

MRAC Hamateur Chatter

The Milwaukee Radio Amateurs Club

November 2016 Volume 24, Issue 11

One of the World's Oldest Continuously Active Radio Amateur Clubs—since 1917



Counting Your Blessings

From New Years resolutions to spring cleaning, and summer vacations to the holidays—life can come and go as quickly as the seasons.

That's why it's so important to pause and be thankful for the blessings we have in our lives.

"We must find time to stop and thank the people who make a difference in our lives." —John F. Kennedy

"Pride slays thanksgiving, but a humble mind is the soil out of which thanks naturally grow. A proud man is seldom a grateful man, for he never thinks he gets as much as he deserves." – Henry Ward Beecher

"Thanksgiving dinners take eighteen hours to prepare. They are consumed in twelve minutes. Half-times take twelve minutes. This is not coincidence." -Erma Bombeck

"Our rural ancestors, with little blest, Patient of labour when the end was rest, Indulged the day that housed their annual grain, With feasts, and off'rings, and a thankful strain." – Alexander Pope

"He who thanks but with the lips Thanks but in part; The full, the true Thanksgiving Comes from the heart." – J.A. Shedd
"Drink and be thankful to the host! What seems insignificant when you have it, is important when you need it." – Franz Grillparzer

"Let us remember that, as much has been given us, much will be expected from us, and that true homage comes from the heart as well as from the lips, and shows itself in deeds." – Theodore Roosevelt

"When I started counting my blessings, my whole life turned around." -Willie Nelson

"If you think about a Thanksgiving dinner, it's really like making a large chicken." – Ina Garten

"But see, in our open clearings, how golden the melons lie; Enrich them with sweets and spices, and give us the pumpkin-pie!" – Margaret Junkin Preston

"Gratitude unlocks the fullness of life. It turns what we have into enough, and more. It turns denial into acceptance, chaos to order, confusion to clarity. It can turn a meal into a feast, a house into a home, a stranger into a friend. Gratitude makes sense of our past, brings peace for today and creates a vision for tomorrow." – Melody Beattie

"Remember God's bounty in the year. String the pearls of His favor. Hide the dark parts, except so far as they are breaking out in light! Give this one day to thanks, to joy, to gratitude!" – Henry Ward Beecher

"On Thanksgiving Day we acknowledge our dependence." – William Jennings Bryan

"The Pilgrims made seven times more graves than huts. No Americans have been more impoverished than these who, nevertheless, set aside a day of thanksgiving." – H.U. Westermayer

"Thanksgiving Day is a jewel, to set in the hearts of honest men; but be careful that you do not take the day, and leave out the gratitude." – E.P. Powell

"As we express our gratitude, we must never forget that the highest appreciation is not to utter words, but to live by them." – John Fitzgerald Kennedy

"Appreciation can change a day, even change a life. Your willingness to put it into words is all that is necessary." - Margaret Cousins

"It has been an unchallengeable American doctrine that cranberry sauce, a pink goo with overtones of sugared tomatoes, is a delectable necessity of the Thanksgiving board and that turkey is uneatable without it." – Alistair Cooke

"Thy favor and glad to do Thy will." – Franklin D. Roosevelt

"Reflect upon your present blessings, of which every man has plenty; not on your past misfortunes, of which all men have some." – Charles Dickens

MRAC Officers:

Terms Expiring in 2016

- President – Dave, KA9WXN
- V-President– Dan, N9ASA
- Secretary – MBH, KC9CMT
- Treasurer – MBH,,KC9CMT

Terms Expiring in 2017

- Director – Al, KC9IJJ
- Director – Vacant
- Director – Tom, W9TJP
- Director--Dale, AB9DW

The Club Phone Number is: (414) 332-MRAC or

(414) 332- 6 7 2 2

Visit our website at:

www.w9rh.org

Mail correspondence to:

M. R. A. C.

**PO Box 26233
Milwaukee, WI**

53226-0233

Board of directors meeting called to order at 7:01 pm by Dave Shank, KA9WXN club president.

Director's present: Michael KC9CMT, Dave KA9WXN, Dan, N9ASA, Tom W9TJP, Dale AB9DW.

Absent: Al KC9IJJ, one vacancy on the board.

Preliminary Discussion: The Treasurers report for September 2016 was presented by Michael, KC9CMT. The treasurers report was approved as read by KC9CMT, a motion to accept was made by Tom, W9TJP, seconded by Dan, N9ASA. The September balance ended with \$20,180.16 in Club accounts. It has been speculated that more interest can be made through the Bond Market rather than Cd's. New member certificates will be mailed if not handed out when they become available. PayPal account has been accumulating a \$5 inactivity fee. The Board has voted unanimously to ask the bank to wave this fee, or the club will consolidate our accounts.

Meeting Presentations: The November meeting will be the 17th. A 100th anniversary organizational meeting has been scheduled for Saturday, 11am, November 12th at the HRO building, after the MAARS breakfast. We hope that people will show up and offer to help. There will be no raffle at the November meeting, the topic will be, the solar energy Milwaukee County people or what would you do different if you were rebuilding your ham shack. The January presentation will be conducted by Dave, WB9BWP. February may be our food meeting, depending on the results of the clubs pending swapfest. Kermit Carlson will be the guest speaker for our March meeting. The April meeting will be our annual election, in addition to a presentation on Radio Astronomy. May 2017 will be the annual club auction. The people from Milwaukee solar energy have said they would be willing to do another presentation to the club.

Field Day: Field day went well at the MATC facility. MATC has both port-a-potties and hand wash stations at the location. It's a good location, but may not be available in 2017. The board would like to have a working committee for the field day 2017 effort.

Special Project Committees & Committee reports:

Repeater Report: The club would like more than one repeater control operator. A club repeater control operator should be a extra class operator to have the kind of privileges that are necessary to operate field day to its fullest extent.

New Business: The Board will have to decide by the end-of-year where we will be holding our Board meetings for 2017. Dave, KA9WXN is continuing discussions regarding events for the clubs' 2017 100th anniversary. Tom, W9TJP reports that Ham Radio Outlet is open from 10am-5:30pm, Monday through Saturday. Locations and dates are still being discussed as to the 100th anniversary Banquet. The banquet would have to be catered. Kermit Carlson will be the featured speaker at the banquet, tentative date October 21st, 2017. February 5th, 2017 will be the day of the FM Simplex contest,

We need to start planning special event stations for the entire year of 2017. Dave, KA9WXN will attempt to generate interest among the membership in forming a committee to handle planning. Dan, N9ASA has arranged with The House of Harley Davidson to have a special event station during their annual bash on June 17th, 2017. MakersFaire 2017 will be a special event station from the State Fair Park. The board does want to go ahead with planning a banquet during the 100th anniversary year. Time and place to be determined. It is important that the club gets going on the planning for 2017 events. There has been some discussion about having an banquet during the Fall. JOTA coordinator, KC9WW, Fred is helping the club to format an event at the Indian mounds, in Oconomowoc. This would tentatively take place in October 2017. Date yet too be determined.

Swapfest Committee: The club is looking at April 1st as the new MRAC/MAARS swapfest date. There are a number of places and dates being considered, such as the Zoo and the Elks club. The Elks club is a smaller venue. The Zoo has a banquet room with 25 tables, that would be inexpensive, additional tables can be acquired. A May out-of-trunk event at HRO is a possibility, May 21st being the date. The idea was forwarded to move the Swapfest to April 1st, as a guard against losses due to inclement weather. Name suggestion: "Spring Fling". 2017 will be our 7th annual swapfest.

Special Projects: A special event station will be June 1st, at Greenfield House of Harley dealership. The special event will run during the dealerships hours of operations. The club needs someone to take over the FM simplex contest for February of 2018. The club really needs PR and recruitment, business cards have been printed and will be handed out at all club activities. The board of director's has entered discussions regarding the logistics of having a banquet that would be the day before or during the first of April 2017. The club could send out invitations for the banquet.

A special event station at the War Memorial has been discussed. Does the club want to do a lighthouse special event. The club wants a special event call sign to use during the 100th year events. Dave WB9BWP the club trustee would have to request the call sign from the FCC. The club would also like to have a membership drive for new members for 2017. There would be a special certificate for the any new member of the club. There could also be an award for anyone in the club that attracts a certain number of new members. This is still being discussed. The club needs to have some special QSL cards, or ridged certificates printed up for contacts during the calendar year of 2017. The club would like to query members about working on projects for the 100th anniversary. The annual lighthouse event in Milwaukee is September 17th. MakersFaire is on September 23-24th, 2017.

Website update: The club maintains a PayPal account for the payment of dues. The club also has a Wiki page. Dave, WB9BWP is continuing to work on the club history Wiki page. Dave, KA9WXN has been working on a 100th anniversary page.

Clubs throughout the country need to use the spectrum that they have been given. The 220mhz band is not used very often in the Milwaukee area. DMR is now becoming a item among Hams'. A Club calendar is a project that the Board of Directors' would like to pursue. Dave, KA9WXN has been working on this idea. A schedule of upcoming events should be printed in the chatter each month.

A motion was made to adjourn the meeting at 8:17 pm by Dan N9ASA, seconded by Tom, W9TJP. Meeting adjourned at 8:20 pm. The Library room was policed for trash and reset for the next group.



Snowstorms & Extreme Cold



Before Snowstorms and Extreme Cold

To prepare for a winter storm you should do the following: Before winter approaches, add the following supplies to your [emergency kit](#):

Rock salt or more environmentally safe products to melt ice on walkways. Visit the [Environmental Protection Agency](#) for a complete list of recommended products.

- Sand to improve traction.
- Snow shovels and other snow removal equipment.
- Sufficient heating fuel. You may become isolated in your home and regular fuel sources may be cut off. Store a good supply of dry, seasoned wood for your fireplace or wood-burning stove.
- Adequate clothing and blankets to keep you warm.

Make a [Family Communications Plan](#). Your family may not be together when disaster strikes, so it is important to know how you will contact one another, how you will get back together and what you will do in case of an emergency.

- A NOAA Weather Radio broadcasts alerts and warnings directly from the NWS for all hazards. You may also sign up in advance to receive notifications from your local emergency services.

Download FEMA's Be Smart. Know Your Alerts and Warnings for a summary of notifications at: www.ready.gov/prepare. Free smart phone apps, such as those available from FEMA and the American Red Cross, provide information about finding shelters, providing first aid, and seeking assistance for recovery.

- Minimize travel. If travel is necessary, keep a disaster supplies kit in your vehicle. Bring pets/companion animals inside during winter weather. Move other animals or livestock to sheltered areas with non-frozen drinking water.

Winterize Your Vehicle

Check or have a mechanic check the following items on your car:

- **Antifreeze levels** - ensure they are sufficient to avoid freezing.
- **Battery and ignition system** - should be in top condition and battery terminals should be clean.
- **Brakes** - check for wear and fluid levels.
- **Exhaust system** - check for leaks and crimped pipes and repair or replace as necessary. Carbon monoxide is deadly and usually gives no warning.
- **Fuel and air filters** - replace and keep water out of the system by using additives and maintaining a full tank of gas. A full tank will keep the fuel line from freezing.
- **Heater and defroster** - ensure they work properly.

- **Lights and flashing hazard lights** - check for serviceability.
 - **Oil** - check for level and weight. Heavier oils congeal more at low temperatures and do not lubricate as well.
 - **Thermostat** - ensure it works properly.
 - **Windshield wiper equipment** - repair any problems and maintain proper washer fluid level.
- Install good winter tires** - Make sure the tires have adequate tread. All-weather radials are usually adequate for most winter conditions. However, some jurisdictions require that to drive on their roads, vehicles must be equipped with chains or snow tires with studs.

Update the [emergency kits](#) in your vehicles with:

- A shovel
- Windshield scraper and small broom
- Flashlight
- Battery powered radio
- Extra batteries
- Water
- Snack food
- Matches
- Extra hats, socks and mittens
- First aid kit with pocket knife
- Necessary medications
- Blanket(s)
- Tow chain or rope
- Road salt and sand
- Booster cables
- Emergency flares
- Fluorescent distress flag

Winterize Your Home

- Winterize your home to extend the life of your fuel supply by insulating walls and attics, caulking and weather-stripping doors and windows, and installing storm windows or covering windows with plastic.
- Winterize your house, barn, shed or any other structure that may provide shelter for your family, neighbors, livestock or equipment. Clear rain gutters; repair roof leaks and cut away tree branches that could fall on a house or other structure during a storm.
- Maintain heating equipment and chimneys by having them cleaned and inspected every year.
- Insulate pipes with insulation or newspapers and plastic and allow faucets to drip a little during cold weather to avoid freezing. Running water, even at a trickle, helps prevent pipes from freezing.
- All fuel-burning equipment should be vented to the outside and kept clear.
- Keep fire extinguishers on hand, and make sure everyone in your house knows how to use them. House fires pose an additional risk, as more people turn to alternate heating sources without taking the necessary safety precautions. Learn how to [shut off water valves](#) (in case a pipe bursts).

- Insulate your home by installing storm windows or covering windows with plastic from the inside to keep cold air out. Hire a contractor to check the structural ability of the roof to sustain unusually heavy weight from the accumulation of snow - or water, if drains on flat roofs do not work.

Know the Terms

Know the terms used to describe changing winter weather conditions and what actions to take. These terms can be used to determine the timeline and severity of an approaching storm. (Advisory / Watch / Warning). The NWS also issues advisories and warnings for other winter weather, including blizzards, freezes, wind chill, lake effect snow, and dense fog. Be alert to weather reports and tune in for specific guidance when these conditions develop.

Freezing Rain - Rain that freezes when it hits the ground, creating a coating of ice on roads, walkways, trees and power lines.

Sleet - Rain that turns to ice pellets before reaching the ground. Sleet also causes moisture on roads to freeze and become slippery.

Wind Chill- Windchill is the temperature it "feels like" when you are outside. The NWS provides a Windchill Chart to show the difference between air temperature and the perceived temperature and the amount of time until frostbite occurs. For more information, visit: <http://www.nws.noaa.gov/om/winter/windchill.shtml>.

Winter Weather Advisory - Winter weather conditions are expected to cause significant inconveniences and may be hazardous. When caution is used, these situations should not be life threatening. The NWS issues a winter weather advisory when conditions are expected to cause significant inconveniences that may be hazardous. If caution is used, these situations should not be life-threatening.

Winter Storm Watch - A winter storm is possible in your area. Tune in to NOAA Weather Radio, commercial radio, or television for more information. The NWS issues a winter storm watch when severe winter conditions, such as heavy snow and/or ice, may affect your area but the location and timing are still uncertain. A winter storm watch is issued 12 to 36 hours in advance of a potential severe storm. Tune in to NOAA Weather Radio, local radio, TV, or other news sources for more information. Monitor alerts, check your emergency supplies, and gather any items you may need if you lose power.

Winter Storm Warning - A winter storm is occurring or will soon occur in your area.

Blizzard Warning - Sustained winds or frequent gusts to 35 miles per hour or greater and considerable amounts of falling or blowing snow (reducing visibility to less than a quarter mile) are expected to prevail for a period of three hours or longer.

Frost/Freeze Warning - Below freezing temperatures are expected.

Carbon Monoxide

Caution: Each year, an average of 430 Americans die from unintentional carbon monoxide poisoning, and there are more than 20,000 visits to the emergency room with more than 4,000 hospitalizations. Carbon monoxide-related deaths are highest during colder months. These deaths are likely due to increased use of gas-powered furnaces and alternative heating, cooking, and power sources used inappropriately indoors during power outages.

- Never use a generator, grill, camp stove or other gas-line, propane, natural gas or charcoal-burning devices inside a home, garage, basement, crawlspace or any partially enclosed area. Locate unit away from doors, windows and vents that could allow carbon monoxide to come indoors. Keep these devices at least 20 feet from doors, windows, and vents.

- The primary hazards to avoid when using alternate sources for electricity, heating or cooking are carbon monoxide poisoning, electric shock and fire.

- Install carbon monoxide alarms in central locations on every level of your home and outside sleeping areas to provide early warning of accumulating carbon monoxide.

- If the carbon monoxide alarm sounds, move quickly to a fresh air location outdoors or by an open window or door. Call for help from the fresh air location and remain there until emergency personnel arrive to assist you.

During Snowstorms and Extreme Cold

- Stay indoors during the storm.

- Walk carefully on snowy, icy, walkways.

- Avoid overexertion when shoveling snow. Overexertion can bring on a heart attack—a major cause of death in the winter. Use caution, take breaks, push the snow instead of lifting it when possible, and lift lighter loads.

- Keep dry. Change wet clothing frequently to prevent a loss of body heat. Wet clothing loses all of its insulating value and transmits heat rapidly.

- Signs of Frostbite: Occurs when the skin and body tissue just beneath it freezes. Loss of feeling and white or pale appearance in extremities, such as fingers, toes, earlobes, face, and the tip of the nose.

- What to Do: Cover exposed skin, but do not rub the affected area in an attempt to warm it up. Seek medical help immediately.

- Signs of Hypothermia: Dangerously low body temperature. Uncontrollable shivering, memory loss, disorientation, incoherence, slurred speech, drowsiness, and apparent exhaustion.

- What to Do: If symptoms of hypothermia are detected take the person's temperature. If it is below 95°, seek medical attention immediately. Get the victim to a warm location. Remove wet clothing. Warm the center of the body first by wrapping the person in blankets or putting on dry clothing. Give warm, non-alcoholic beverages if the victim is conscious. Seek medical help immediately.

The U.S. Centers for Disease Control and Prevention (CDC) recommends, if you detect symptoms of frostbite, seek medical care. Because frostbite and hypothermia both result from exposure, first determine whether the victim also shows signs of hypothermia. Hypothermia is a more serious medical condition and requires emergency medical assistance.

- Drive only if it is absolutely necessary. If you must drive: travel in the day; don't travel alone; keep others informed of your schedule; stay on main roads and avoid back road shortcuts.

- Let someone know your destination, your route, and when you expect to arrive. If your car gets stuck along the way, help can be sent along your predetermined route. If the pipes freeze, remove any insulation or layers of newspapers and wrap pipes in rags. Completely open all faucets and pour hot water over the pipes, starting where they were most exposed to the cold (or where the cold was most likely to penetrate).

- Maintain ventilation when using kerosene heaters to avoid build-up of toxic fumes. Refuel kerosene heaters outside and keep them at least three feet from flammable objects.

- Conserve fuel, if necessary, by keeping your residence cooler than normal. Temporarily close off heat to some rooms.

If you will be going away during cold weather, leave the heat on in your home, set to a temperature no lower than 55°F.

Stay or Go

STAY:

- If stuck on the road to avoid exposure and/or rescue is likely
 - If a safe location is neither nearby or visible
 - If you do not have appropriate clothing to go outside
- If you do not have the ability to call for help

GO:

- If the distance to call for help is accessible.
- If you have visibility and outside conditions are safe.
- If you have appropriate clothing.

Once the storm has passed, if you are not already home, follow instructions from your local transportation department and emergency management agency to determine which route will be safest for you to get home. Drive with extra caution.

Dress for the Weather

- If you must go outside, wear several layers of loose-fitting, lightweight, warm clothing rather than one layer of heavy clothing. The outer garments should be tightly woven and water repellent.
- Wear mittens, which are warmer than gloves.
- Wear a hat. A hat will prevent loss of body heat. Cover your mouth with a scarf to protect your lungs.

Stranded in a Vehicle

If a blizzard traps you in the car:

- Pull off the highway. Turn on hazard lights and hang a distress flag from the radio antenna or window.
- Remain in your vehicle where rescuers are most likely to find you. Do not set out on foot unless you can see a building close by where you know you can take shelter. Be careful; distances are distorted by blowing snow. A building may seem close, but be too far to walk to in deep snow.
- Run the engine and heater about 10 minutes each hour to keep warm. When the engine is running, open a downwind window slightly for ventilation and periodically clear snow from the exhaust pipe. This will protect you from possible carbon monoxide poisoning.
- Exercise to maintain body heat, but avoid overexertion. In extreme cold, use road maps, seat covers, and floor mats for insulation. Huddle with passengers and use your coat for a blanket.
- Take turns sleeping. One person should be awake at all times to look for rescue crews.
- Eat regularly and drink ample fluids to avoid dehydration, but avoid caffeine and alcohol.
- Be careful not to waste battery power. Balance electrical energy needs - the use of lights, heat, and radio - with supply.

- Turn on the inside light at night so work crews or rescuers can see you.
- If stranded in a remote area, stomp large block letters in an open area spelling out HELP or SOS and line with rocks or tree limbs to attract the attention of rescue personnel who may be surveying the area by airplane. Leave the car and proceed on foot - if necessary - once the blizzard passes



The Experimenters' Bench

How Filtering Can Clean Water

Abstract

Living in the industrialized world, like the United States, we are fortunate because we don't have to worry about the quality of our drinking water. Your community has the means to clean and provide water to you. But in many parts of the world, people don't have this luxury. Whether it is due to war or poverty, the lack of clean water leads to many health and social problems. In this environmental engineering science project, you will learn about different methods to filter out impurities in contaminated water, producing clean water for people who don't have access to it, and you will also experiment with filtering different kinds of liquids.

Objective

To investigate the effectiveness of a simple filter column for filtering different kinds of liquids.

Introduction

When you're thirsty, nothing is better for you than a glass of water. All you have to do is turn on the tap and fill your glass, open a bottle of water, or go to your refrigerator's water dispenser. Whatever method you use to get water, the point is that you don't have to worry about it. You can get a clean glass of water whenever you need it. However, many people in the world don't have this luxury. Their town or village might not have a well nearby and a family member might need to walk for miles to get the daily requirement of water. Or if there *is* water nearby, it might be **contaminated**. Contaminated water can be a source of deadly diseases, such as **cholera** and **dysentery**. According to the World Health Organization, every year approximately 1.6 million people die from illnesses (usually severe diarrhea) due to drinking unsafe water. Most of these people are children under the age of five. About 4,500 people—again mostly children—die every *day* because they drank unsafe water. Another side effect of lack of access to clean water is gender inequality. Gender inequality is the belief that one **gender**, male or female, is better than the other. The chore of gathering water for the family usually rests upon the shoulders of female family members, especially girls. If girls are gathering water all day, then they don't have time to go to school. Thus, access to clean water can result in a population that is not only healthier, but that is better educated, and more able to help improve their community because they are not sick. In the year 2000, the **United Nations** member countries put together the Millennium Development Goals. The purpose of this program is to reduce poverty and hunger, to tackle ill health, gender inequality, lack of education, lack of access to clean water, and environmental ruin. Access to clean water plays a big part in reaching many of the Millennium Development Goals. Figure 1 shows a young Rwandan boy enjoying a glass of clean water. This is one child that will not suffer the effects of severe diarrhea.

Since the start of the Millennium Development Goals program, many non-profit and for-profit companies have developed filtration tools that reliably clean water. These tools range from filtering straws that people can carry with them, to simple silver-lined (silver helps clean the water) clay pots.

But what is a filter and how does a simple filter work? A water **filter** is a device that removes **impurities** (such as dirt) from water using a physical **barrier**, a **chemical process**, or a **biological process**. In this environmental engineering science project, you will experiment with a water filter column kit and see how it works to find out how effective it is at filtering color and visible particles from different kinds of liquids. The water filter column that comes in the kit has four sections: gravel, fine sand, activated carbon, and paper filter. The gravel allows water to pass through, but traps large **particles**. The sand allows water to pass through and traps smaller particles. The active carbon removes unwanted chemicals in the water through a process called **adsorption**.

The last stage is a paper filter, which is effective at trapping oils. Many cities use water filters that are similar to the filter column you'll use in this science project. The additional step *they* take, however, is adding chemicals to the water to kill any **pathogens**, which could make you sick. While doing this science project, think about all the important science and technology that exists to improve people's lives, like devices to clean their water!

Terms, Concepts and Questions to Start Background Research

- Contamination
- Cholera
- Dysentery
- Gender
- United Nations
- Filter
- Impurity
- Barrier
- Chemical process
- Biological process
- Particle
- Adsorption
- Pathogen
- Clarity
- Murky
- Data Mathematical average

Questions

- What are the United Nations' eight Millennium Development Goals and how does clean water address these goals?
 - What happens to your body when you have constant diarrhea?
 - Can you describe three different tools for cleaning contaminated water?
- How does the water purification plant in your city work? *Hint:* Call your local water company to get more information.

Materials and Equipment

Green Science Clean Water Science Kit; available from www.amazon.com

- Bowls (3)
- Plastic spoons (1 box)

- Liquid measuring cup
- Teaspoon, ¼ measure
- Small bowl of garden dirt
- Vegetable oil, ¼ cup
- Medicine dropper
- Plastic cups, clear (9; 2 for each of the 4 liquids and 1 for a comparison water sample)
- Permanent marker
- Plastic wrap (1 roll)
- Sports drink, red-colored (1 cup)
- Tea kettle, small pot, or liquid measuring cup
- Mug (1)
- Tea bag; a bagged black orange pekoe tea (1 tea bag)
- Kitchen timer
- Cola/soda pop (1 cup)
- Lab notebook
- Graph paper

Disclaimer: Science Buddies occasionally provides information (such as part numbers, supplier names, and supplier web links) to assist our users in locating specialty items for individual projects. The information is provided solely as a convenience to our users. We do our best to make sure that part numbers and descriptions are accurate when first listed. However, since part numbers do change as items are obsolete or improved, please send us an email if you run across any parts that are no longer available. We also do our best to make sure that any listed supplier provides prompt, courteous service. Science Buddies receives no consideration, financial or otherwise, from suppliers for these listings Experimental Procedure

Constructing the Filter

Open the clean water science kit and read the enclosed instruction booklet completely. First, open a packet of gravel and put it in a bowl. Rinse the gravel in water carefully three times to remove any dust. Open a packet of sand and put it into another bowl. Rinse the sand in water carefully three times. Swish the sand in the water and then let it settle before you carefully drain off the water. Open a packet of active carbon and put it into a clean bowl. Rinse the active carbon in water carefully three times. Clean the active carbon the same way as you cleaned the sand. Put the filter column together, as described in the instruction book.

Prepare two filter plugs with wax, as instructed in the instructions, and insert them into two filter sections. Insert the other two plain filter plugs into two filter sections. Put the wet sand in one of the two filter sections with the waxed plug. Use a plastic spoon to scoop the clean sand from the bowl into the filter section. The sand will be wet, but try to scoop only the sand and not any extra water. Put the active carbon in the other filter section with the waxed plug. Use another plastic spoon to scoop the clean carbon from the bowl into the filter section. Avoid scooping any water into the filter section with the carbon. Put the gravel into one of the plain plug filter sections. Fold a filter paper in half and then in half again. Open the filter paper so that you have a cone or a funnel shape. Insert the cone into the last filter section. Construct the filter column, as shown in the diagram in the instruction booklet. Make sure that the bottom of the top filter section doesn't touch the material in the section below it.

Testing the Filter

Make a contaminated water sample. Add 1/3 cup of water to the measuring cup. Add 1/2 teaspoon (tsp.) of garden dirt to the water and stir it with a clean plastic spoon. Using the medicine dropper, add a little vegetable oil to the water, approximately 4–6 drops. Mix the oil and the dirt completely into the water. Pour the contaminated water into a clear plastic cup.

Place the filter column carefully on top of another clear plastic cup. Slowly pour a small amount of the contaminated water into the filter. The water should move between the filter sections drop by drop. Slowly filter about half of the contaminated sample. Continue to mix the contaminated water with the spoon so that the dirt doesn't settle. Now compare the filtered sample of water to plain water and to the sample of contaminated water. Fill another clear plastic cup with plain water. Compare the **clarity** of the filtered sample to the clarity of plain water. Rank the clarity of the filtered water on a scale of 1 to 5, where 5 is very clear (as clear as the plain water) and 1 is **murky**, where the sample is not clear at all and looks identical to the original contaminated sample. Record this **data** in your lab notebook in a data table like the one shown below. You should also record any other observations that you make about the filtered water. For example, if the filtered water has grit in it, then record that in the table.

Caution: This filtering device is not intended as a filtering device to make clean drinking water, only as a representation of more-advanced filters. Do *not* drink the filtered water.

Boil 1 cup of water in a teakettle or small pot on the stove, or in the microwave. Place the tea bag in the mug and pour the cup of boiling water into the mug over the tea bag. Set the timer for 15 minutes and let the tea bag sit undisturbed for 15 minutes. Remove and discard the tea bag and let the tea cool down as you proceed with the following steps.

Liquid	Trial	Clarity Ranking	Observations
	1		
	2		
	3		
	1		
	2		
	3		
	1		
	2		
	3		

Now take the filter apart and pour the gravel, the sand, and the active carbon into three separate bowls. Wash the three materials according to the instructions in the instruction booklet. Carefully unfold the paper filter and rinse it in water. Rinse the filter sections out in water. Refill the filter sections, remembering to fill one of the filter sections that has a waxed plug with sand and the other filter section that has a waxed plug with active carbon. Put the filter back together.

Place 1/3 cup of sports drink in a clear plastic cup. Carefully place the filter on top of a clean clear plastic cup. Slowly pour half of the sports drink into the filter. The sports drink should move between the filter sections drop by drop. Slowly filter about half of the sports drink.

Now compare the filtered sample of sports drink to plain water. Compare the clarity of the filtered sports drink to the clarity of the plain water in the cup from step 3 and to the original sports drink. Rank the clarity of the filtered sports drink on a scale of 1 to 5, where 5 is very clear (as clear as the plain water) and 1 is still colored and not clear at all (like the original sports drink). Record this data in your lab notebook. You should also record any other observations that you make about the filtered sports drink.

Repeat steps 5–7 using 1/3 cup of tea. Record all data in your lab notebook.

Repeat steps 5–7 using 1/3 cup of cola. Record all data in your lab notebook. Is the filtered cola just as fizzy and bubbly as the original cola?

Repeat steps 1–9 two more times with clean materials (you can wash and reuse the plastic cups and use the remaining liquids you've already prepared). It is important to do the experiment at least three times so that you are sure that your results are repeatable and reproducible.

Analyzing Your Data

Review the data that you collected in the previous section's data table. **Average** the rank data for each of the four liquids. Equation 1 describes how to average data. You can also ask an adult for help. Record the data in your lab notebook in a data table like the one shown below.

Equation 1:

$$\text{Average} = \frac{\text{Trial 1} + \text{Trial 2} + \text{Trial 3}}{3}$$

Liquid	Average Clarity Ranking

Plot your data. You can plot your data by hand using graph paper or you can do your plots online at a website such as [Create A Graph](#) Label the x-axis *Liquid* and the y-axis *Average Clarity Ranking*.

Did the filter remove all of the color and visible particles from the liquids? How effective is this filter at removing any visible particles from the liquids, such as dirt or food coloring? Did using this filter result in absolutely clear liquids as compared to each original liquid?

Variations

- The purpose of waxing the filter plugs is to slow the rate at which liquid flows through the filters. But what if you just can't wait to filter the liquid? Experiment with the rate of flow through the filter by changing the amount that you use to wax the filter plugs. Does changing the flow rate affect the quality of the filtered liquid?
 - Try filtering teas that are brewed for different lengths of time. Brew tea for 10 seconds, 20 seconds, 5 minutes. Is the appearance of the filtered liquid dependent upon the length of brew time?
- Do some research at the library or on the Internet and make and test your own water filtration system.

SAPPER ATTACK IN THE A SHAU

Fire Support Base Cunningham dominated the A Shau Valley. The sappers of the North Vietnamese Army's 812th The Regiment received orders to eliminate it!

The mission of Operation Dewey Canyon was clear – disrupt and destroy enemy logistics in the A Shau Valley, particularly in the North Vietnamese Army's (NVA) Base Area 611. As described by Samuel Lipsman and Edward Doyle in *Fighting for Time*, Part of Boston Publishing Company's multi-volume Vietnam Experience, Base Area 611 "straddled the Vietnamese-Laotian border just north of the A Shau Valley and south of the Da Krong River...More than three-quarters of the base area is believed to lie in Laos, along Route 922. This route later joined Route 548, thus providing easy access for the NVA into the Da Nang-Hue coastal region." NVA engineering units, inactive for months, had reopened several major infiltration routes. This included increased enemy activity along Route 922 as it enters the A Shau Valley in the Republic of South Vietnam from Laos. The intelligence reports brought additional scrutiny on the border areas.



Combat during Dewey Canyon

Enemy forces laid down heavy volumes of anti-aircraft fire against U.S. helicopters and other responding high-performance reconnaissance aircraft. Surveillance reported sightings of sophisticated wire communications networks and major engineering works throughout Base Camp Area 611 with, at times, more than 1,000 trucks per day on the move south. Evidence strongly indicated that major elements of the 6th and 9th NVA Regiments were attempting to work their way eastward through the A Shau Valley. There they could be reinforced by three battalions of the 812th Regiment, which after the Tet Offensive of 1968 had pulled back into the jungle sanctuary on the border for resupply and infusion of replacements, and by elements of the 4th and 5th NVA Regiments, which had withdrawn into the A Shau Valley and Laos under constant U.S. and ARVN pressure during 1968.

It seemed obvious that the NVA intended to launch a Tet offensive of some kind in 1969, although probably not of the devastating magnitude of the 1968 Tet. Any form of victory, even one of minor or only temporary tactical value, could have a significant influence upon the civilian population of South Vietnam and the United States, with a more far-reaching effect upon bargaining positions at the Paris peace talks were underway. The enemy's jungle logistics system would therefore have to be destroyed before it could be used.

No longer content to simply hold ground and fight insurgent forces within South Vietnam, U.S. commanders decided that it was time to take the battle to the North Vietnamese Army. To address the threat of a North Vietnamese invasion from Laos they would strike at NVA headquarters and logistics element in the border areas, thereby denying the enemy access into the critical populated areas of the coastal lowlands of Quang Tri, Thua Thien and Quang Nam provinces. General Creighton Abrams, the MACV (Military Assistance Command Vietnam) commander, wanted an operation conducted during the winter period of 1968-1969, believing that it had great tactical promise in advancing the issues of the war. General Raymond G. Davis, the 3rd Marine division commander, had discussed such an operation with General Richard Stilwell, XXIV Corp commander. It would not be easy, for the enemy had chosen the site of their base camp well. The terrain in the A Shau Valley. Because of its experience operating in the rugged mountains and thick jungle canopy of western Quang Tri province, the U.S. 9th Marine Regiment was selected to conduct Operation Dewey Canyon.

The men of the regiment were mentally and physically prepared for the rigors of Dewey Canyon's terrain. They brought to the operation experience in jungle survival and landing zone construction, as well as skills in the conduct of mountain warfare, including heliborne operations and the fire support base concept. During the five-day planning period allowed for the operation, an XM-3 Airborne Personnel Detector picked up evidence of enemy troop concentrations atop a 2,100-foot-long ridgeline 41/2 miles from the Laotian border which would be developed into Fire Support Base Cunningham, the eventual command center for the operation.

Phase One (1/19/1969 – 1/30/1969), of the operation, including all pre-D-day activities dealing with getting the artillery support established in the area, began with the opening of three fire support bases (Henderson, Tun Tavern, and Shiloh) on January 19. After the area had been mostly cleared by aviation ordnance, Company I, 3rd Battalion, 9th Marines (I/3/9), and Company M, 3rd Battalion, 9th Marines (M/3/9), conducted heliborne assaults into landing zones (LZs) India and Mike 1700 meters apart on Co Ca Va Ridge. This is a boomerang-shaped ridge approximately a half-mile long, running linearly east to west, with its southern flank an almost sheer cliff to the valley below. Meeting no resistance, the way was clear for Company K, 3rd Battalion,

9th Marines, and engineers to sweep in and begin construction of the fire support base. There was no secrecy involved in the creation of a fire support base. It was an anthill of activity, a major engineering feat and the scene of massive organized confusion as chain saws bit into the huge jungle hardwoods. Numerous explosions sent rocks, splinters, tree limbs, and even whole trees, raining down through clouds of choking, rising dust. The rapid buildup of support facilities at FSB Cunningham was impressive, essentially turning the fire support base into a mini-combat base. When placed atop a dominant terrain feature, the fire support bases were defensible but, as "fixed" forward positions established in the enemy's territory by forcible entry, they were beacons and targets quickly placed under constant observation by the **enemy**.



Early Radio: Military Communications

From the moment the Marines landed on Co Ca Va Ridge and began their construction efforts they were under constant enemy surveillance. It was soon obvious to the NVA observers that this was the operational command center for all Marine operations in the area. Accordingly, an NVA sapper unit was ordered to do a feasibility study upon which to formulate assault plans against the fire support base. The Marines knew the enemy's tactics well.

Accordingly, the infantry dug their fighting holes, usually two-man positions, no more than 50 feet apart. As much barbed wire as could be obtained was strung in several different configurations all around the outpost, with additional barriers, such as flares, trip-wire booby traps and anti-personnel mines, placed at what were perceived to be the most likely avenues of enemy approach. Interlocking field of fire for individual and crew-served weapons were established so that the defenders achieved a 360-degree integrated pattern of defensive fire. Outposts with good vantage points were established. Listening posts were also established that would intercept attacks or attempt at infiltration before allowing enemy forces to approach close to the defensive lines. Because of their forward and exposed natures, the location of those outposts was continually changing. Additional protection for the fire support base was provided by constant patrols around the position. The fire support bases in no way resembled a secure area with all the trappings of a permanent installation. As operations proceeded, empty ammunition crates were broken down and utilized as footpaths.

Garbage disposal, although a problem, was never a high priority. Plastic and cardboard wrappings, expended artillery shells and empty C-ration cans quickly stacked up. Due to the proximity of large stores of ammunition, engineering explosives and powder charges, trash fires were not allowed. The trash pits and bunkers were almost immediately infested with legion of mice and rats. The bunkers were dark and musty. Beds were made of whatever could be scrounged or improvised. There were no windows. Available electricity was reserved for communication and equipment. New men soon learned that peanut butter, when burned, made a dim candle. Inside the bunkers the men attracted hordes of voracious gnats and mosquitoes. Insect bites became ulcerated wounds constantly irritated by salty sweat. Every sore turned into jungle rot. Mail was infrequently delivered. Hot meals were a thing of the past. Supplies were low and, for several days at a time, non-existent. The men found themselves eating cold C-ration spaghetti for breakfast and being thankful to have it. There was little water for cooking or shaving and not much more for drinking. Then there was the constant enemy fire. There was nothing routine about being on the receiving end of an artillery barrage, even when the attacks came daily or hourly and there were no casualties. Nerves were constantly frayed. Marines in underground positions held their breath and cast nervous eyes to straining timbers as loose dirt sifted through their accumulation of timers, runway matting, sandbags and logs overhead.

Equipment was damaged and efficiency impaired. The effect was cumulatively debilitating. Finally, there was the danger of ground attack. A sapper unit of the NVA 812th Regiment had been assigned the mission of attacking FSB Cunningham. Its primary objective was to penetrate the Marine defenses and inflict maximum casualties, destroy equipment, ordnance and installations, and then withdraw. A sapper attack was not designed to seize and hold or occupy a prominent terrain feature. The sappers took the time to professionally and skillfully plan their attack. A week was devoted to executing a detailed reconnaissance of the fire support base. The terrain was minutely analyzed, defensive patrol patterns studied, crew-served weapons' positions plotted, obstacles sketched and estimates made of the time that would be required to breach defensive barriers.



By February 16, 1969, the NVA sappers were ready to commence their attacks on FSB Cunningham. The period between their final reconnaissance and the commencement of their attack was allocated to briefings and rehearsals. Sand tables had been prepared from detailed sketches made of all the Marine installations. All possible approach routes had been carefully reviewed and the concept of terrain appreciation utilized in developing the plan of attack. The natural and man-made obstacles had been plotted. The marines' flares and detonation devices had been located. Each sapper was given precise instructions on his mission. Supporting fire concentrations had been planned, checked and rechecked. The attack signal, passwords, and withdrawal and rally point signals were memorized by all hands. The sappers used a flare system as a source of communications: red-area hard to get into; white-withdrawal; green-victory; green followed by white-reinforcements requested. Personnel, ammunition and weapons were carefully checked.

The sappers were organized into five groups. Group 1, led by Comrade An, consisted of 16 men divided into four-man teams. The first team was assigned to attack the command operations center and mortar positions. The second team was to attack to the right and link up with Comrade Bong's Group 2 at the helicopter-landing zone. The third team was to attack to the left, assault through the landing zone and link up with Group 3, led by Comrade Tan. The fourth team was to attack to the front toward the landing zone. Group 2 consisted of 15 men divided into four teams led by Comrade Bong. His first four man team was assigned to attack and destroy the artillery fire direction control center and other battery facilities on the east end of the fire support base. The second team was to attack artillery positions to the right while the third four-man team attacked artillery positions to the left. The remaining three-man team was designated the group's reserve force.

Comrade Tam's Group 3 consisted of 12 men divided into four three-man teams concentrating on the west end of the fire support base. The first team was assigned to attack artillery positions to the left. The second team was to attack to the right, advancing and exploiting contact with the Group 1 leader, Comrade An. The third team was to attack directly forward and then link up with a fourth group, led by Comrade Pha, for the mop-up operations. The fourth team would be held in reserve. Pha's group was organized to function as the extraction force to assist in the withdrawal of the groups assaulting specific objectives. A fifth group of over 100 men would provide the assaulting forces with a base of fire utilizing RPG's, mortars, automatic weapons and small-arms fire.

The attack forces moved out from their various base camps at 7:30 a.m. Using previously reconned routes, they executed a covered approach to their final assembly area. Movement was initiated many hours prior to the assault phase as the sappers had deliberately chosen the most difficult avenues of approach to the target in order to avoid observation. By 6 p.m. all the NVA sapper groups were only 100 meters outside the concertina-wire obstacles surrounding FSB Cunningham. The NVA sappers slowly crept to assault positions just outside the defensive wire, aided by reduced visibility. There was little moonlight and a thick blanket of fog enveloped not only the fire support base but all routes of entry to it. Although the approach was slow and cautious, the assault itself would be made with the most speed.

The sappers assumed that the majority of the defenders would be driven into their bunkers by the mortar attack that would precede their assault. The sappers knew that once the defensive obstacles were breached under this covering fire, the bunkers would become death traps for the Marines. In anticipation of the Lunar New Year (or Tet) cease-fire, the roaring of the big artillery pieces on FSB Cunningham fell silent at midnight, although the allied countrywide 24-hour truce went into effect at 6 p.m. on February 16. At precisely 2 a.m., the NVA mortar sections commenced placing accurate supporting fire on previously plotted primary targets, mortar positions, the command bunker, artillery positions and communications bunkers. The Marines could hear the mortar rounds as they were tubed. The devastatingly accurate mortar fire forced the Marines into their bunkers where they felt safe due to a minimum overhead cover of at least four layers of sandbags.

In the midst of the noise, damage and confusion, it was immediately obvious that key installations were the target of the intense barrage. The Marines in fighting holes on the perimeter kept their heads down. The Marine defensive positions were manned on the northern slope by the men of Lima Company, 3rd Battalion, 9th Marine Regiment. Defensive positions on the flanks and along the southern edge of the ridge were manned by a combination of Marines from the artillery units and Colonel Barrow's headquarters group. In addition, a reaction force of 50 Marines from the communications, engineer and staff sections of the headquarters group were on standby as a reserve defensive force. The mortar barrage reached a crescendo at 2:15 a.m. as the NVA assault groups began their efforts to breach the defensive obstacles. The initial assault wave came from the northeast. The sappers made liberal use of Bangalore torpedoes fashioned from half-pound blocks of TNT lashed together between bamboo sticks.

The ingenious attack route lay through one of the many trash dumps with well-worn paths leading to every major battery facility. Mats, brush and other local materials were thrown across the barbed wire obstacles. As the mortar fire lifted, rocket-propelled Chicom grenades, satchel charges and the Bangalore torpedoes gave the impression that the mortars were still firing, serving to keep the defenders on the perimeter positions inside their bunkers. The Marines were suffering from too many head ringing explosions to notice the difference. For hours before the cease-fire began, the artillery batteries at the fire support bases had been hammering away in direct support of other defensive positions. The cacophony of noise was deafening.

The NVA sappers who broke through the defensive wire barriers tossed concussion grenades and satchel charges into every open hole they could find. The RPG's (rocket-propelled grenades) and automatic weapons fire of the NVA base group was concentrated on the firing slits and ports of the bunkers. Although the situation was confusing, the Marines quickly realized that they were under ground attack and responded ferociously, organizing an effort to clear the base in the face of heavy enemy mortar and recoilless rifle fire. The sapper attack was an unforgettable experience for Navy Lt. Cmdr. (chaplain) David Brock, who later told the division chaplain: "During the early moments of the attack, an NVA soldier stuck his head into the tent where I and two others were rising, but fortunately, did not throw a grenade inside. A grenade was thrown into a small bunker a few feet away, killing two men."

Chaplain Brock remembers: "The firefight lasted until almost 7:45 a.m. and during this time I stayed with the doctor in the Aid Station in order to administer last rites and to help with the wounded. For two hours it looked as if the Aid Station would be made a last stand. During the firefight various thoughts went through my mind, such as: Would we live through this? Will the men be able to hold out? How were the young men on the lines doing? I must admit that I was scared but the feeling soon passed because we were too busy. The others were afraid too but not one of them showed his fear. As a matter of fact, it warmed one's heart to see just how well these young men did in the face of death." Lieutenant Commander Brock was one of the regiment's rather unique lot of chaplains, who almost seemed as if they were handpicked to serve with this particular group of hard-nosed Marines. Brock had seen action in the European Theatre of Operations as a U.S. Army Sergeant in World War II. He earned a Navy Commendation Medal with combat "V" and a Vietnamese Cross of Gallantry with a silver star in Vietnam.



The officer in charge of the fire support base was partially buried in a caved-in bunker during the mortar attack. As he crawled out, he came face to face with one of the sappers. The Marine had a grenade in his hand but was too close to the enemy soldier to use it. He leaped on the surprised enemy soldier and bludgeoned him to death with the heavy base of the grenade. Using his personal knife as his primary weapon, the Company Gunnery Sergeant killed several of the sappers in hand-to-hand combat. Marines from the 106mm battery, who had manned a machine gun in the southeast portion of the fire support base, assaulted and killed six NVA soldiers who were attempting to organize a strong point inside the perimeter. The cooks from India battery counted for 13 enemy killed when they manned a 50-caliber machine gun.

The defensive perimeter had been penetrated by several dozen sappers wearing only olive green shorts and skullcaps. They all carried pack full of explosives and were armed with shoulder fired RPG's, satchel charges, bamboo mines, small arms and grenades. The artillery battalion's fire direction control center was put out of action, as was one howitzer. During the period from 4:10 a.m. to daylight only one of the Marines' mortars remained in action. The mortar team stayed with their weapon throughout the assault, re-establishing communications with the commander in the fire direction control center and firing a total of 380 rounds. Corporal Jim Best recalls the attack as a blur of indistinct memories. "There were red and green tracers flashing overhead, men screaming and explosions everywhere. I lay there hugging the ground thinking I may not get out, wondering if we'd been overrun."

Although penetrated, the Marine lines held and at times only a scant five feet separated the combating forces. Men not actively engaged in direct confrontations with the enemy forces were busy coordinating HEAT (high-explosive anti-tank) and illumination artillery fire or providing other support services. Artillery officers were coordinating fire missions while at the same time an air officer was on the radio requesting helicopter gunship support. Lieutenant Raymond C. Benfatti, Commanding Officer of Company L, was severely wounded by an impacting rocket-propelled grenade during the initial moments of the attack. Ignoring his painful injuries, Benfatti steadfastly refused medical evacuation and boldly shouted words of encouragement to his men. He directed their fire against the infiltrating sappers and two supporting infantry companies until the hostile sapper unit was ejected from the perimeter.

Despite the enemy rounds impacting all around him, Lieutenant Benfatti quickly organized a reaction force and supervised his Marines in evacuating the casualties and replacing wounded Marines in defensive emplacements. As the enemy support units pressed their attack upon the perimeter, Benfatti continued his determined efforts, repeatedly exposing himself to intense hostile fire as he directed the efforts of his men in repulsing the enemy attack. A flare ship was called on station to provide illumination outside the perimeter wire. It would remain on station throughout the night as the battle raged until dawn. With flares lighting up the night, a group of clerks, radio operators and engineers began a systematic drive to eliminate the enemy forces within the perimeter. Throughout the battle, Benfatti called for artillery fires from the batteries located on the mutually supporting fire-bases to surround FSB Cunningham in a curtain of hot steel.

This supporting fire prevented enemy reinforcements and exploitation of breaches in the wire and also rendered impossible the retreat of the sappers already inside the compound. At about 5:30 a.m. the Marines completed the reorganization of their positions and began slowly but methodically to break up the sapper attack. As dawn broke, the spirited defenders were mopping up the remnants of the enemy assault force. Contact, however, was not broken until 7 a.m. Jim Best describes the end of the battle; "The fighting slowed and it was a few moments before I realized that the fire support base was dead silent. There were no sounds, only the fear of not knowing the exact situation." AS the sun rose, the light and warmth it brought created a calming sense of temporary peace at FSB Cunningham. When it became apparent that the NVA had withdrawn for good, the counting began. Lieutenant Benfatti, who would win the Silver Star Medal for his actions during the attack, supervised the medical evacuation of casualties and ascertained the welfare of his Marines, resolutely refusing medical attention for his own wounds until all the other wounded men had been cared for.



The Marines found a total of 25 NVA bodies inside their defensive wires. One of those bodies was that of a sapper officer. Documents found on his body were examined, translated and analyzed by the 15th Interrogator/Translator Team, revealing the detailed planning of the attack described above. Searching the enemy bodies, the Marines captured 26 RPG rounds, 25 Chicom grenades, 253 bamboo explosive devices, seven rifle grenades, 12 packs, two radios, 11 AK-47 rifles and numerous signal flares. The packs contained large quantities of marijuana and other drugs. "The use of narcotics,"

"The use of narcotics," platoon leader Milton J. Teixeira said, "made them a lot harder to kill. Not one of the gooks we had inside the perimeter had less than three or four holes in him. Usually it took a grenade or something to stop him completely." A final tally of the battle damage revealed four Marines killed in action, 46 Marines wounded in action and 37 NVA killed in action. In "E" Battery, 2nd battalion, 12th Marines, had taken heavy battle damage. Surveying the smoke-shrouded fire support base, Colonel Barrow said: "They'll probably think twice from here on out before taking on another Marine headquarters group. These lads did a fantastic job in what could have been a nasty situation. They were 100 percent professional fighting men; good Marines all the way."

-----FSB CUNNINGHAM

Happy Thanksgiving to one and all !



THE REAL STORY OF THANKSGIVING

by Susan Bates

Most of us associate the holiday with happy Pilgrims and Indians sitting down to a big feast. And that did happen - once. The story began in 1614 when a band of English explorers sailed home to England with a ship full of Patuxet Indians bound for slavery. They left behind smallpox which virtually wiped out those who had escaped. By the time the Pilgrims arrived in Massachusetts Bay they found only one living Patuxet Indian, a man named Squanto who had survived slavery in England and knew their language. He taught them to grow corn and to fish, and negotiated a peace treaty between the Pilgrims and the Wampanoag Nation. At the end of their first year, the Pilgrims held a great feast honoring Squanto and the Wampanoags.

But as word spread in England about the paradise to be found in the new world, religious zealots called Puritans began arriving by the boat load. Finding no fences around the land, they considered it to be in the public domain. Joined by other British settlers, they seized land, capturing strong young Natives for slaves and killing the rest. But the Pequot Nation had not agreed to the peace treaty Squanto had negotiated and they fought back. The Pequot War was one of the bloodiest Indian wars ever fought.

In 1637 near present day Groton, Connecticut, over 700 men, women and children of the Pequot Tribe had gathered for their annual Green Corn Festival which is our Thanksgiving celebration. In the predawn hours the sleeping Indians were surrounded by English and Dutch mercenaries who ordered them to come outside. Those who came out were shot or clubbed to death while the terrified women and children who huddled inside the longhouse were burned alive. The next day the governor of the Massachusetts Bay Colony declared "A Day Of Thanksgiving" because 700 unarmed men, women and children had been murdered.

Cheered by their "victory", the brave colonists and their Indian allies attacked village after village. Women and children over 14 were sold into slavery while the rest were murdered. Boats loaded with a many as 500 slaves regularly left the ports of New England. Bounties were paid for Indian scalps to encourage as many deaths as possible.

Following an especially successful raid against the Pequot in what is now Stamford, Connecticut, the churches announced a second day of "thanksgiving" to celebrate victory over the heathen savages. During the feasting, the hacked off heads of Natives were kicked through the streets like soccer balls. Even the friendly Wampanoag did not escape the madness. Their chief was beheaded, and his head impaled on a pole in Plymouth, Massachusetts -- where it remained on display for 24 years.

The killings became more and more frenzied, with days of thanksgiving feasts being held after each successful massacre. George Washington finally suggested that only one day of Thanksgiving per year be set aside instead of celebrating each and every massacre. Later Abraham Lincoln decreed Thanksgiving Day to be a legal national holiday during the Civil War -- on the same day he ordered troops to march against the starving Sioux in Minnesota. This story doesn't have quite the same fuzzy feelings associated with it as the one where the Indians and Pilgrims are all sitting down together at the big feast. But we need to learn our true history so it won't ever be repeated. Next Thanksgiving, when you gather with your loved ones to Thank God for all your blessings, think about those people who only wanted to live their lives and raise their families. They, also took time out to say "thank you" to Creator for all their blessings.

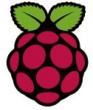
Next Regular Meeting

The next meeting will be on **Thursday, November 17th, 2016**, at 7:00PM. We meet in the Fellowship Hall of Redemption Lutheran Church, 4057 N Mayfair Road. Use the south entrance. Access the MRAC Yahoo group for important details about the February Meeting.

Meeting Schedule:

January 26th, 7 pm

Please do not call the church for information!



Club Nets

Please check in to our nets on Friday evenings.

Our ten meter SSB net is at **8:00 p.m. at 28.490 MHz USB** Our two meter FM net follows at **9:00 p.m.** on our repeater at **145.390 MHz** with a minus offset and a **PL of 127.3 Hz**.

Visit our website at: www.w9rh.org

Or phone (414)-459-9741



© Ron Leishman - www.ClipartOf.com/442095

Chatter Deadline

The **DEADLINE** for items to be published in the **Chatter** is the **15th of each month**. If you have anything (announcements, stories, articles, photos, projects) for the 'Chatter, please get it to me before then.

You may contact me or Submit articles and materials by e-mail at: W9rhmrac@Gmail.com

or by Post to:

Michael B. Harris

807 Nicholson RD

South Milwaukee, WI 53172-1447

VE Testing:

November 26th, 9:30am— 11:30am

No testing: June, August or December

ALL testing takes place at: Ham Radio Outlet 5720 W. Good Hope Rd. Milwaukee, WI 53223

Area Swapfests

Jan 1st, 2017 West Allis RAC's 45th Annual Midwinter Swapfest Location: Waukesha, WI Type: ARRL Hamfest
Sponsor: West Allis Radio Amateur Club (WARAC)
Website: <http://www.warac.org>

Jan 22nd, WCRA's 50th ANNUAL MID-WINTER HAM-FEST Location: Saint Charles, IL Type: ARRL Hamfest
Sponsor: Wheaton Community Radio Amateurs
Website: <http://www.w9ccu.org/Hamfest.html>

MRAC Working Committees 100th Anniversary:

- Dave—KA9WXN

Net Committee:

- Open

Field Day

Dave—KA9WXN, Al—KC9IJJ

FM Simplex Contest

- Joe – N9UX
- Jeff – K9VS

Ticket drum and drawing

- Tom – N9UFJ

Newsletter Editor

- Michael-KC9CMT
- Pancho- KA9OFA

Webmaster

- Dave, KA9WXN

Refreshments

- Open



Membership Information

The Hamateur Chatter is the newsletter of MRAC (Milwaukee Radio Amateurs' Club), a not for profit organization for the advancement of amateur radio and the maintenance of fraternalism and a high standard of conduct. MRAC Membership dues are \$17.00 per year and run on a calendar year starting January 1st. MRAC general membership meetings are normally held at 7:00PM the last Thursday of the month except for November when Thanksgiving falls on the last Thursday when the meeting moves forward 1 week to the 3rd Thursday and December, when the Christmas dinner takes the place of a regular meeting. Club Contact Information

Our website address <http://www.w9rh.org>

Telephone **(414)-459-9741**

Address correspondence to:

MRAC, PO Box 26233, Milwaukee, WI 53226-0233



Email may be sent to: w9rh@arrl.net . Our YAHOO newsgroup:

<http://groups.yahoo.com/group/MRAC-W9RH/>

CLUB NETS:

- The Six Meter SSB net is Thursday at 8:00PM on 50.160 MHz USB
- Our Ten Meter SSB net is Friday at 8:00PM on 28.490 MHz ± 5 KHz USB.
- Our Two Meter FM net follows the Ten meter net at 9:00PM on our repeater at 145.390MHz - offset (PL 127.3)



Welcome

The MRAC HamChatter is a monthly publication of the Milwaukee Radio Amateurs' Club. Serving Amateur Radio in Southeastern Wisconsin & all of Milwaukee County

Club Call sign – W9RH

MRAC Website: <http://www.W9RH.org>

Editor: Michael B. Harris, Kc9cmt, kc9cmt@Earthlink.net

Milwaukee Area Nets

Mon.8:00 PM 3.994 Tech Net

Mon.8:00 PM 146.865- ARRL Newsline

Mon.8:00 PM 146.445+ Emergency Net

Mon.8:00 PM 146.865- Walworth County ARES net

Mon. 8:00 PM 442.100+ Railroad net, also on EchoLink

Mon. 8:45 PM 147.165- ARRL Audio News

Mon. 8:00 PM 442.875+ WIARC net also on EchoLink 576754

Mon. 8:30 PM 146.820 Waukesha ARES Net —

on the 1st, 3rd, and 5th Monday of each month.

Mon. 9:00 PM 147.165– Milwaukee County ARES Net

Saturday Night Yaesu Fusion Net 7:00 P.M., W9RH Repeater, C4FM digital mode, using "DN", digital narrow mode

Tue. 9:00 AM 50.160 6 Mtr 2nd Shifter's Net

Tue. 9:00 PM 145.130+ MAARS Hand Shakers Net

Tue. 8:00 PM 7.035 A.F.A.R. (CW)

Wed. 8:00 PM 145.130+MAARS Amateur Radio Newsline

Wed. 8:00 PM 147.045+ West Allis ARC net

Wed. 8:00 PM 28.365Mhz 10/10 International Net

Daily: Milwaukee — Rag Chew Net: 7:00 AM, 3850 SSB + Florida Net 7 am, 14.290 mhz.

2 meter repeaters are offset by 600KHz - - 70 centimeter repeaters are offset by 5 MHz

SSB frequencies below 20 meters are LSB and for 20 Mtr and above are USB.

Wed. 8:00 PM 147.270+ Racine County ARES net

Wed. 9:00 PM 145.130+MAARS SwapNet, Allstar FM-38

Thur. 8:00 PM 50.160, 6 Mtr SSB Net

Thur. 8:00 PM 443.800+ Tech Net

Thur. 9:00 PM 146.910+ Computer Net

Fri. 8:00 PM 28.490 MRAC W9RH 10 Mtr SSB Net

Fri. 9:00 PM 145.390+ W9RH 2 MTR. FM Net

Sat. 7:30 AM MW Classic Radio Net , Freq.—3885 AM

Sat. 8:00 PM 146.910+ YL's Pink HAMsters Net

Sat. 9:00 PM 146.910+ Saturday Night Fun Net

Sun 8:00 AM, State ARES Net 3967/3977.5/145.470

Sun 8:30 AM 3.985 QCWA (Chapter 55) SSB net

Sun 9:00 AM 145.565+ X-Country Simplex Group

Sun 8:00 PM 146.910+ Information Net

Sun 8:00 PM 28.365 10/10 International Net (SSB)

Sun 9:00 PM 146.910+ Swap Net

Minnesota/Wisconsin Yaesu System Fusion, Wires-X Technical Net.
Monday Evenings 7:30 P.M. Local Time.

Sponsored By

BARS -Bakken Amateur Radio Society.

**Where: On the MRAC repeater,
145.390MHz, Offset -600KHz, PL Tone encode of 127.3.**

The Net is carried via a RF Node Link to Wires-X Room (21493) .

The net is held in the Digital Narrow (DN) mode.

