



THE BASICS OF WATER SAFETY

When you complete this program you will be able to:

- 1) Be able to take care of yourself and others safely while engaging in water activities.
- 2) Know how to observe the weather and make decisions about safe water activities
- 3) Be able to explore and observe water life safely
- 4) Know how to send and receive messages across the water
- 5) Know how to protect the natural water environment
- 6) Be able to handle rope and tie knots which are useful in water activities
- 7) Know where you are and how to find where you want to go
- 8) Have a working knowledge of how to properly use emergency aquatic equipment correctly and safely

All girls, Daisy to Ambassador, will start with Level 1 and progress at their own pace as their maturity allows. Most activities in this program will need to be practiced more than once so make sure that the girls who participate are given adequate time to practice skills over and over again.

Girls will **Discover** new information about the world around them by participating in new learning opportunities with regards to water and water safety.

Girls will **Connect** to the world around them by practicing the skills they learn together. This program should be done at a rate appropriate for each girl to learn at her own pace.

Girls will **Take Action** to teach what they learn to others.

This program relates well to the “It’s your Planet Love It” and the “It’s your Story Tell it,” journeys.

Safety Activity Checkpoints and Safety Guidelines **must** be followed at all times, so make sure to check updated information online or with your local council should you have any questions prior to proceeding with this patch program.

The safest facilities for instruction are those where lifeguards are present. It is suggested you take swimming lessons to assist you in completing this program if you do not already know how to swim.

The purpose of this program is to create an awareness and provide basic information on how to stay safe near water. IF you wish to receive a certification for any level you are required to have a Red Cross Water Safety Instructor conduct an official training.

Leader or Adult Mentor Guide Sheet for Level 1:

DRESS

Appropriate footwear should be worn near water sites at all times. In some cases, enclosed footwear should be worn due to hazardous footing while other cases sandals might be appropriate.

Hats, sunglasses and sunscreen are advisable.

Be sure to dress for the changing weather. Dress in layers and make sure you have a jacket or windbreaker.



EMERGENCY PREPAREDNESS

Emergency assistance is available from lifeguards and “water watchers,” other adults and 911. It is also available through the use of aquatic equipment such as poles, towels, oars, rings, buoys etc. Have the girls look around a site and identify all possible sources of assistance before going into the water.



SWIMMING

All swimming activities need to be done in accordance with Safety Activity Checkpoints and Safety Guidelines. Please note the difference between lifeguard and “water watcher” requirements when swimming in backyard pools, public pools, lakes, slow-moving streams, rivers or oceans. These requirements must be adhered to in order to adequately complete this program.

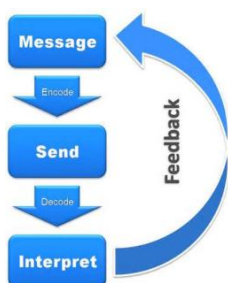


WATER WORKS

Take a trip to a water site. Have the girls sit and listen quietly to the sounds of the surrounding area. Have them write a story, poem, or song about what they observe. Cloud formations, other participants, the facility anything they feel is unique about this place.

Have the girls explore the area and become familiar with all aspects of the water area to include safety equipment. Make a list of what they observe by closing their eyes and simply listening. Next have make a list of what they see, how different are the lists. Encourage the girls to draw pictures or take photos of what they see. They could use their face masks to look under the water as well and document what they see under water.

If you are by a stream or the ocean, consider making “plankton nets” out of old wire hangers and old nylons to skim the water and see what they come up with.



COMMUNICATION

Discuss ways of communicating an idea from one person to another other than with your voice or on paper. Try things like body language, sign language, drums, whistles, smoke signals, flags, blinkers, mirrors, etc.

Morse Code was created in 1832 by Samuel Morse. He devised his dot-dash-space code utilizing telegraph lines to transmit short and long pulses of electric current separated by intervals of no current. The Morse Code has since been adapted for use by blinkers wigwag flags, flashlight, buzzers, etc. There have been some changes in his original patters of “dits” and Dahs” resulting in the International Morse Code, which is used today.

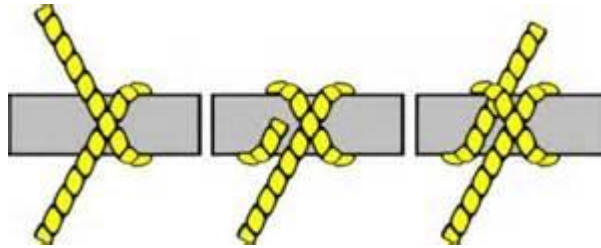


CONSERVATION

Leave No Trace:

- a) Know before you go-Be responsible and check the weather before you arrive so that you are prepared for the day
- b) Choose the right path- make sure to be in a designated spot for your activities
- c) Trash your trash- don't pollute. It's very dangerous to animal life.
- d) Leave what you find- don't disrupt the environment or the wildlife living there. Don't dig up the dirt along waterways it will cause erosion
- e) Be careful with fire- don't be responsible for a wildfire, it will endanger wildlife

- f) Respect wildlife- be considerate of the animals living where you are and don't disrupt them
- g) Be considerate of others- no radios or loud activities, it disrupts the peace others are trying to enjoy as well as the animals living there

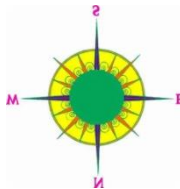


LINE ROPE AND KNOTS

There is a great I-phone app called **ROPEKNOTS** and it shows animated hands teaching you to tie knots as well as written instructions on how to tie knots. This is a great way to learn how to tie knots. For the purpose of this program, you need to practice:

- Mooring Hitch
- Heaving Line Knot
- Square Knot
- Bowline Knot
- Overhand Knot
- Double Fisherman's Knot

Daisies should learn 1 knot, Brownies 2, Juniors 3, Cadets 4, Seniors, 5 and Ambassadors all 6.



NAVIGATION

There are many ways to find your position when you're lost. Most cell phones have a compass on them, as well as carrying one in your pack.

The old fashioned way is always best. N-S-E-W are the **cardinal** points. Where does the sun rise? In the east. Where does the sun set? In the west, the easiest way to teach this is to have the girls discover the SUN. Ask them where it comes up? (EAST) Where does it go down? (WEST) Have them put their right arms out to the side. Point them toward the upcoming sun (EAST). They will now be facing NORTH. Have the girls put their left arms out to the side toward the afternoon sun (WEST) and they will be facing NORTH. In both cases, SOUTH will be behind them.

Level 1 Girl Worksheet

- 1) Discuss appropriate dress and footwear for you and your buddy when around water. Discuss the different types of waterfronts associated with different bodies of water. What types of emergency assistance are usually available around the different types of waterfronts?
- 2) Be able to demonstrate the following skills:
 - Glide or float 10 feet, unassisted, with your face in the water
 - Float on your back, unassisted, for 2 minutes
 - Bob up and down 10 times, unassisted, in water you cannot reach the bottom in, unassisted.
- 3) Explore seashore, tide pool, edge of a stream, pond or lake and document or draw what you find. What life exists there?
- 4) Watch clouds and share with others the imaginary creatures that the cloud shapes make. You can make up a story, poem, or song to share your thoughts with others.
- 5)
- 6) Discuss ways to signal someone without using your voice or writing. Learn a phrase in Morse Code.
- 7) Make a list or rules for good matters at the water's edge.
- 8) Learn to tie the required knots: Daisies should learn 1 knot, Brownies 2, Juniors 3, Cadets 4, Seniors, 5 and Ambassadors all 6.
 - Mooring Hitch
 - Heaving Line Knot
 - Square Knot
 - Bowline Knot
 - Overhand Knot
 - Clove Hitch Knot
 - Double Fisherman's Knot
 -
- 9) Give at least two situations that each knot you made can be used.
- 10) Learn how to find North, South, East and West not using a compass.
- 11) Play a safe water game or create your own water game.

Leader or Adult Mentor Guide Sheet for Level 2:



HEALTH AND SAFETY

Everyone, regardless, of swimming ability must wear a Personal Flotation Device or PFD at all times when boating. Even if you swim well, if you are injured, you may not be able to swim. **You must get a PDF and follow the instructions on the device for putting it on before getting in the water. There is no alternative to this exercise for teaching the skill.** Remember, buoyant cushions are worn clutched to the chest, NOT on the back and are used for emergency situations only – not worn as a PFD while boating.



HELP OR HUDDLE

IF a victim cannot get out of the water and rescue is not imminent, additional protection against the cold can be obtained by assuming the HELP (victim alone) or HUDDLE (several victims) positions. HELP stands for Heat Escape Lessening Posture. A person wearing a life jacket should assume this position to conserve body heat in cold water while awaiting rescue.

To assume the position:

- Draw your knees to your chest
- Keep your face forward and out of the water
- Hold your upper arms at your sides, and hold your lower arms against or across your chest.
- Do not use the HELP position in moving water

The HUDDLE position is for two or more people wearing PFD's to conserve body heat in cold water while awaiting rescue.

- With two people, put your arms around each other so that your chests are together.

- With three or more people, put your arms over each other's shoulders so that the sides of our chests are together. Place children or the elderly in the middle of the huddle.

Do not use the HUDDLE position in fast moving water



SWIMMING

See the girl worksheet for specific swimming requirements. Don't forget you need a certified lifeguard and water watchers if the girls get in the water. And that if you want the girls to actually be certified rather than just practice, you will have to obtain an official Red Cross Water Safety Instructor and take an official swimming course.



WEATHER

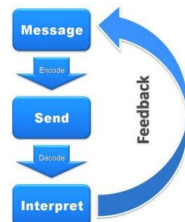
If the wind is blowing from:	And the clouds are:	The weather is apt to be:
W or NW to N	Cirrus	Good
NE or E to S	Cirrus	Rainy or snowy in a day or two if the wind is steady
NE or E to S	Cumulus	Fair – but if these clouds build up, they may bring a storm
NE or E to S	Cumulonimbus	Rainy soon: thunderstorm
NE to S	Stratus	Rainy or snowy in 15-20 hours, usually will be a steady rain
Westerly	Stratus	Overcast sky or light drizzle

You can teach the girls the different kinds of clouds by making a cloud chart with cotton balls pasted on poster board.

- Cumulus clouds look like puffs of cotton
- Cirrus clouds look like thin wisps of cotton
- Cumulonimbus clouds look like big cauliflowers with wisps of cirrus feathers coming off the top
- Stratus clouds look like solid cotton strips

WATER WONDERS

Take a trip to an aquarium, a marine nature center, etc. Have the girls compare what they discovered at the aquarium, marine nature center, etc. to what they discover on their trip to the seashore, tide pool, etc. in Level 1. Research the web for sites near your location for a field trip.



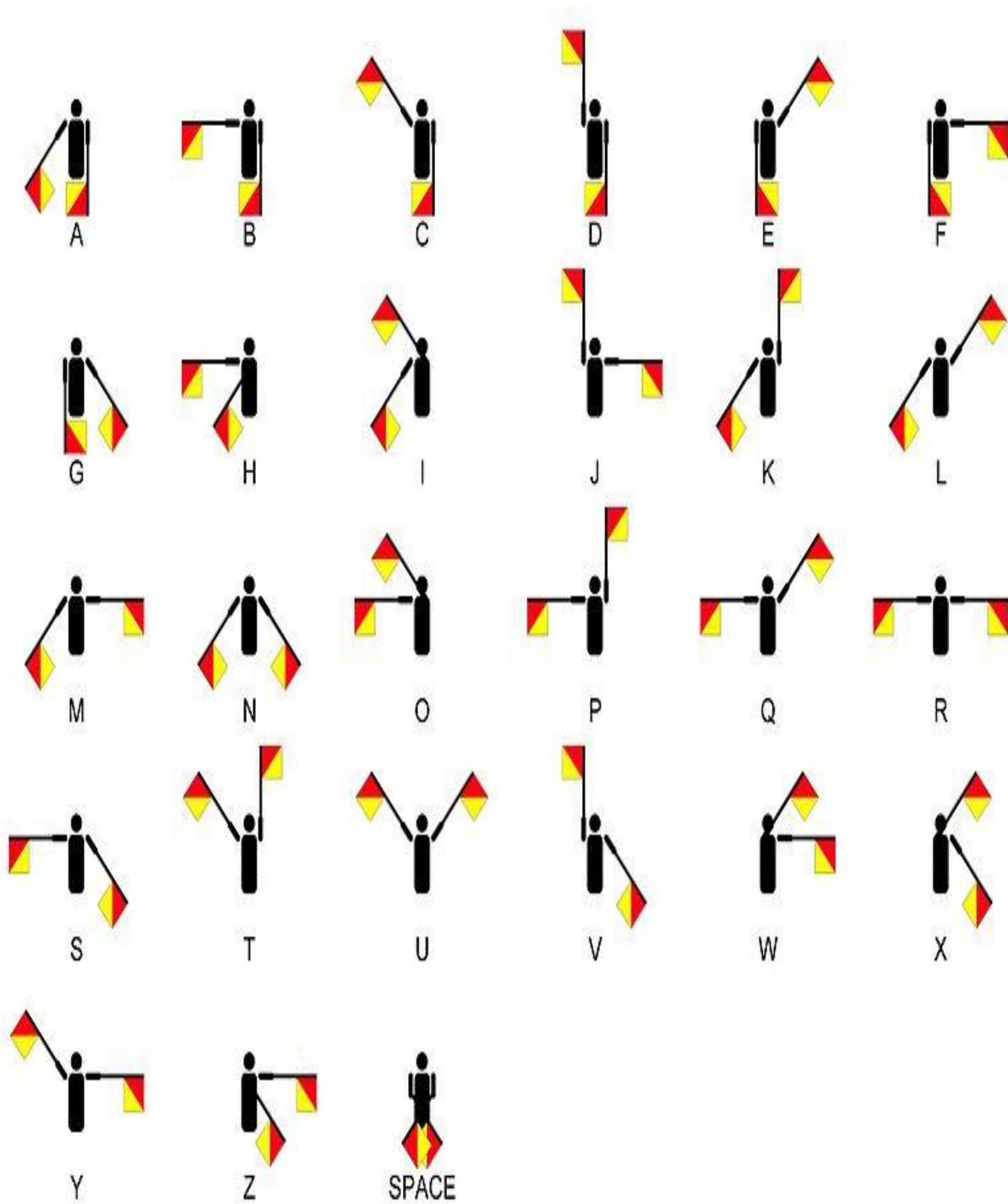
COMMUNICATION

Morse Code – the “dits” or dots and “dahs” or dashes are the thick dots and dashes placed on each letter so that they read from top to bottom or left to right, and are outlined in correct order below the letters.

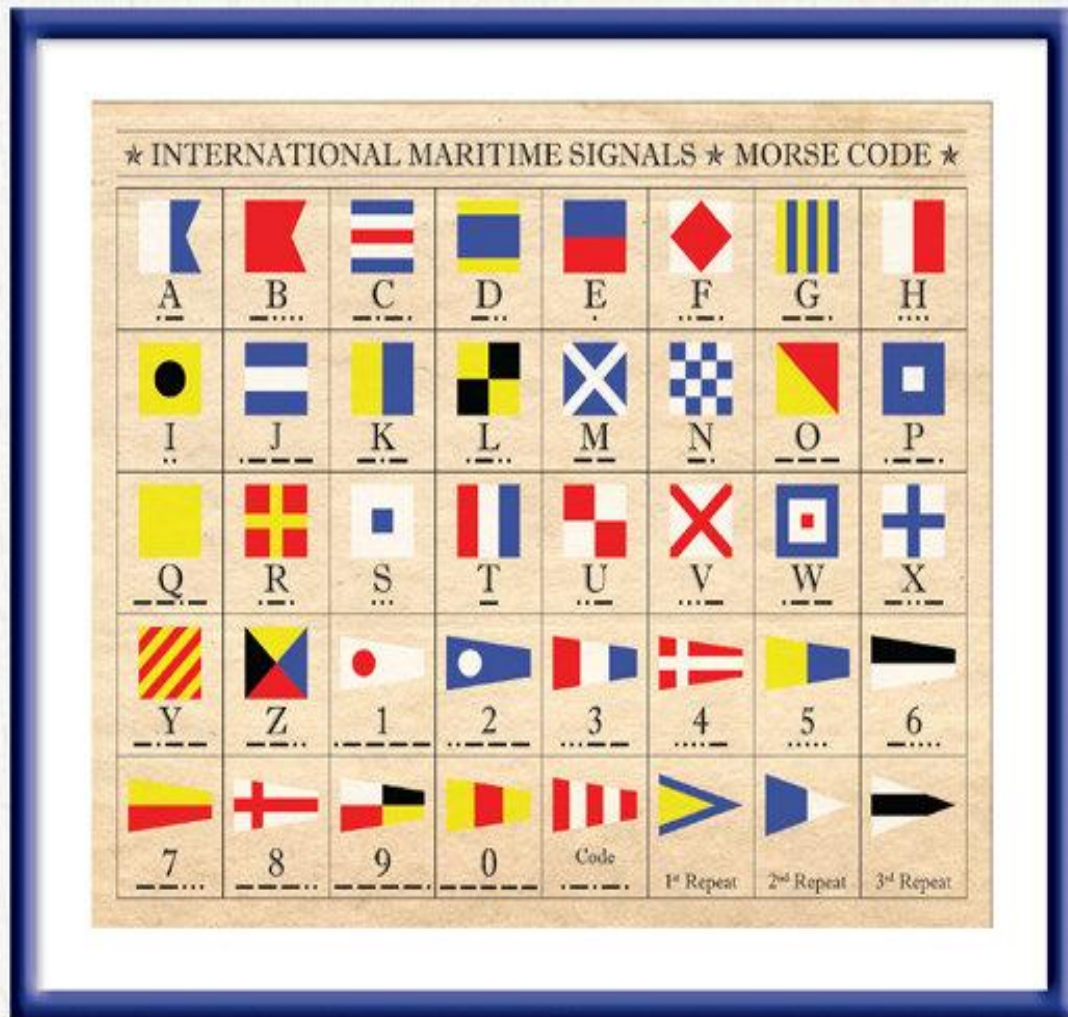
Morse Code

A ·—	B —···	C —·—·	D —··
E ·	F ··—·	G ——·	H ····
I ··	J ·—---	K —·—	L ·—··
M ——	N —·	O —---	P ·—--·
Q ——·—	R ·—·	S ···	T —
U ··—	V ···—	W ·—--	X —··—
Y —·---	Z ---··	0 -----	1 ·-----
2 ··---	3 ···---	4 ····—	5 ·····
6 —····	7 ---···	8 -----·	9 -----·

In case of Semaphore flags, the sender's right side is the "dits" or "dots", and the sender's left side is the "dahs" or "dashes".



International Flag Codes are a universal way of communicating. Learn to spell your name and deliver an S.O.S. using this unique way of communicating.



Radio operators must get the message right the first time. Learn to articulate an S.O.S. message with the above form of communication. You must spell each letter to every word much like the principle of Morse Code.

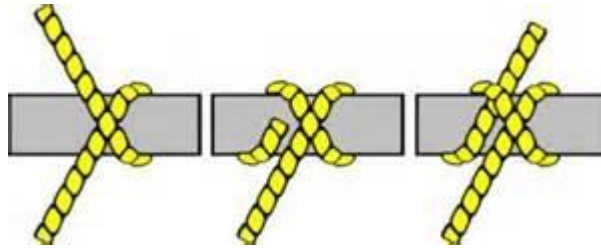
CHARACTER	MORSE CODE	TELEPHONY	PHONIC (PRONUNCIATION)
A	• —	Alfa	(AL-FAH)
B	— • • •	Bravo	(BRAH-VOH)
C	— • — •	Charlie	(CHAR-LEE) or (SHAR-LEE)
D	— • •	Delta	(DELL-TAH)
E	•	Echo	(ECK-OH)
F	• • — •	Foxtrot	(FOKS-TROT)
G	— — •	Golf	(GOLF)
H	• • • •	Hotel	(HOH-TEL)
I	• •	India	(IN-DEE-AH)
J	• — — —	Juliet	(JEW-LEE-ETT)
K	— • —	Kilo	(KEY-LOH)
L	• — • •	Lima	(LEE-MAH)
M	— —	Mike	(MIKE)
N	— •	November	(NO-VEM-BER)
O	— — —	Oscar	(OSS-CAH)
P	• — — •	Papa	(PAH-PAH)
Q	— — • —	Quebec	(KEH-BECK)
R	• — •	Romeo	(ROW-ME-OH)
S	• • •	Sierra	(SEE-AIR-RAH)
T	—	Tango	(TANG-GO)
U	• • —	Uniform	(YOU-NEE-FORM) or (OO-NEE-FORM)
V	• • • —	Victor	(VIK-TAH)
W	• — —	Whiskey	(WISS-KEY)
X	— • • —	Xray	(ECKS-RAY)
Y	— • — —	Yankee	(YANG-KEY)
Z	— — • •	Zulu	(ZOO-LOO)
1	• — — — —	One	(WUN)
2	• • — — —	Two	(TOO)
3	• • • — —	Three	(TREE)
4	• • • • —	Four	(FOW-ER)
5	• • • • •	Five	(FIFE)
6	— • • • •	Six	(SIX)
7	— — • • •	Seven	(SEV-EN)
8	— — — • •	Eight	(AIT)
9	— — — — •	Nine	(NIN-ER)
0	— — — — —	Zero	(ZEE-RO)



WaterSavers™

CONSERVATION

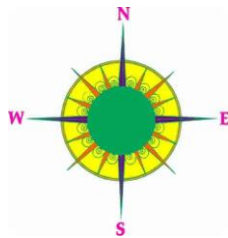
Complete a Service project to help the local waterfront environment. Describe how you have helped the conservation efforts in your project.



LINE ROPE AND KNOTS

Practice tying the required knots: Daisies should learn 1 knot, Brownies 2, Juniors 3, Cadets 4, Seniors, 5 and Ambassadors all 6.

- Mooring Hitch
- Heaving Line Knot
- Square Knot
- Bowline Knot
- Clove Hitch Knot
- Overhand Knot
- Double Fisherman's Knot



NAVIGATION

The girls have learned the four cardinal points of the compass. The next four to learn are the four ordinal points. Using a blackboard, flip chart, or paper and pencil, draw a circle and divide into eight parts and name each POINT. Show the girls a real compass. Let each girl hold it to see how the needle always points the same way – NORTH. Move the compass around so the compass reads NORTH under the needle. The compass is now ready to use as a direction finder. Remember if you do not

have a compass, most cell phones have one build in or you can purchase them at Wal-Mart for under \$5.



WATER SPORTS

Have a certified lifeguard teach and supervise how to use a kickboard safely. Instruct the girls not to submerge the kickboard or sit on it and to not allow it to “pop” up. Generally speaking, have the girls hold the kickboard with two hands with their arms stretched out in front of them and use the kickboard for upper body flotation only.



Girl Worksheet Level 2:

- 1) Demonstrate how to put on a “life jacket” or personal flotation device (PFD) out of the water. Tell why it is important to wear a PFD. Learn how to do H.E.L.P. and what it stands for as well as HUDDLE.
- 2) Be able to demonstrate the following level of swimming competency:
 - Paddle stroke 25 yards unassisted with your face in the water and repeatedly blow bubbles and come up for air
 - Kick and fin with your hands on your back, unassisted, for 25 yards
 - Tread water for 2 minutes and swim on your back to the side of the pool unassisted
 - Retrieve something from the bottom of a 5 foot deep pool and return to the side of the pool with it
- 3) Learn to identify two different kinds of clouds and the kind of weather associated with each cloud
- 4) Visit and explore an aquarium, a marine nature center, a water life sanctuary or somewhere that has been set aside for teaching about water life.
- 5) Learn Morse Code to send your name and the emergency code of S.O.S.
- 6) Find out about some organizations which work to protect life in or near the water
- 7) Demonstrate that you are competent in at least 2 of your knots
- 8) Be able to identify the eight main points on a compass. 4 **Cardinal** and 4 **ordinal**
- 9) Demonstrate how to use a kickboard safely

Leader or Adult Mentor Guide Sheet for Level 3:



HEALTH AND SAFETY

For the safety of the rescuer, the rule of thumb is “Row, Tow, Throw, and Go.” Whenever possible, you should avoid getting into the water to assist a swimmer in distress

In a reaching rescue, the rescuer on the deck, (do not bend over), with body anchored and securely braced, extends a hand, towel, ring buoy, pole, oar, board, etc. to the tired swimmer.

Ring Buoy and Line:

Teach the girls to hold the ring buoy in the throwing hand, grasping it on the side away from the body. It should be held directly opposite where the line is attached. Place the foot farthest from the buoy forward across the end of the line. The coiled line hangs over the extended and open non-throwing hand. Show the girls how to do an underhand toss. They should aim the buoy just beyond the victim.

Leaders please note: it takes lots of patience to be able to place the buoy accurately without hitting the victim. Use a non-human target as the victim during practice.



SWIMMING

Buddy System: a safety practice in which girls are paired to keep watch over each other. The paired girls should be of equal swimming ability. IF you have an uneven number of girls you have a group of three.

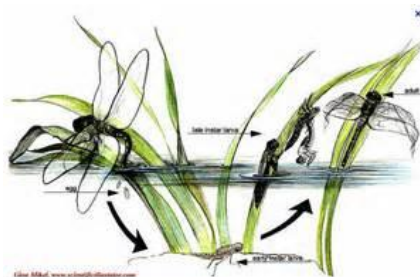
Buddy Call:

any agreed upon signal at which the buddies must find each other quickly and raise joined hands. I.E. count: “1 chimpanzee, 2 chimpanzees, 3 chimpanzees, Ape!” Buddies should be together by “APE.”



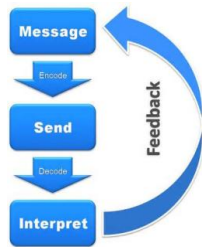
BEAUFORT SCALE OF WIND VELOCITY

Beaufort Reading	Speed	Description	Observe
0	0-1 mph 0-1 knot	Calm	No wind at all, Smoke rises vertically, Sailing craft becalmed, Sea is like a mirror
1	1-3 mph 1-3 knots	Light air	Smoke drifts slowly, wind vanes do not move, Ripples on the water
2	4-7 mph 4-7 knots	Slight breeze	Feel wind on face, Leaves rustle, Small wavelets, Sailing craft close hauled
3	8-12 mph 7-10 knots	Gentle breeze	Leaves, twigs, loose paper move constantly, a light flag waves, Good kite flying weather, Very small waves with crests
4	13-18 mph 11-16 knots	Moderate breeze	Dust, snow, papers blow about, Small branches move Ideal sailing weather
5	19-24 mph 17-21 knots	Fresh breeze	Take care with all fires, Small trees & shrubs sway, Moderate sized waves. Dust devils stirred up
6	25-31 mph 22-27 knots	Strong breeze	Large branches sway, Wires whistle, Difficult to use umbrella, Small craft off water
7	32-38 mph 28-33 knots	Moderate gale	Whole trees in motion, Inconvenience in walking, Waves beginning to build
8	39-40 mph 34-40 knots	Fresh gale	Twigs break off trees, Storm warnings hoisted, Garbage cans overturned



WATER WONDERS

The life cycle starts with birth and includes dietary habits, migratory habits and sites, spawning habits and sites, life span, predators, and other threats to the survival of the species. Document the life cycle of some kind of life form that lives in or on the waterfront. Share with a younger group.

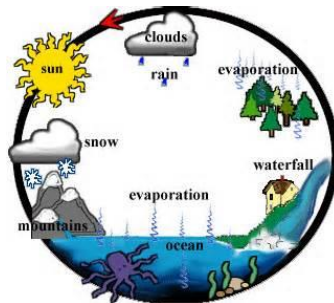


COMMUNICATION

The sender must get the attention of the receiver by some method. When sending pulse Morse Code, the sender sends the letters “CQ” to get attention. When using wigwag flags, the sender must wave the flags to get attention. Either way, the receiver must acknowledge that she is ready to receive the message by sending or signaling the letter “K”.

If the receiver needs a letter or word repeated she signals the letters “IMI”. (Think of this as saying, “I missed it!”) The sender must then repeat the ENTIRE WORD (never just a single letter) since she has no way of knowing which letter was missed. If the sender makes a mistake, she sends a series of the letter “E” (usually 5 or 6 in a row).

The sender finished her message with the letters “AR”. (Think of this as saying, “all received?”).



THE WATER CYCLE

Heat evaporates millions of tons of water into the air daily. Lakes, streams and oceans send up a steady stream of water vapor. An amazing amount of water transpires from the leaves of green plants. A single apple tree may move 1,800 gallons of water into the air in a six-month growing season.

As moist warm air rises, it slowly cools. Finally it cools so much that its relative humidity reaches 100%. Clouds form and under certain conditions, rain or snow comes down. This eternal process of evaporation, condensation, and precipitation is called the “water cycle”.

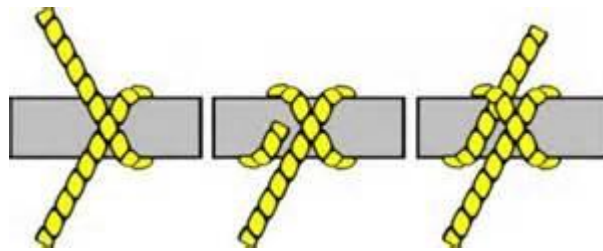
You might have the girls draw pictures of the water cycle or do some research and make a presentation to the other girls, about how some species are dependent on the water cycle to survive. One fun way to demonstrate the water cycle is to be creative and do it as a skit or play.

Some examples that could be researched that relate to dependency are:

- What do sea otters eat? Why do sea otters need kelp beds?

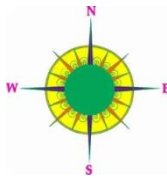
- The hermit crab uses the shells of other sea life for protection. How do they go about getting those other shells?
- Coral reefs have a particularly delicate balance that you may want to explore.
- Why do certain life forms depend on the water cycle or the tides to survive?

Junior High and High School biology teachers, the internet, and your local library are excellent resources for information. Also check your local PBS and other local stations for television specials on nature and sea life. Look for National Geographic and Cousteau society presentations for the most informative shows.



ROPES AND KNOTS

Have the girls demonstrate their knots. Have them demonstrate what the knots are used for as well as how to tie them.



NAVIGATION

This is best accomplished outside at a meeting on a day hike. You will need at least one compass for each pair of girls. Explain how the needle always points to magnetic NORTH, how the needle is being pulled towards the earth's magnetic pole.

The compass must be held flat or laid on the ground. Be sure to turn the compass until it actually points north. Have the girl stand facing NORTH and, without moving the compass, sight across the compass to an object that is NORTH and name it. Choose another object in a different direction. Then have the girl sight over the compass to that object and read the direction from the face of the compass. Have the girls practice. You could devise a game ahead of time with predetermined objects and have the girls discover their direction using the compass.



WATER SPORTS

Watch out for the air valves!

Maneuver means: Having the girls use their arms as paddles, move themselves and the craft forward and backwards in a straight line for at least 20 feet, and turn to the right and left upon command and proceed in another direction. Under the supervision of a certified lifeguard, you might want to set up a course for a relay race to practice these skills, or have the girls invent an inner-tube water game.



Girl Worksheet Level 3

- 1) Learn and demonstrate how to rescue a tired swimmer with a towel, pole, oar, life ring buoy or other available equipment, without entering the water yourself.
- 2) Be able to demonstrate the following skills:
 - Make the Buddy System really work every time. Pair off swimmers of equal ability and practice “buddy calls” until every pair of buddies get together.
 - Be able to swim 25 yards: Freestyle, Elementary Backstroke and Backstroke with proper form.
 - Tread water for 2 minutes and swim back to the side of the pool unassisted.
- 3) Know what the Beaufort Scale is and what it measures. Be able to tell at what level on the Beaufort Scale small craft must not be on the water.
- 4) Find out about the life cycle of a fish, water mammal, sea bird, crustacean or other water creature.
- 5) Learn about the procedures that are used for sending or receiving messages.
- 6) Explore how plants and sea life depend upon each other. Demonstrate the water cycle
- 7) Demonstrate that you can tie at least 4 of your knots. Younger girls should master their age level knots by now.
- 8) Learn to use a compass. Be able to sight on an object and name the direction in which the object lies.
- 9) Wearing a PFD, sit across an inner tube. Be able to get in and out of the inner tube safely in shallow water. Learn what it means to Maneuver something and be able and be able to Maneuver the inner tube without assistance.

Leader or Adult Mentor Guide Sheet for Level 4:



HEALTH AND SAFETY

It is highly recommended that you complete CPR and First Aid training prior to proceeding with this level of the program with your girls. Keep in mind, this program does not certify anyone in First Aid unless conducted by an AMR instructor. IF your girls are old enough, consider signing the troop up for a professional American Red Cross First Aid/CPR class. The intention of this program is to enable girls to recognize potential problems and give them tools to deal with the situation while waiting for 9-1-1.

Condition:

Heat Cramps

Signals:

Painful muscle spasms, usually in the legs and abdomen

Care:

Have the victim rest in a cool place. Give cool water to drink. Lightly stretch the muscles and gently massage the muscles. Do not give salt. Watch for signals of heat illness.

Condition:

Heat Illness

Signals:

Early stages – Cool, moist, pale or flushed skin, headache, nausea, dizziness, weakness and exhaustion

Care:

Move the victim to a cool place. Loosen tight or remove perspiration-soaked clothing. Apply cool, wet cloths to the skin or mist with cool water and fan the victim. If conscious, give cool water to drink.

Late stages – Red, hot, dry skin, Changes in level of consciousness and vomiting

Care:

If the victim refuses water, vomits or loses consciousness, send someone to call 9-1-1. Place the victim on their side in case they vomit so that they will not choke. Continue to cool by placing ice pack or

cold packs on their wrists, ankles, groin, neck and armpits. Continue to monitor the victim and if the victim becomes unconscious be prepared to administer CPR if needed.

Condition:

Hypothermia

Signals:

Shivering, numbness, glassy stare, apathy, weakness, impaired judgment. Loss of consciousness may occur in the late stages of hypothermia.

Care:

Check the scene to make sure you do not become a second victim; they proceed to check the victim. Send someone to call 9-1-1. Remove any wet clothing and dry the person to the best of your ability. Warm the victim SLOWLY by wrapping in blankets or by putting dry clothing on them. Hot water bottles and chemical hot packs maybe used when first wrapped in a towel or blanket prior to applying to the groin, armpits, neck and sides of the victim. DO NOT WARM THEM TOO QUICKLY such as immersing them in water as this can cause dangerous heart arrhythmias.

PREVENTING HYPOTHERMIA

Protect yourself from hypothermia in the following ways:

- When you are near cold water, playing, working, hunting, fishing, etc. remember that cold water is dangerous even if you don't intend on getting wet.
- Join in water activities only when and where you can get help quickly in an emergency.
- Wear a Coast Guard approved life jacket (PFD) while boating. Have life jackets at hand whenever you are near cold water.
- IF you will be near water in cooler weather, wear rain gear or wool cloths. Wool insulates you even when it is wet. Remember **NO COTTON MATERIALS**. Cotton retains the cold.
- Wear layers of cloths
- Carry matches in a waterproof container. You may need to build a fire to warm up after a fall into cold water.

In general, illnesses caused by overexposure to extreme temperatures can be prevented. To prevent heat or cold emergencies from happening to you or anyone you know, follow these guidelines.

- Avoid being outdoors in the hottest or coldest part of the day
- Change your activity level according to the temperature
- Take frequent breaks
- Dress appropriately for the environment
- Drink large amounts of fluids

Condition:

Sunburn

Symptoms:

Superficial burn (first degree) involves only the top layer of skin. The skin is red and dry, and the burn is usually painful. The area may swell. Most sunburn's are superficial burns. Superficial burns usually heal in 5-6 days without permanent scarring.

Care:

Stop the burning by removing the victim from the source of the burn. Cool the burn by using large amounts of cool water to cool the burned area. DO NOT USE ICE OR ICE WATER on burns. Ice causes body heat loss.

Prevention:

First avoid exposure to the sun between 10 a.m. and 4 p.m. because UV rays are most harmful during this period. Second, wear proper clothing, which includes a shirt that covers the shoulders and that shades the head, back of the neck, face and eyes. Third, if you are going to be exposed to the sun, protect your skin and eyes. Commercial sunscreens come in various strengths. The American Academy of Dermatology recommends year-round sun protection including use of a high Sun Protection factor (SPF) of 15 or greater for everyone, but particularly for people who are fair skinned and sunburn easily. Apply sunscreen 15-30 minutes before exposure to the sun and reapply it often. Every 60-90 minutes is recommended.

Swimmers should use sunscreens labeled as water-resistant and reapply them as described on the label. Do not forget to apply lip balm that contains sunscreen with an SPF of 15 or greater.

It is equally important to protect your eyes from sun damage. Sunglasses are a sunscreen for your eyes and provide important protection from UV rays. Ophthalmologists recommend sunglasses that have UV absorption of at least 90 percent.

Condition:

Fishhook Snags

Symptoms:

Fishhook stuck in skin

Care:

If the fishhook is deeply embedded in a person's skin, do not try to remove it. Treat it like an object stuck in a wound and secure it with dressings and bandages. The person should see a doctor. If the fishhook is not embedded but has cut the skin clean the wound, stop the bleeding with direct

pressure on the cut and cover it with a sterile dressing. The victim should check with their doctor to see if a tetanus booster shot is needed.



SWIMMING

Buddy Board: A poster, paper list or board system indicating by buddies, who is in or out of the water and in which area.



WEATHER

Anemometer – Measures wind speed

Barometer – Indicates changes in atmospheric pressure. The average good weather reading is 29.9 to 30.0 inches. A rapid rise hails the approach of good weather, as far as rain is concerned, but may also mean wind. A sudden drop means strong winds and wet weather if clouds indicate rain.

Hgrometer – Measures the degree of moisture in the air. Cold air can hold less moisture than hot air. When the percentage reaches 100% there will be precipitation.

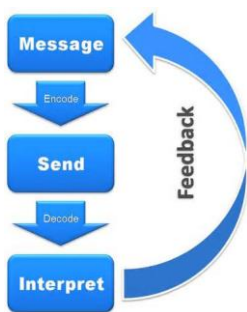
Thermometer – Measures the degree of temperature.

WATER LIFE

One way to explore differences is to use the encyclopedia in your local library or the internet to answer the following questions or similar ones:

- Why does coral live only in the South Pacific Ocean?
- Why do trout live only in lakes or streams?
- Why do sardines live only in cool seas?
- Why do tuna live only in the ocean?

Discover one unique feature about the water life in your specific area. You might want to research the web, visit the Fish and Game website at WWW.dfg.ca.gov/, visit or call your local Fish and Game field office.



COMMUNICATION

The same general procedures govern the sending of both semaphore and Morse Code. Semaphore is the quickest sight method of sending messages since each motion or position is a single letter, whereas in Morse Code, one needs to send an average of three motions or positions per letter.

The procedures concerning use of International Code flags are somewhat more sophisticated and include the additional concept of certain signal flags having the meaning of a whole sentence. For our introductory purposes expose the girls to the simple alphabet in the colorful flags, and teach them how to sign their own names as well as S.O.S.



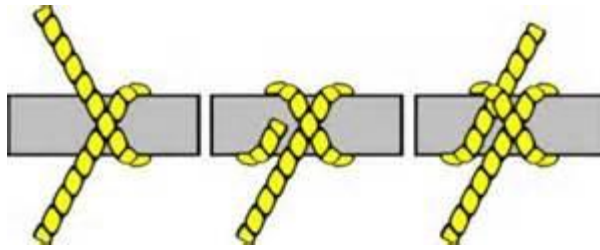
CONSERVATION

WaterSavers™

Learn and practice the Leave No Trace Guidelines:

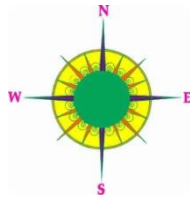
- **Plan Ahead and Prepare**
 - Know the regulations and special concerns for the area you visit
 - Prepare for extreme weather, hazards, and emergencies
 - Schedule your trip to avoid times of high use
 - Visit in small groups. Split larger parties into groups of 4-6
 - Repackage food to minimize waste
 - Use a map and compass to eliminate the use of rock cairns, flagging or marking paint
- **Travel and Camp and Camp on Durable Surfaces**
 - Durable surfaces include established trails and campsites, rock, gravel, dry grasses or snow
 - Protect riparian areas by camping at least 200 feet from lakes and streams
 - Good campsites are found, not made. Altering a site is not necessary

- Concentrate use on existing trails and campsites
- in popular areas walk single file in the middle of the trail, even when wet or muddy
- In popular areas keep campsites small. Focus activity in areas where vegetation is absent
- In pristine areas, disperse use to prevent the creation of campsites and trails
- In pristine area avoid places where impacts are just beginning.
- **Dispose of Waste Properly**
 - Pack it in, pack it out. Inspect your campsite and rest areas for trash or spilled foods. Pack out all trash, leftover food and litter
 - Deposit solid human waste in catholes dug 6-8 inches deep at least 200 feet from water, camp and trails. Cover and disguise the cathole when finished
 - Pack out toilet paper and hygiene products
 - To wash yourself or your dishes, carry water 200 feet away from the streams or lakes and use small amounts of biodegradable soap
 - Scatter strained dishwater
- **Leave What You Find**
 - Preserve the past: examine, but do not touch, cultural or historic structures and artifacts
 - Leave rocks plants and other natural objects as you find them
 - Avoid introducing or transporting non-native species
 - Do not build structures, furniture or dig trenches.
- **Minimize Campfire Impacts**
 - Campfires can cause lasting impacts to the backcountry. Use a light-weight stove for cooking and enjoy a candle lantern for light. Where fires are permitted, use established fire rings fire pits or mound fires
 - Keep fires small. Only use sticks from the ground that can be broken by hand
 - Burn all wood and coals to ash put out campfires completely then scatter cool ashes.
- **Respect Wildlife**
 - Observe wildlife from a distance. Do not follow or approach them.
 - Never feed animals. Feeding wildlife damages their health alters natural behaviors, and exposes them to predators and other dangers
 - Protect wildlife and your food by storing rations and trash securely
 - Control pets at all times, or leave them at home
 - Avoid wildlife during sensitive times: mating nesting, raising young or winter
- **Be Considerate of other Visitors**
 - Respect other visitors and protect the quality of their experience
 - Be courteous. Yield to other users on the trail
 - Step to the downhill side of the trail when encountering pack stock
 - Take breaks and camp away from trails and other visitors
 - Let nature's sound prevail. Avoid loud voices and noises.



LINE ROPE AND KNOTS

Use one of your knots to join ropes of two different sizes. Practice this new skill.



NAVIGATION

Marine navigation aids are maintained by the United States Coast Guard and have an annual maintenance budget of over Eleven Million dollars. They include:

- Lighthouses, which are the signal stations by means of which mariners determine their exact location.
- Day Beacons, which are structures, not buoys, and are not lighted. They are used for marking obstructions, entrances to harbors, important turning marks in the channel etc.
- Offshore Light Stations occupy stations at which it would be impracticable to build lighthouses
- Range Lights, which are two lights, located some distance apart, visible usually in one direction only, an used together
- Buoys, whose primary function is to warn the marine of some danger some obstruction, or change in the contours of the sea bottom, they are given numbers and are painted. Numbers increase from seaward and are kept in approximate sequence on the two sides of the channel. Odd numbered buoys mark the left hand side of channels entering from seaward. Even numbered buoys mark the right hand side of channels entering from seaward. Types of Buoys include:
 - Lighted
 - Can
 - Spar
 - Unlighted Bell
 - Unlighted Whistle
 - Nun



WATER SAFETY

Practice getting in and out of a small water craft. Practice your balance, what you can safely hold onto while entering and disembarking the craft.



Girl Worksheet Level 4

- 1) Learn First Aid for the treatment of hypothermia, sunburn, heat exhaustion, heat stroke, and fishhook snags. It is highly recommended you enroll in a CPR/First Aid class. That is age appropriate. The American Red Cross conducts First Aid courses specifically for children of all ages as well as adults.
- 2) Show the following swimming competency:
 - Swim 50 yards: Freestyle, Backstroke, and with proper form
 - Swim 25 yards: Breast stroke and Side stroke
 - Tread water for 5 minutes, and then retrieve something from the bottom of a 5 foot deep pool. Return to the side of the pool unassisted.
- 3) Know what a barometer, thermometer and hygrometer are and what they tell about the weather
- 4) Find something unique about the water life in your local area that is different from the water life somewhere else in the world. Compare them and share your findings.
- 5) Learn and understand semaphore flag signaling and International code flags. Learn to send an emergency S.O.S. and spell your name.
- 6) Learn and understand the Leave No Trace Principles
- 7) List 5 varieties of water life that are edible and find out where each is found. Discover some products that we get from water life other than food. Know how they are used.
- 8) Show that you can tie your knots and demonstrate how to tie two pieces of rope of different sizes together.
- 9) Learn about some aids to navigation and what they stand for such as buoys, beacons, radio direction finders (RDF), lighthouses, etc.
- 10) Practice getting in and out of a small craft such as a canoe, kayak, or rowboat safely.

Leader or Adult Mentor Guide Sheet for Level 5:



HEALTH AND SAFETY

Have girls earn their First Aid Badge. Create scenario cards for the girls to practice practical applications of this training.



SWIMMING

If you wish to certify your girls then you will need a American Red Cross Certified Instructor now. If not then just make sure that you have secured a certified lifeguard to assist with the swimming requirements of this portion of this patch program.



WEATHER

weather

Tide is the daily rising and falling of the sea, caused by the moon, and to a lesser extent by the sun.

Current is the flow of water in a given direction.

A current may flow in the same direction, such as a river current, while the tide flows “in” and “out” according to the moon phases.

A rip-tide is a current in the ocean which goes in a different direction from the rest of the water. It is dangerous to swimmers.

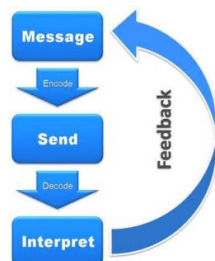
Avoid turning broadside to a strong current.

It will be easy to tow or canoe with the current, but it will be more difficult against the current. Currents may force the boat onto rocks or far from shore.

Small Craft Advisory is a red pennant flown alone. It indicates that winds and seas, or sea conditions alone are considered hazardous to small craft. You must not go out. If you are out, you must return immediately.

WATER LIFE

Consider driftwood, coral shells, pearls, mother of pearl, scrimshaw, sea fans, etc. as substances to use for artwork. Create something that represents how you feel about the environment of the waterways; you may produce a water subject mural, sculpture, mosaic, or scrapbook.



COMMUNICATIONS

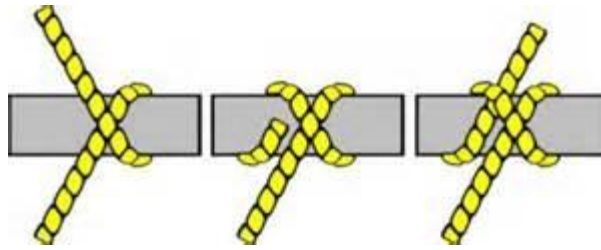
HINT – To avoid frustration while learning to send and receive a code, have the receiver acknowledge EACVH LETTER after it is sent, rather than after each word.



WaterSavers™

CONSERVATION

The “Human Vacuum Cleaner” can be done as follows: Walk in a line, side by side, about an arm’s length apart, with trash bags, picking up anything that was not put there by nature. You could ask an organization if there is a project that you could do service for to fulfill the aspects of this requirement. Explore the “circle of life” by sampling edible water life. You may want to have a potluck dinner or have a progressive dinner to sample many items. Be sure to sample things you have never tasted before. Consider trying things like watercress salad; rice wrapped in seaweed; shrimp or crab cocktail, calamari; steamed clams, squid, a new kind of fish, or sushi.



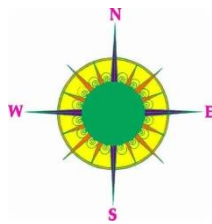
LINE ROPE AND KNOTS

You will need to practice your knots here again. Remember “practice makes perfect” the more you practice, the more proficient you will become until the knots are second nature and you won’t even have to think about how to do them.

Be sure to learn how to keep the end of a rope from fraying. This is called “whipping” a rope.

For ropes made of synthetic fibers like nylon, one can fuse the strands by applying enough heat to the raw ends of the rope. This will bond the ends together.

For a more permanent and satisfying treatment on a natural fiber rope, you can use a back splice. It creates a small lump on the rope that may be undesirable for some specific uses. Research the web or your local library, to find out how to do this properly. There is also an I-phone app entitled; Animated rope knots.



NAVIGATION

Charts and Piloting

In order to travel anywhere safely in a boat, a skipper must have knowledge of the depths. Of the water, the shoals and the channels, you must also know the location of aids to navigation and landmarks, and where ports and harbors can be found.

At any given position, the skipper can generally measure the depth, and see some landmarks; but for true safety you must know the depth ahead, the actual location of those aids to navigation which you can presently see, and where more aids are located relative to the course you plan to follow. For the best route to your destination, you must know where it lies with respect to your present position, and the dangers to navigation which may be along the way.

All of this information can be determined only from charts, one of the most essential and important items of equipment for piloting a boat. It would take a skillful boatman indeed to cruise any distance into strange waters without the necessary charts, even if you were equipped with all the other devices and it would be foolhardy of you to attempt it. The skipper must not only have the required charges; you must know how to use them.

WATER SPORTS

Maneuvering a small craft means to use oars or paddles to move your craft forward and backwards. Maneuver your craft in a straight line for at least 25 feet and turn to the right and then the left upon command. Now proceed in a different direction. It would be helpful to create a relay race course in the water, for your girls to have fun practicing these skills on.



Girl Worksheet Level 5

- 1) Use scenario cards to practice practical applications of First Aid. Be prepared to use your troop or group first aid kit as well as the items you find lying around to assist you in this practice.
- 2) Be able to show the following swimming competency:
 - a. Swim 50 yards : Freestyle; Backstroke; and side stroke with proper form
 - b. Swim 25 yards: Butterfly with proper form
- 3) Know what hazards tides and currents present. Know what a “small craft advisory” is and which signal indicates that small craft must be removed from the water.
- 4) Create at least 2 forms of art that use, as their medium, substances which come from the water environments.
- 5) Try sending and receiving messages by using any of the following:
 - a. Buzzer, drum, flashing lights
 - b. Morse Code flag signaling
 - c. Semaphore flags
 - d. International Code flags
- 6) Find out how little it takes to damage the waterways and participate in a cleanup project on a waterfront.
- 7) Clean, cook and serve some kind of food from the water. It can come from the ocean, a lake or river.
- 8) Demonstrate tying and the uses for a :
 - a. Square knot
 - b. Half hitches
 - c. Clove hitch
 - d. Bowline
 - e. Sheet bend
 - f. Figure eight

***Some of these knots may be new to you. If so, keep practicing!

- 9) Show a way to keep the ends of the rope from fraying.
- 10) Discover the difference between a map and a chart. Using a navigation chart for the area of your choice:

- a. Find information regarding dangers
 - b. Find the depth of an area of water
 - c. Locate the compass rose
 - d. Locate the distance scale
 - e. What are some of the basic symbols and abbreviations that you find when working with navigational charts and maps?
- 11) Be able to maneuver safely in a small craft such as a canoe, kayak or rowboat.

CHART ISSUING AGENCIES

Coast and Geodetic Survey

Environmental Science Service Administration
Washington, D.C 20235

U. S. Navel Oceanographic Office

Washington, D.C. 20390

U. S. Army Engineer District, Lake Survey

630 Federal Building
Detroit, Michigan, 48226

WEATHR INFORMATION

National Weather Service

www.weather.gov

United States Weather - NWS Internet Weather Source

weather.noaa.gov

EDUCATIONAL FIELD TRIPS RELATED TO WATER

Aquarium of The Pacific, Long Beach

www.aquariumofpacific.org

562-590-3100

100 Aquarium Way, Long Beach, United States

Cabrillo Marine Aquarium

www.cabrilloaq.org

310-548-8397

3720 Stephen White Drive, San Pedro, Ca.

Roundhouse Marine Lab & Aquarium

310-379-8117

Located at the end of the Manhattan Beach Pier

Muth Interpretive Center of Upper Newport Bay

www.newportbay.org

949-923-2290

2301 University Drive, Newport Beach, Ca.

Birch Aquarium at Scripps Institution of Oceanography

www.aquarium.ucsd.edu

858-534-FISH

2300 Expedition Way, La Jolla, CA