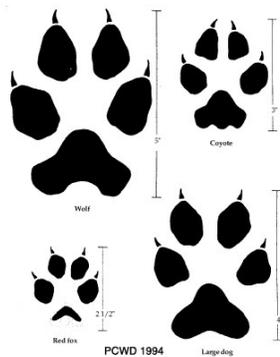
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Did You Know?

Striped Skunk

I don't know many people who have not smelled a skunk, do you? Believe it or not before a skunk spray you with that obnoxious liquid, they will arch their back, lift their tail and even stand on their hind feet. If that fails to make the intruder leave, the skunk will squirt that foul smelling liquid from a gland located near their tail. The smell is so strong it stops the victim from breathing for a short time, allowing the skunk time to escape. The incredible stench can be smelled 1.5 miles away. Wow! What a defense mechanism!



Winter Tracks

Winter is a great time to get outside and look for animal tracks. As the weather cools, it's interesting to see which animals are out and about. Ever wondered what they are eating in the winter? Head outside to find out, just be careful not to disturb any animals you find. They are trying to survive the colder season and do not need to expend more energy than necessary.

Casting Tracks

The best casts are often made from tracks found in mud or fresh snow.

Materials: Water, Plaster of Paris, a mixing container, thin cardboard, paper clips and a ruler and a clean bag to wrap the cast in.



1. Use a strip of cardboard to frame the track. Be sure to leave about an inch all the way around the track. Push the cardboard (frame) into the mud/snow and clasp the ends with paperclips.
2. Put water in your container and add Plaster of Paris and mix. Add enough plaster to make a soft mixture about as thick as oatmeal.
3. Pour the mixture into the frame to a depth of about an inch. Use the ruler to smooth the surface of the plaster. Let the mixture set for an hour.
4. Remove the cardboard frame, lift the frame carefully, wrap it and place in clean bag. Take the cast home and leave it alone for 24 hours. You may clean it and paint it if you wish. Use a soft pencil to record what animal made the track and when you made the cast.