



US Army Corps
of Engineers®

U.S. Army Corps of Engineers Junior Ranger Activity Book



This book belongs to:

How to Become a Junior Ranger

Complete seven or more activity pages and the Life Jacket Demonstration, then sign the Junior Ranger pledge on the last page. Use the checklist below to track your progress. After you are done have a U.S. Army Corps of Engineers (USACE) Park Ranger check your book for completion and sign your certificate.

- Your National Waterways
- USACE Lake or River Project Near You
- History of USACE
- USACE Castle
- Water Safety Tips
- Water Rescue Tips
- Spot the Difference
- Paper Boat/Life Jacket Story
- Bicycle Safety
- Come to Your Senses
- Tree Anatomy
- Leaf Identification
- Bald Eagles
- Know Your Fish
- Animal Tracks
- Invasive Species
- Doing Your Part
- Amazing Role Models
- Picture This



Life Jacket Demonstration: Show a park ranger or someone who works with a park ranger how to properly put on and wear a life jacket. If you need help they will help you. Use the “How to Properly Fit a Life Jacket” page as a reference. You can use your own life jacket or borrow one from a park ranger. This activity is required to become a U.S. Army Corps of Engineers Junior Ranger. Encourage the adults you love to participate in this activity with you.

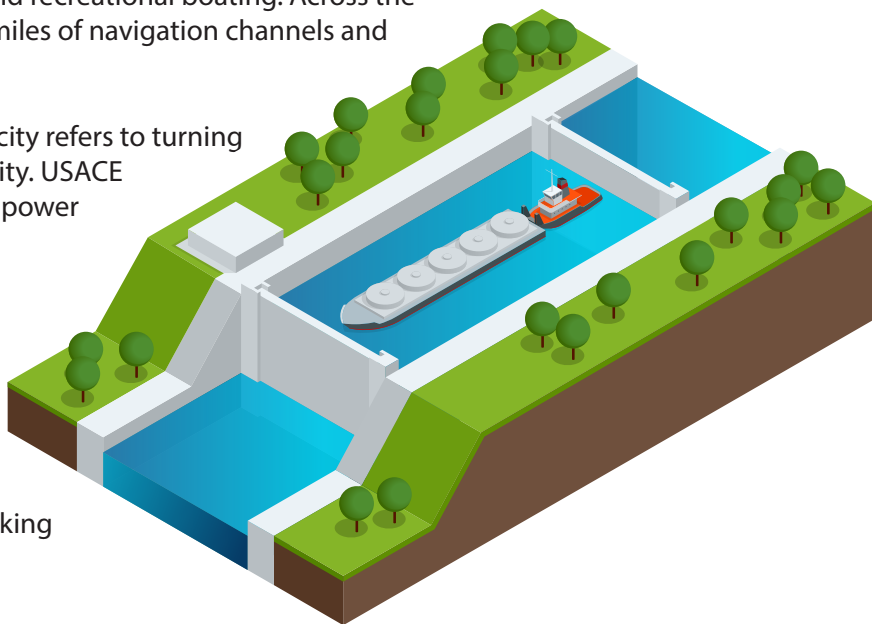
How to become a U.S. Army Corps of Engineers National Junior Ranger

Visit six different U.S. Army Corps of Engineers lakes or rivers and email copies or photos of six different signed Junior Ranger Certificates to water.safety@usace.army.mil to receive your National Junior Ranger certificate and identification token. Please include your name and mailing address in the email with your certificates.

Your National Waterways

The U.S. Army Corps of Engineers (USACE) has over 400 lake and river projects in 43 states. You can find the main USACE missions listed below. Every USACE location is different so place a check mark next to the missions that the site you are visiting has.

- Flood Risk Management:** The USACE helps control flood risks all over the United States. They take care of over 400 lake and river projects, and built over 8,500 miles of levees and dikes, including hundreds of local flood risk reduction projects now operated and maintained by other agencies.
- Recreation:** The USACE is the leading provider of water-based outdoor recreation in the nation. There are a lot of fun things you can do such as hiking, watching wildlife, swimming, boating, fishing, camping, hunting, and biking.
- Fish and Wildlife Conservation:** By protecting natural resources, the USACE improves our quality of life. They own and manage over four million acres of land that provides critical wildlife habitat. The USACE also helps with the recovery of threatened and endangered species and is a world leader in controlling invasive aquatic plants.
- Navigation:** Navigation was the first USACE mission, starting in 1824 to improve safety on the Ohio and Mississippi Rivers and several ports. The USACE works on navigation channels, harbors, and waterways to keep them safe for national security, shipping, and recreational boating. Across the United States, USACE takes care of 12,000 miles of navigation channels and over 900 harbors.
- Hydropower:** Hydropower or hydroelectricity refers to turning the energy from flowing water into electricity. USACE owns and operates 24 percent of the hydropower capacity in the United States.
- Water Supply:** A water supply of over 329 million acre-feet is provided by USACE lakes nationwide. A football field including the end zones is 1.32 acres, so that is enough water to cover 249,242,424 football fields with one foot of water. The water supply is used for things such as drinking water and irrigation.



What Park Rangers Do

Interpretation/Education: Park rangers provide educational programs, events, and facilities to help you learn about USACE missions, how to protect natural resources, and how to be safe when in, on, or near the water.

Environmental Stewardship: Managing natural resources is an important job for park rangers. They help protect the environment while making sure you enjoy hiking, fishing, and other outdoor activities.

Recreation Management: Park rangers makes sure everyone can have a great time outdoors by taking care of campgrounds, beaches, boat ramps, picnic areas, and trails that are safe and accessible.

Visitor Assistance: Park rangers enforce rules on USACE land and water to keep you and other visitors safe. They also will help answer your questions and provide assistance whenever possible to help ensure you enjoy your visit.

Is there a USACE lake or river project near you?

Color the dots close to where you live in blue and the ones you have visited in red.

Solve the math problems to fill in the blanks.

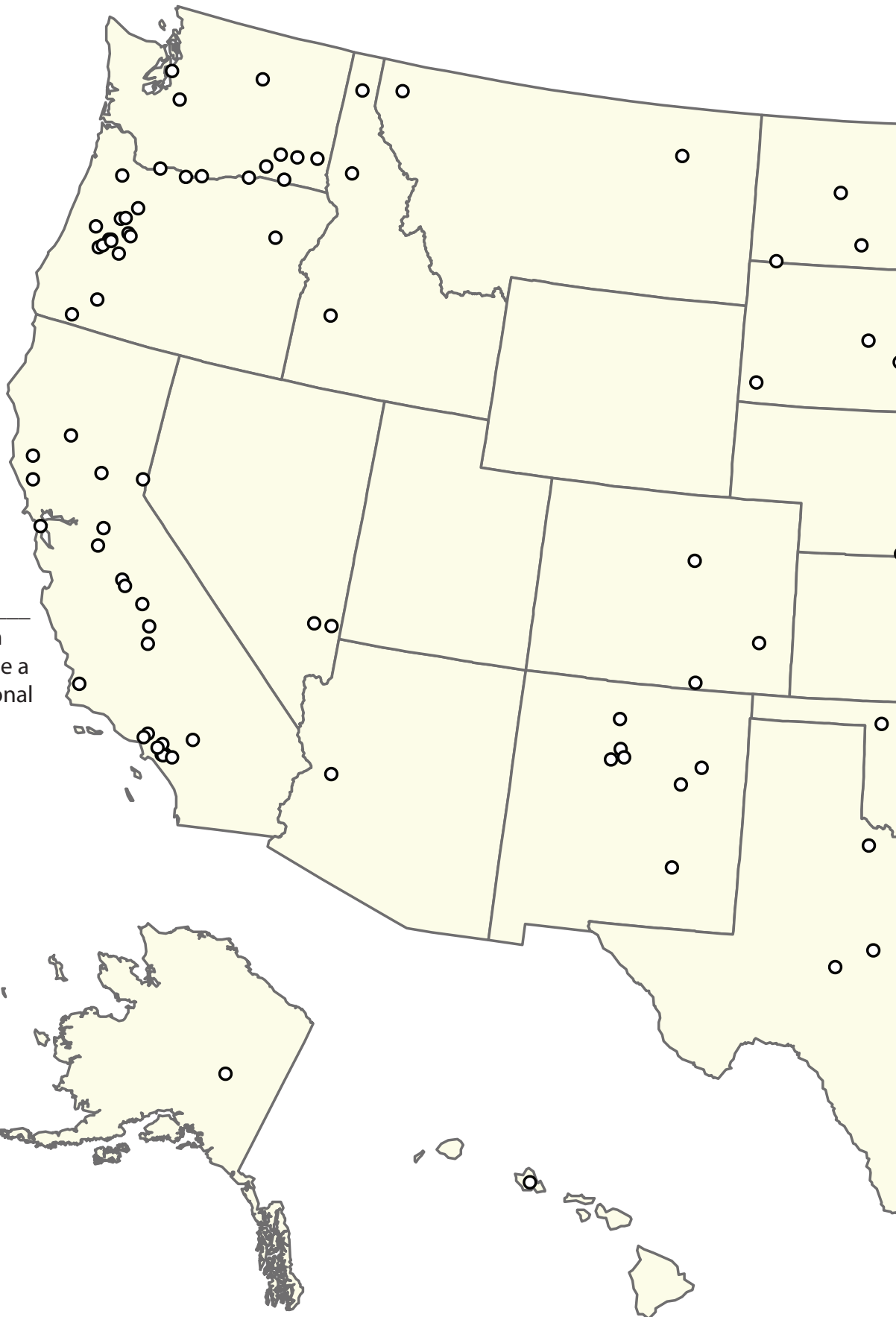
First Blank:

$$\underline{\quad} \div 20 = 20$$

Second Blank:

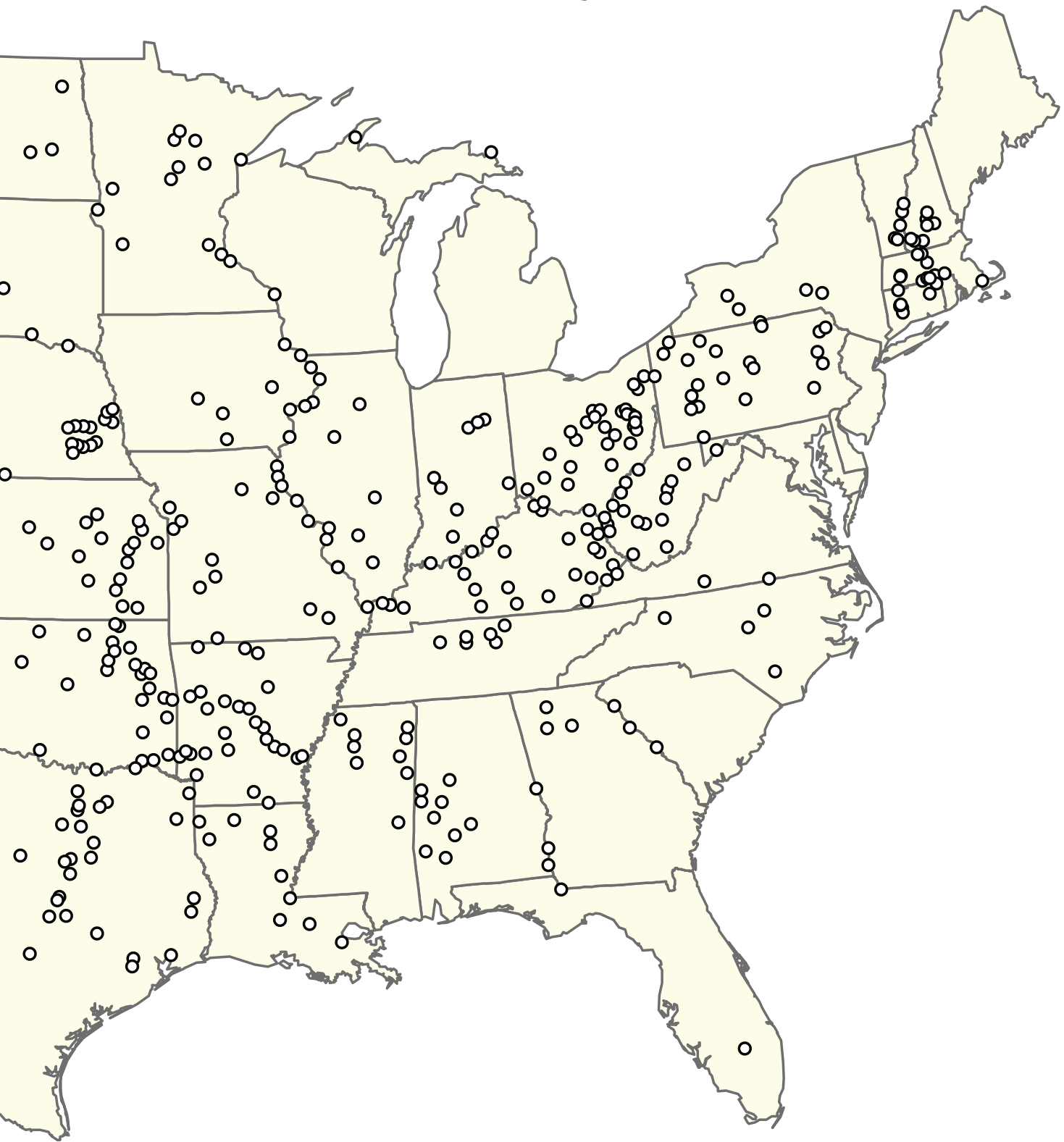
$$16 + 7 + 11 + 9 = \underline{\quad}$$

USACE has more than lakes and river projects in states that provide a diverse range of recreational opportunities.



**US Army Corps
of Engineers®**

Visit www.CorpsLakes.us to find a USACE lake or river project near you or one you might like to visit.



○ USACE Lake and River Projects

ANSWERS: First Blank = 400, Second Blank = 43

History of the U.S. Army Corps of Engineers

The history of U.S. Army Corps of Engineers (USACE) goes back to June 16, 1775, when the Continental Congress organized an army with a chief engineer and two assistants; however, it was not until 1779 that Congress created a separate Corps of Engineers. At the end of the Revolutionary War, the engineers were released from service. Later in 1802 Congress created a separate, permanent Corps of Engineers.

From the beginning, the USACE worked on both military construction and works “of a civil nature.” During the 19th century, the USACE supervised the building of forts and mapped much of the American West. They also built lighthouses, developed jetties and piers for harbors, mapped navigation channels and built roads and canals.

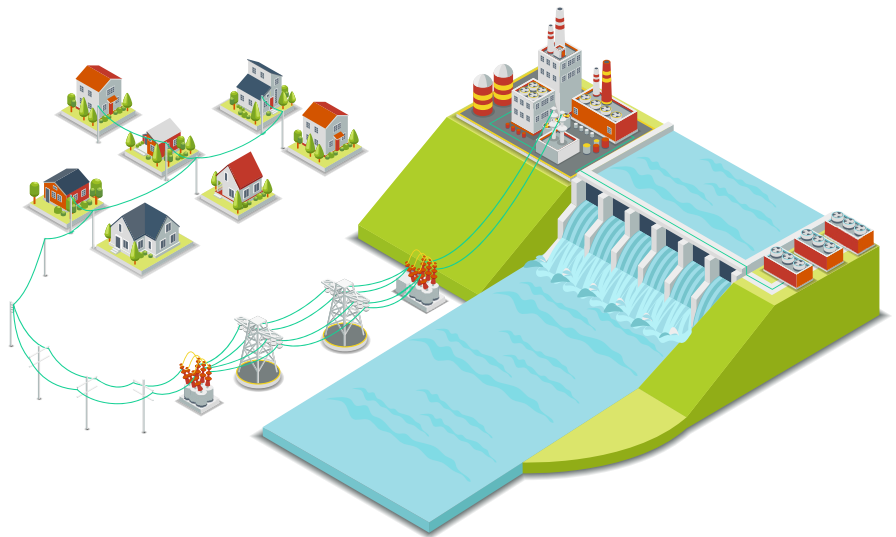
The most famous road project for the USACE is the Cumberland or National Road built between 1811 and 1841. The road went from Cumberland, Maryland to Vandalia, Illinois. They also surveyed the Great Lakes and the Mississippi Delta. The USACE also helped with planning and constructing public buildings and monuments in Washington, D.C.

During the last half of the 19th century, they improved navigation on the Potomac River; finished the Washington Monument; helped design and build structures like the Lincoln Memorial and the Library of Congress; worked on swamp reclamation which created the Tidal Basin; and developed Rock Creek Park as a major urban recreation area.

The USACE began working on flood control after the Civil War on large rivers like the Mississippi. Neglected waterways, demands for hydropower across the country, and calls for irrigation projects in the West drew attention to the nation’s water resources at the beginning of the 20th century. Following World War II, the USACE built several dams on our nation’s waterways that provide flood control, navigation, water supply for irrigation and drinking water, hydropower, and recreation.

By the 1980s the USACE mission had grown from flood fighting to other hazards. They work closely with the Federal Emergency Management Agency (FEMA) during natural disasters such as hurricanes, earthquakes, and fires.

The work of the USACE has proven invaluable and will continue to develop as they prepare to meet the challenges of the future.



What did you learn?

- 1 The history of the USACE can be traced back to July 4, 1776.
- 2 The most famous road project for the USACE is the Cumberland or National Road.
- 3 The USACE became involved in flood control after World War I.
- 4 The USACE has built several dams on our nation’s waterways that provide flood control, irrigation, navigation, drinking water, hydropower, and recreation.

TRUE or FALSE

<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

ANSWERS: 1 False, 2 True, 3 True, 4 True

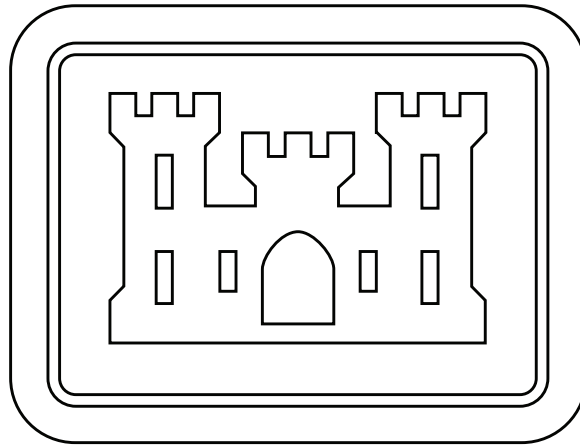
U.S. Army Corps of Engineers Castle

The castle remains the premier symbol of the U.S. Army Corps of Engineers (USACE). The medieval castle is connected with fortifications and architecture. In the United States, the term "castle" has been applied to the strongest of our early fortifications such as Castle Pickney in Charleston, South Carolina, and Castles Williams and Clinton in New York Harbor, which are particular achievements of the USACE.

The USACE Castle is a highly stylized form without decoration or embellishment. The Army unofficially adopted the castle to appear on the USACE epaulets and belt plate in 1840. Soon afterwards the cadets at West Point, all of whom were part of the USACE, also wore the castle on their caps. Subsequently, the castle appeared on the shoulder knot, on the saddlecloth, as a collar device, and on the buttons. In 1902, the castle was formally adopted by the Army as the insignia of the USACE. Although its design has changed many times since its inception, the castle has remained the distinctive symbol of the USACE.

This is the official logo of the USACE for you to color.

Find the logo throughout this book and see if you can color it correctly.



US Army Corps of Engineers®

What did you learn?

TRUE or FALSE

- | | | | |
|---|--|--------------------------|--------------------------|
| 1 | The symbol of USACE is a castle. | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 | In 1820, the castle was formally adopted by the Army as the insignia of the USACE. | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 | The USACE Castle has a lot of decoration or embellishment. | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 | The cadets at West Point wore the castle on their caps. | <input type="checkbox"/> | <input type="checkbox"/> |

ANSWERS: 1 True, 2 False, 3 False, 4 True

Water Safety Tips

Safe Swimming Tips:

1. Learn to swim, float, and tread water well. Know your limitations, respect the water and avoid unsafe behaviors.
2. Always swim with a buddy.
3. Swim in designated swimming areas and make sure an adult is watching you.
4. Swimming in a lake and river is different than swimming in a pool. Always wear a life jacket when at a lake or river and at a pool if you can't swim or if you are just learning to swim.
5. Inflatable toys and arm floaties should not replace a life jacket.
6. Never dive or jump into unknown waters.



Boating Safety Tips:

1. Know your boat – each boat has its own purpose.
2. Take a boater safety course when you are old enough to take one.
3. Know your state's boating laws.
4. Everyone should always wear a life jacket while boating, canoeing, kayaking, paddle boarding, riding a personal watercraft (PWC), and while swimming or floating around a boat. When paddle boarding, also wear a leash appropriate for the type of water you are in.
5. Make sure a responsible adult is operating the boat.
6. Don't go on a boat if the operator has been drinking alcohol.
7. Don't sit on the gunwales (upper edge of a boat's sides) or bow (front) of a moving boat.
8. If you are old enough to operate a PWC, learn to operate it safely. Don't cut in front of others, and always be aware of your surroundings and those around you.

Circle 12 items that you need for a successful kayak adventure.



Tips when around Dams, Rivers, and Canals:

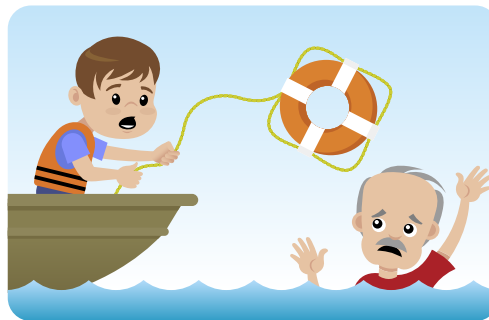
1. Never swim around a dam, or take your boat just above or below a dam.
2. Watch out for rapids or whitewater and fallen trees and never stand up in fast moving water.
3. Always wear a life jacket when inner tubing or enjoying any other activity on the river.
4. Watch out for rapids, whitewater, and fallen trees, and never stand up in fast-moving water.

Water Rescue Tips

REACH: Hold on to the dock or your boat, then reach your hand, a boat oar, a fishing pole, or whatever you have nearby to the person in the water.



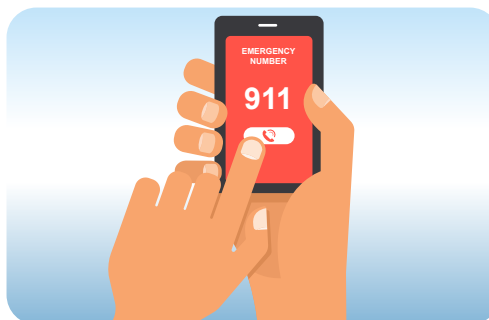
THROW: If you can't reach far enough, toss things that float for the person to grab such as a life ring, life jacket, cooler, tackle box, etc.



ROW: If in a boat, use the oars to move the boat closer to the person in the water, or call out to a nearby boat for help. Don't use the boat's motor close to a person in the water; the propeller could injure them.



DON'T GO: Don't go into the water to save someone unless you are a trained lifeguard. The person that is drowning could hold you under water, and you could drown too. Yell, call 911, or go for help.



Learn First Aid and CPR. When giving CPR to a drowning patient, remember to give them rescue breaths and compressions. Giving them breaths provides them some oxygen, which they are lacking.

Why is it important to wear a life jacket while in, on, or near the water?

If someone in the water needs help, what should you do?

R _ _ _ C H, _ H _ _ _ W,
_ O _ , D _ N ' _ G _

Scan the QR code below to watch "Safe Passage". The award-winning, 36-minute video for kids grades K-6 provides water safety lessons in an entertaining way.



Be Aware of Shallow Water Blackout

Avoid playing breath-holding underwater games and other breath-holding activities while swimming or in the water because it can lead to shallow water blackout. Shallow water blackout results from low oxygen to the brain. A person basically "blacks out" or faints in the water.

Shallow water blackout can affect even physically fit swimmers. It is especially seen in competitive swimmers, snorkelers, or those that free-dive, but it can also occur when someone doesn't know how to breathe properly when swimming or floating.



ANSWERS: Reach, Throw, Row, Don't Go

How to Properly Fit a Life Jacket

Life jackets are designed to help you float while in the water and can save your life, so make sure that your life jacket fits you properly. They come in many styles and colors so choose the right one for you and your water activity.

1. Check the Label

The label will tell you if the life jacket is Coast Guard approved, size of the life jacket, and what activities the life jacket can be used for. Sizes range from infant to extra extra large. Adult life jackets will not work for children and should not be worn by them until they weigh about 90 pounds.

2. Check for Damage

Check for broken parts, mold, and rips in the fabric.

3. Put Life Jacket On and Fasten It Up

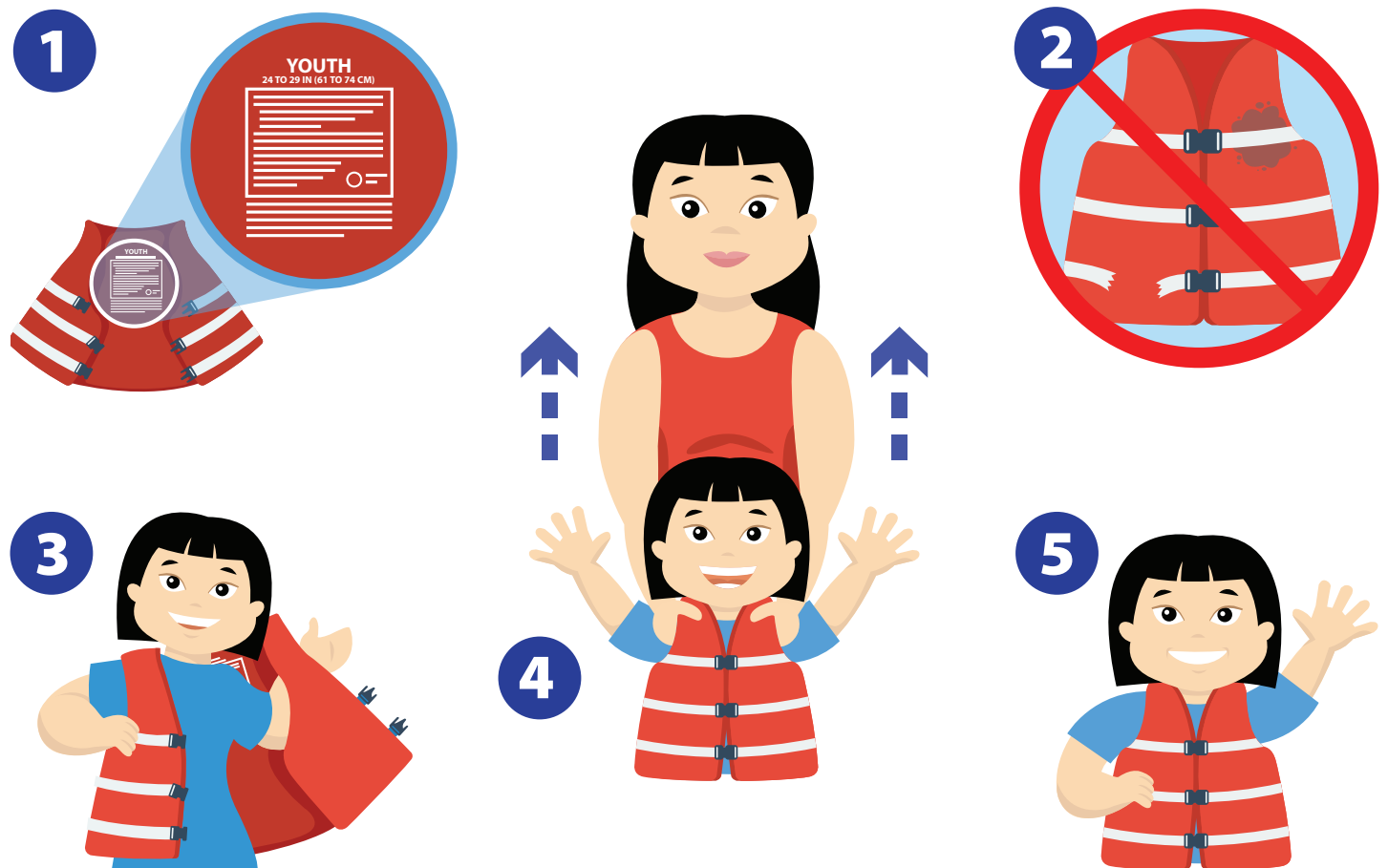
Fasten up all buckles, zippers, and straps. Adjust straps so that the life jacket fits snugly.

4. Check for Proper Fit

Lift up on the shoulders of the life jacket. Make sure it does not come up above your chin or ears. It should feel snug, yet comfortable. A properly fitted life jacket keeps your head and shoulders above water. You will be able to swim with it on too. It is recommended that you perform a test wearing your life jacket in shallow water with an adult within arm's reach.

5. Please Wear It

A life jacket only works if it is worn properly. Take the time to be prepared. Make sure you have and wear a life jacket that fits you properly when in, on, or near the water.



Can You Spot The Differences?

Spot and circle the differences between the two pictures below. After you are done, show it to a park ranger or an adult that cares about you and tell them what makes the things you circled not safe in the top picture and safe in the bottom picture.



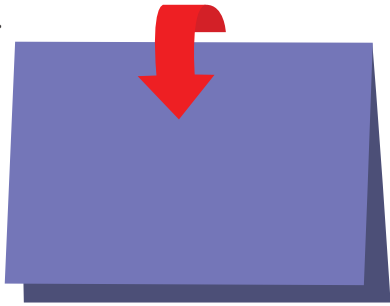
Water Safety Talk

One of the duties of a U.S. Army Corps of Engineers Park Ranger is to talk to visitors about water safety. Write down the most important thing you would tell people about being safe while on, in, or near the water and why.

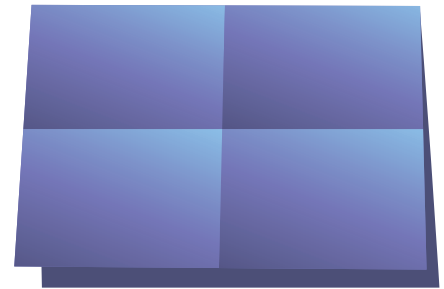
Paper Boat/Life Jacket Activity Story

First make a boat using a 8.5 x 11 sheet of paper. Here's how to do it in 10 easy steps.

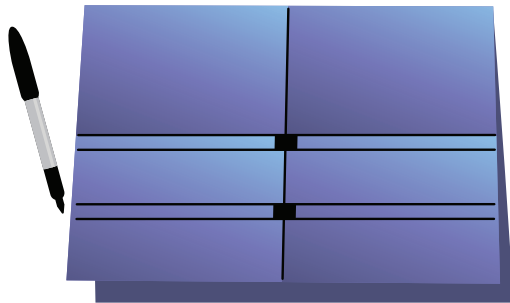
1. Fold the paper in half, bringing the two shorter sides together. Lay the paper flat so that the fold you made is at the top.



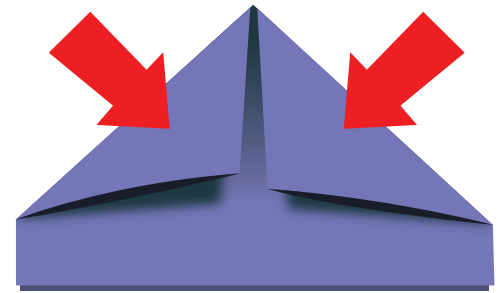
2. Fold paper in half twice then unfold it back to how it was in step one.



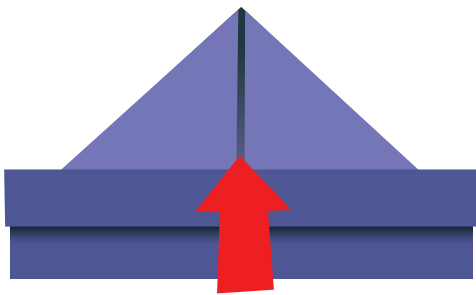
3. Draw a line down and across the middle of the folded paper. Then, add the other lines and boxes as shown.



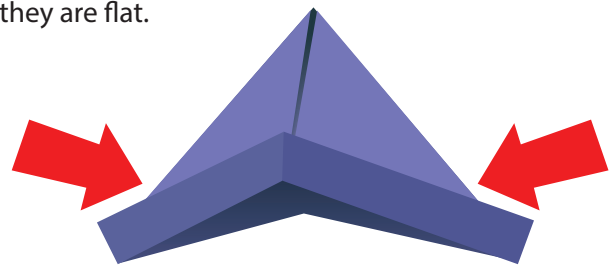
4. Flip the paper over, keeping the fold at the top. Then fold upper corners down as shown.



5. Fold the lower edge (single layer only) up as shown. Flip the paper over and fold the bottom up again.



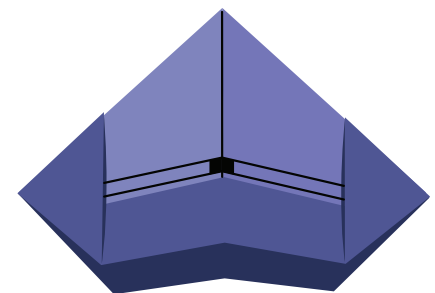
6. Open the bottom, then push the two bottom corners towards each other to make a diamond shape. Tuck the corners of paper under each other so they are flat.



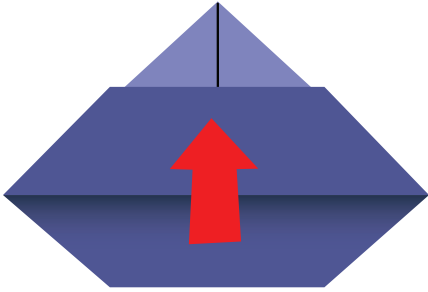
7. Once you have the diamond shape, fold the lower corner up (single layer only) to a point approximately a third of the way up as shown. Repeat on the other side.



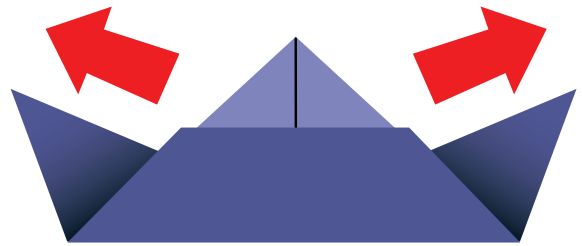
8. Push the two end corners towards each other so it looks like the picture shown with the lines you drew on top.



9. Fold the lower edge (single layer only) upward as far as it will go. Repeat on the other side.



10. Hold the boat in the middle. Pull out the ends of the boat as shown until they are completely out.



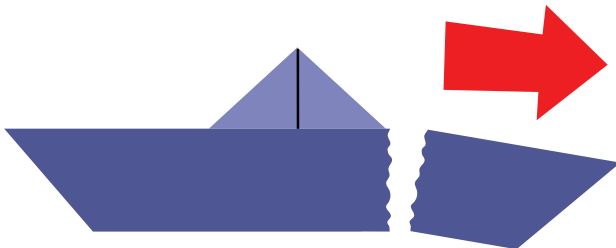
Now for the story...

One day John heard the fish were biting so he decided he would go fishing. He told his family where he was going and when he planned on returning home. He grabbed his favorite fishing gear, hooked up his boat to his truck, and headed to the lake. After he got to the lake, he put his boat in the water and headed to his favorite fishing spot. The fish were biting and John was having a good time just relaxing and enjoying the day.

Then John noticed that the sky was getting darker, and it started to rain so he packed up his fishing gear and headed back to the boat ramp. On his way back, the wind started blowing very hard so he decided to pull into a cove.

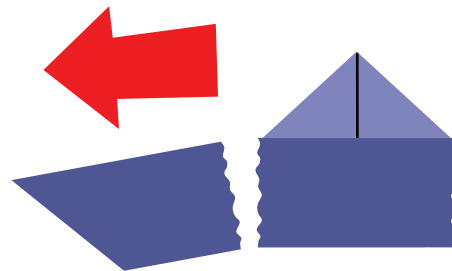
The storm got worse and the wind slammed his boat into some rocks along the shore and bashed a hole in the front of his boat.

11. At this point, tear off one end of the boat as shown.



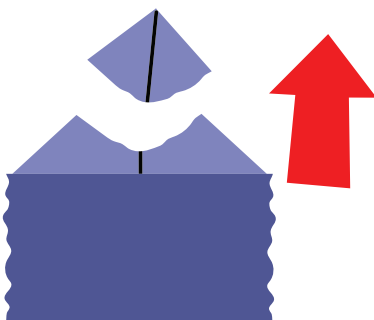
Then his boat was knocked backwards against some more rocks and made a hole in the back of the boat.

12. Tear off the other end of the boat as shown.



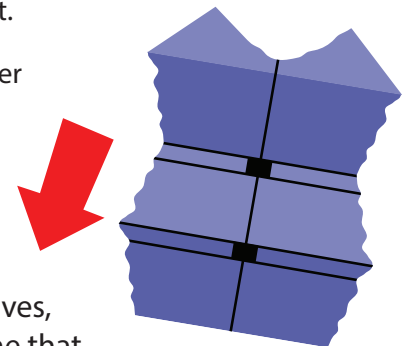
The boat started to sink and another hole was knocked in the boat.

13. Tear off the remaining point in a circular motion as shown.



The boat sank but John was okay because he was wearing a life jacket.






14. Unfold the paper as shown to reveal the life jacket!

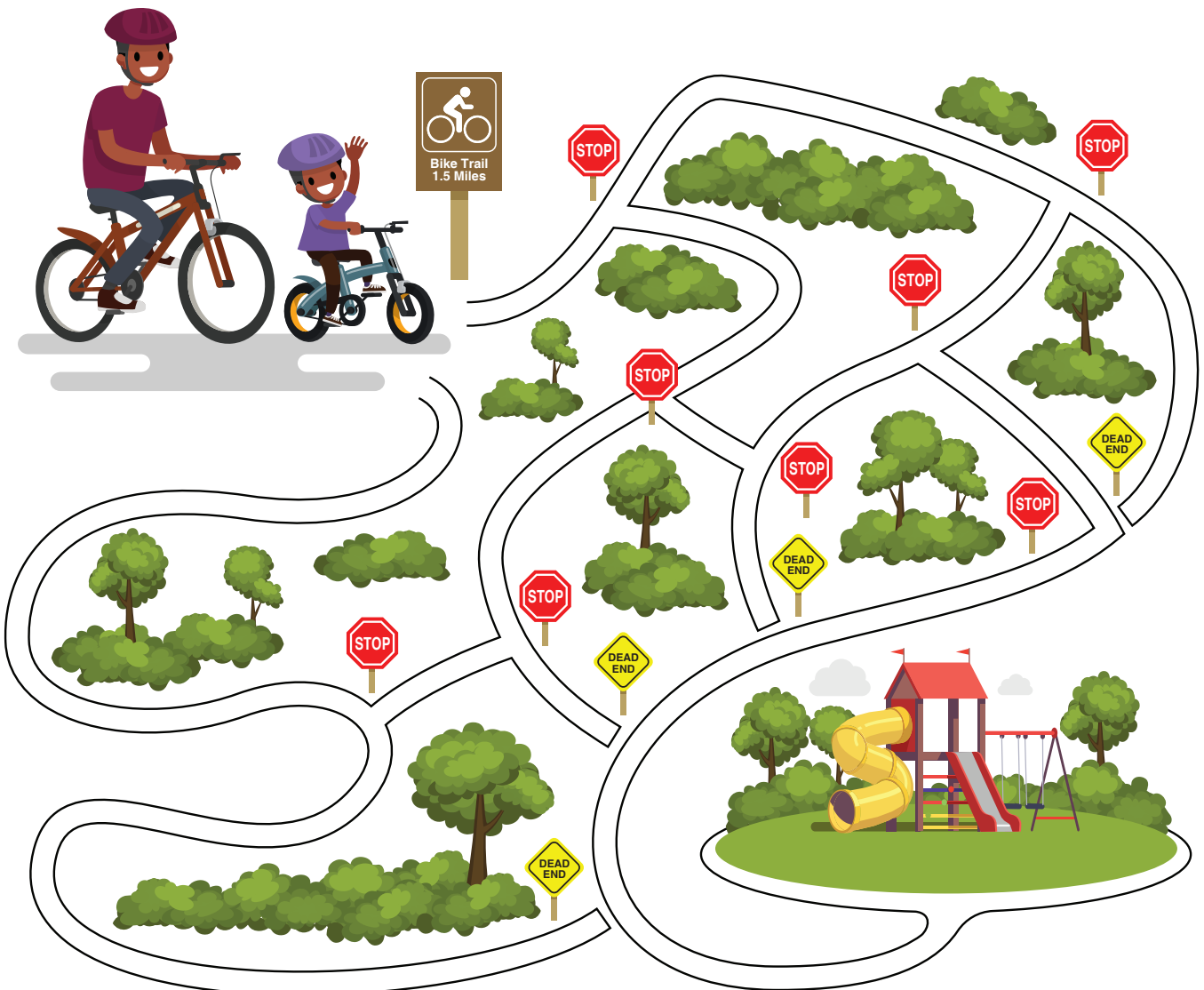


Life jackets save lives, so please wear one that fits you properly while on, in, or near the water and encourage others to do so too!

Bicycle Safety

Here are some helpful tips that will keep you safe while riding a bicycle.

-  Always wear a properly fitted bicycle helmet.
-  Check your equipment, control your bike, and don't ride your bike at night.
-  Go with the traffic flow, not against it. Ride on the right side of the road in the same direction as other vehicles.
-  Obey all traffic laws, stop at STOP signs and traffic lights, yield to traffic, stay alert at all times, and look before turning.
-  If you need to cross a street, walk your bike across; don't ride across it.



Draw a line to help the bicyclists find their way to the playground.
Stay on the bike trail! Be sure to stop at STOP signs.

Come to Your Senses

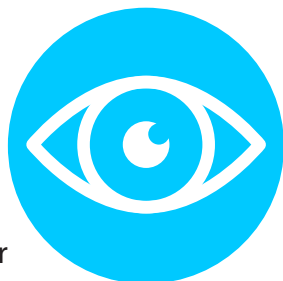
Find a place in the park that is quiet. This can be along a trail, in the grass, or by a tree. Make sure that an adult is with you or is nearby and can see you. **Sit for at least five minutes** without saying anything and use your senses to observe your surroundings.



Remember to keep your distance from wildlife. **DO NOT** try to pet or feed any animals you see.

Taste

only the things that you brought with you, like your lunch or snacks.



Look

for trees, flowers, other plants, animals (including birds and fish) and rocks. Describe something you saw.



**FIVE
HUMAN
SENSES**



Touch

things around you, like the bark of a tree, a cone, a flower, a leaf or a rock. But remember, "leaves of three, leave them be."

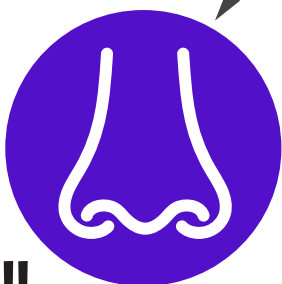


Poison
Ivy



Poison
Oak

Describe what you felt.



Smell

things such as a flower, a leaf, a cone, the bark of a tree and the air. Describe what you smelled.



Listen

for sounds of the air, trees, animals, water and rocks. Describe something you heard.

Give your place a name: _____

Tree Anatomy

Trees are one of our most important resources. Some of the things made from trees include lumber for houses, furniture, maple syrup, pencils, baseball bats, paper, and tool handles.

The trunk of a tree is made up of five different layers. **Look at the picture below, read the descriptions, and label the layers of the trunk.**

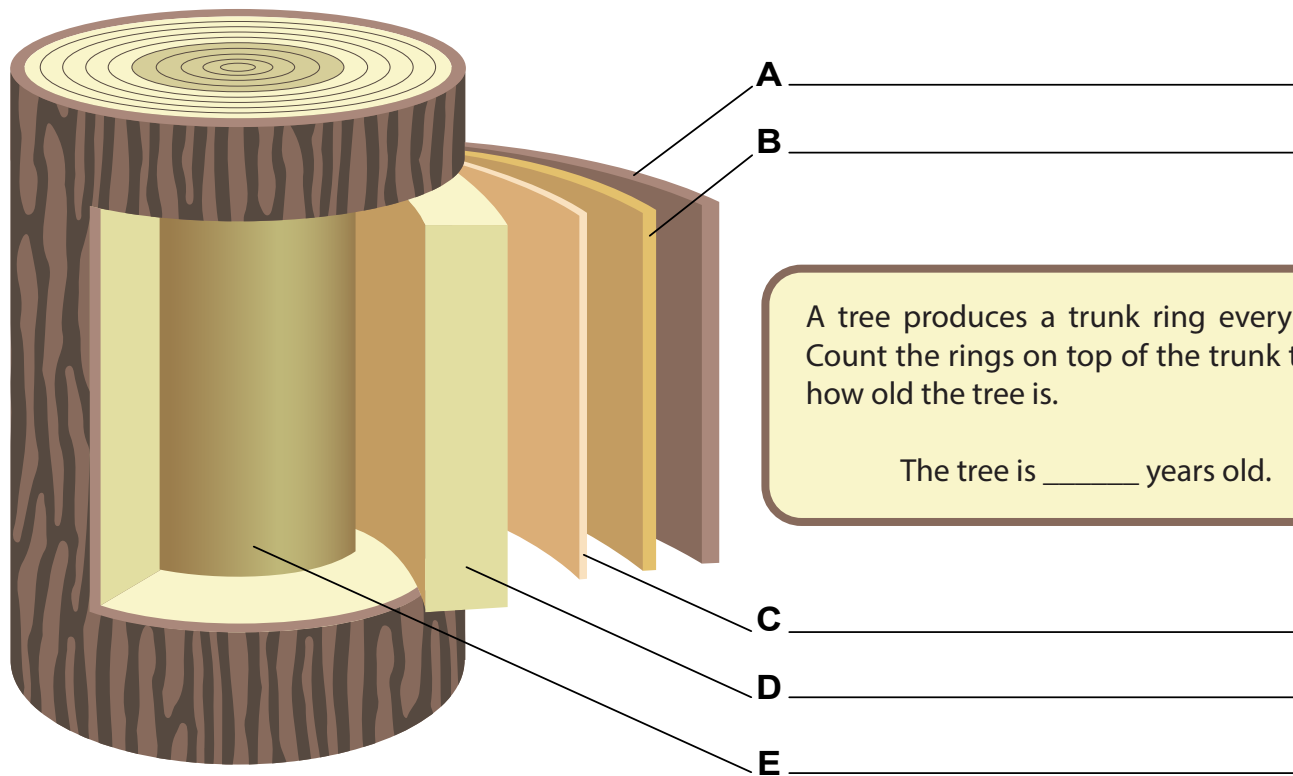
A. Outer Bark: The outside layer that protects the tree from extreme temperatures, rain, and insects.

B. Inner Bark or Phloem: Layer that carries nutrients down from the leaves to the rest of the tree. As the tree gets older, the outer part of the inner bark or phloem dies and becomes outer bark.

C. Cambium: Layer that is the growing part of the trunk. It annually produces a ring of new bark and wood in response to hormones called auxins that pass down through the inner bark or phloem with nutrients from the leaves. Auxins stimulate growth in cells of the tree and are produced by leaf buds at the ends of branches as soon as they start growing in the spring.

D. Sapwood: Layer that carries water and nutrients up from the roots to the rest of the tree. As the tree gets older, the inner part of the sapwood dies and turns to heartwood.

E. Heartwood: The center, supporting layer of the tree. It is dead wood made up of fibers bound together by a chemical called lignin. In many ways the heartwood is strong as steel.



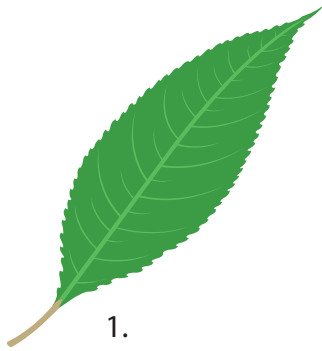
Leaf Identification

Identify the leaves by writing the number of the leaf next to the name of the tree.

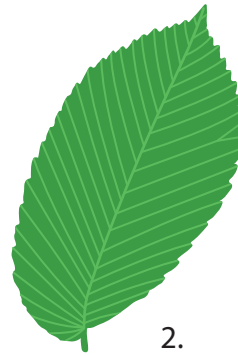
___ Cottonwood

___ Slippery Elm

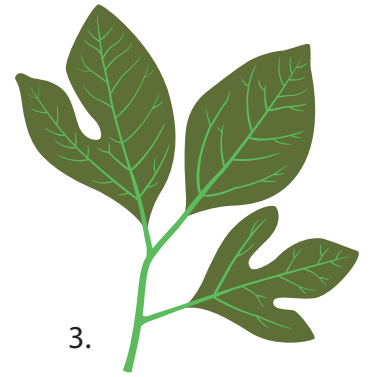
___ Green Ash



1.



2.

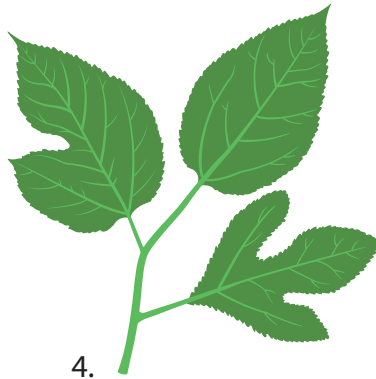


3.

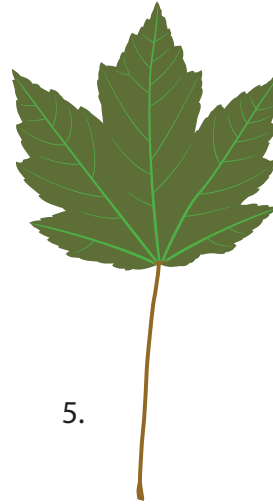
___ Red Maple

___ Red Mulberry

___ Sycamore



4.



5.

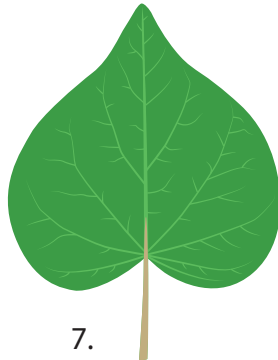


6.

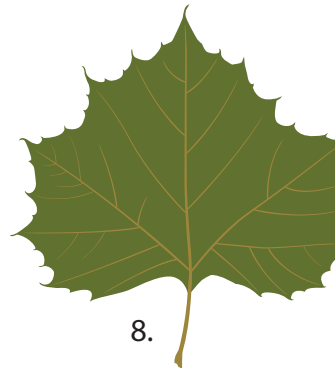
___ Black Willow

___ Redbud

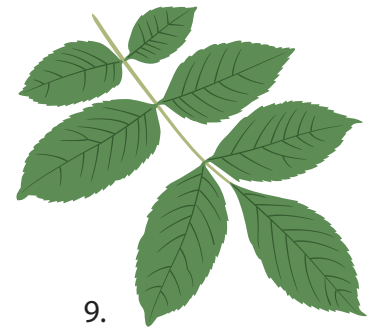
___ Flowering Dogwood



7.



8.



9.

___ Red Oak

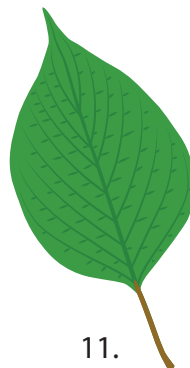
___ Sassafras

___ White Oak

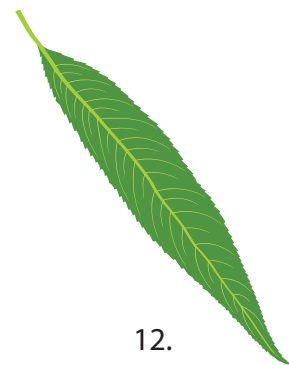
___ Black Cherry



10.



11.



12.



13.

ANSWERS: 6 Cottonwood, 2 Slippery Elm, 9 Green Ash, 5 Red Maple, 4 Red Mulberry, 8 Sycamore, 12 Black Willow, 7 Redbud, 11 Flowering Dogwood, 10 Red Oak, 3 Sassafras, 13 White Oak, 1 Black Cherry

Bald Eagles

The bald eagle is the national symbol of the United States. They have made an amazing recovery from the brink of extinction. Habitat protection has been one factor in their recovery. For this activity, complete the problems in the eggs, then fill in the "Amazing Eagle Facts" blanks by matching the egg number with the fact number.



Amazing Eagle Facts

1. After years, their head and tail turn white.
2. Adult bald eagles may weigh about pounds.
3. On average, they stand inches tall.
4. An adult eagle's wingspan may be up to feet.
5. Eagles live to be about years old.
6. Eagles have up to feathers.
7. They can reach diving speeds (flying downward) of miles per hour.
8. Their nest may be up to feet in diameter (the distance across it).
9. Their nest can weigh pounds or more.

1
$$\begin{array}{r} 23 \\ -18 \\ \hline \end{array}$$

9
 $20 \times 50 =$

2
 $9 \overline{)126}$

8
 $91 - y = 81$

3
 $x \div 4 = 8$

7
 $12.5 \times 8 =$

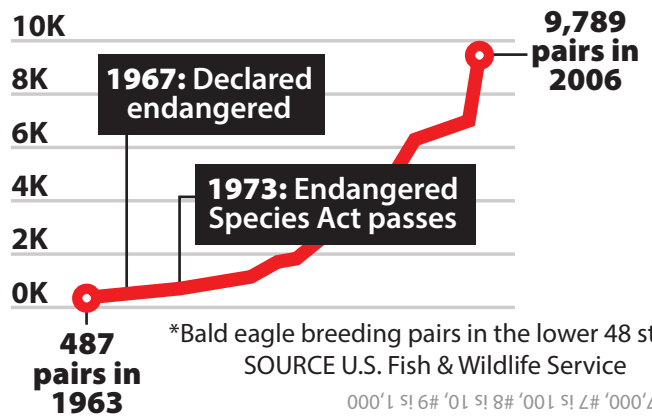
4
$$\begin{array}{r} 4.5 \\ 0.63 \\ +2.87 \\ \hline \end{array}$$

5
 $2+6+9+13=$

6
$$\begin{array}{r} 1400 \\ \times 5 \\ \hline \end{array}$$

American Success Story

Bald eagles were delisted as endangered in 2007.



*Bald eagle breeding pairs in the lower 48 states
SOURCE U.S. Fish & Wildlife Service

Answers: #1 is 5, #2 is 14, #3 is 32, #4 is 8, #5 is 30, #6 is 7,000, #7 is 100, #8 is 10, #9 is 1,000

Know Your Fish

Walleye: The color of a walleye's back is dark brown, golden-brown, or olive-brown. It has a yellow belly and silver or yellowish-colored sides. A walleye has a large mouth filled with sharp teeth and thousands of taste buds on its lips. Its front dorsal fin has sharp spines. The name "walleye" refers to its eyes which glow in the dark thanks to a reflective layer that helps it see in dark, murky water.

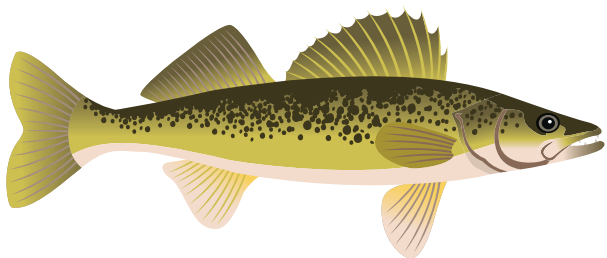
Largemouth Bass: The color of a largemouth bass varies depending on the type of water they live in. It is generally an olive-green colored fish with a dark horizontal stripe along each side and a whitish belly. The largemouth bass is the most popular fish in the United States with about 30 million people that fish for it.

Bluegill: The body of a bluegill is dark green in color and oval shaped with dark bars running vertically down its sides. Behind each eye is a black ear flap. The belly of a female bluegill is yellow, and the belly of a male is a rusty red color. Bluegill is one of the easiest fish to catch but remember to use a very small hook because its mouth is not very big.

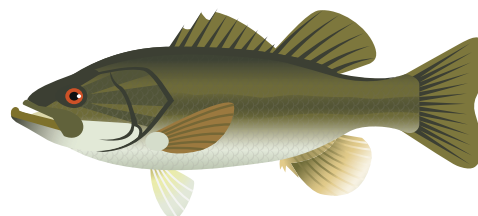
Crappie: A black crappie has seven to eight spines in its dorsal fin and a white crappie has six. A black crappie has irregular speckles and blotches and a white crappie has faint vertical bars in its color pattern. Crappie are most active at dawn and dusk when they feed. One of the best baits for crappie is live minnows. To bait up, hook the minnow right below its dorsal fin and don't forget to use a bobber.

Channel Catfish: The most common catfish species in the United States is the channel catfish. Catfish are smooth with no scales and their entire body is covered with taste buds. The channel catfish is olive to light blue in color with black speckles on its sides. It has a forked tail, whisker-like organs around the mouth, broad flat head, and thin body. Bait for catfishing includes night crawlers, chicken liver, grasshoppers, minnows, cut bait, stink bait, cheese, hot dogs, and even bubble gum!

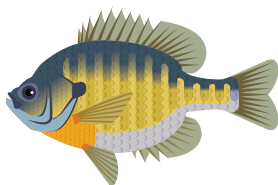
Now that you know a little bit about a few of the fish found in the United States, can you identify them? Write the name of the fish next to each picture.



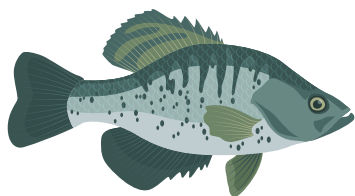
1. _____



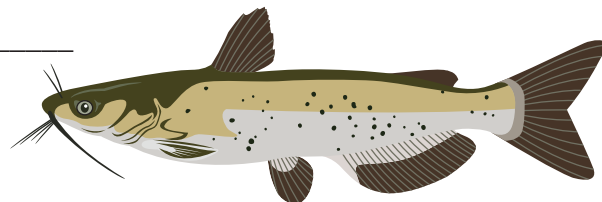
2. _____



3. _____



4. _____



5. _____

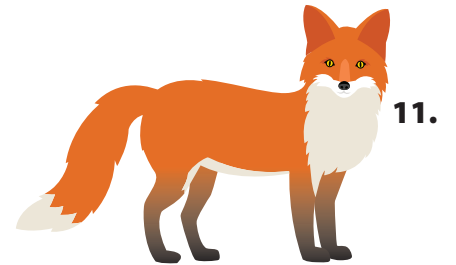
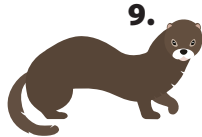
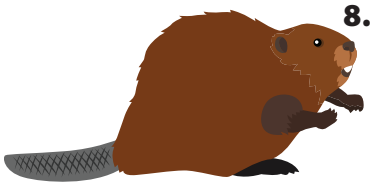
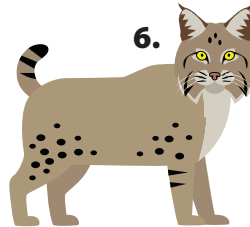
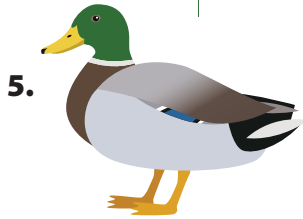
List three fish that are at the lake or river that you are visiting.

1. _____ 2. _____ 3. _____

Answers: 1. Walleye 2. Largemouth Bass 3. Bluegill 4. Crappie 5. Channel Catfish

Animal Tracks

Animal tracks are evidence of wildlife that live in the area. Match the animal's picture to its name, then match the name to the animal's track.



White-tailed Deer

Bobcat

Raccoon

Muskrat

Striped Skunk

Mink

Mallard Duck

Beaver

River Otter

Red Fox

Great Blue Heron



A.



B.



C.



D.



E.



F.



G.



H.



I.



J.



K.

ANSWERS: Deer 1-E, Bobcat 6-B, Raccoon 4-H, Muskrat 4-H, Skunk 3-D, Mink 9-K, Duck 5-F, Beaver 8-J, Otter 2-G, Fox 11-I, Heron 7-C

Invasive Species

Invasive species are plants and animals that don't naturally live in an ecosystem and their arrival can cause economic and environmental damage and harm to human health. Invasive species are often introduced by human actions, so we can all help stop the spread of invasive species in the United States.



Zebra mussel got their name because they have dark and light stripes. A zebra mussel is usually the size of your fingernail but can grow up to two inches long. Its young are too small

for you to see and can be easily moved from one lake to another. A female zebra mussel releases up to one million eggs in a season!

First found in the Great Lakes in 1988, zebra mussels have spread quickly. They damage boat engines, threaten native wildlife by eating available food, and clog water pipes that cost millions of dollars to replace. Learn if zebra mussels are in your area, and, if they are, help stop the spread by cleaning your boat and gear when boating or fishing.



Help the adults you go boating with follow these simple steps before launching their boat and before leaving the area to stop the spread of zebra mussels and hydrilla.

Clean: Remove all plants, animals, and mud on your boat, even in hidden areas, before leaving the water access area.

Drain: Remove all water from your boat before leaving the area, including wells, ballast, and engine cooling water.

Dry: Allow enough time for your boat to completely dry before launching in other waters.



Hydrilla came into the United States in the 1950s. Stems of hydrilla are thin and can grow an inch per day, and up to 30 feet long. As it nears the water surface, the stems branch out horizontally, often forming dense mats of vegetation.

Thick growths of hydrilla can crowd out native plants, block boat routes, and reduce fishing and swimming areas, limit flow in irrigation canals, and clog water pipes. Today it is spread mostly by human activities. Small pieces of hydrilla can travel from one water body to another on boats, trailers, and recreational gear.



What simple steps can help stop zebra mussels and hydrilla from spreading?

C _ _ E _ _ , _ R _ I _ ,
D _ _

ANSWERS: CLEAN, DRAIN, DRY



Emerald Ash Borer is an invasive insect from Asia that kills ash trees. It was first found in the United States in 2002. Adult beetles are metallic green and about 1/2-inch long. Emerald Ash Borer larvae can survive hidden in the bark of firewood. You can help stop their spread by not moving firewood. Remember to: buy local firewood, burn local firewood.

To learn more about the invasive species in your area, download the free mobile app "Outsmart Invasive Species".

Doing Your Part

Here are some things that you can do to help make your visit more enjoyable, and to help parks so that others may enjoy them too.

Follow the Rules

Know the rules and learn about the area you are visiting. Stop by a visitor center, office, or campground entrance station to get a copy of the rules and regulations. Ask someone like a park ranger if there is anything you should be aware of during your visit.



Leave It Better Than You Found It

Whether it's at your campsite, along a trail, at a beach, or boat ramp, if you see trash, even if it's not yours, please pick it up and dispose of it.



Be Careful With Fire

Where fires are allowed, use fire rings and grills that are already there and keep your fires small. Be sure to put out campfires and grill fires completely. Adults should always be involved in building, burning, and putting out fires at your campsite or picnic site.

Remember Your Best Friend

If you bring your dog along on your visit, remember that they might not act the same as they do at home because they are in a new environment. While in the parks, your dog must be on a leash and is not allowed on the sand portion of a swimming beach. Remember to pick up after your pet and dispose of it properly. Not all dogs are natural swimmers. They need a life jacket too.

Be Kind to Others

Be kind and respectful to other visitors and remember that they are in the parks to enjoy the outdoors too.

Have Fun and Play It Safe

When on, in, or near the water having fun, make sure an adult is watching you. Remember to wear a properly fitted life jacket and encourage others to do so too.



Want to Volunteer?

If you would like to volunteer at a U.S. Army Corps of Engineers lake or river, visit www.volunteer.gov.

What would you like to do at this lake or river?

Make the Right Choices Maze

Junior Rangers are role models that set good examples for others by playing it safe and respecting the parks, wildlife, and other visitors. Complete the maze by choosing examples that are good behaviors.

START HERE!

Should you go near the water alone OR with an adult?

Go Alone With Adult

Should you hit a snake with a stick OR leave it alone?

Hit With Stick Leave It Alone

Should you put out a campfire before leaving OR leave it burning?

Put Out Leave It

Should you pick up any trash you find OR leave it?

Leave It Pick It Up

Should you let your dog run free OR walk your dog on a leash?

On Leash Run Free

Should you wear a life jacket OR inflatable floaties?

Wear a Life Jacket Wear Inflatable Floaties

FINISH! Great Job, Junior Ranger!

This is not the right thing to do. Go back and try again!

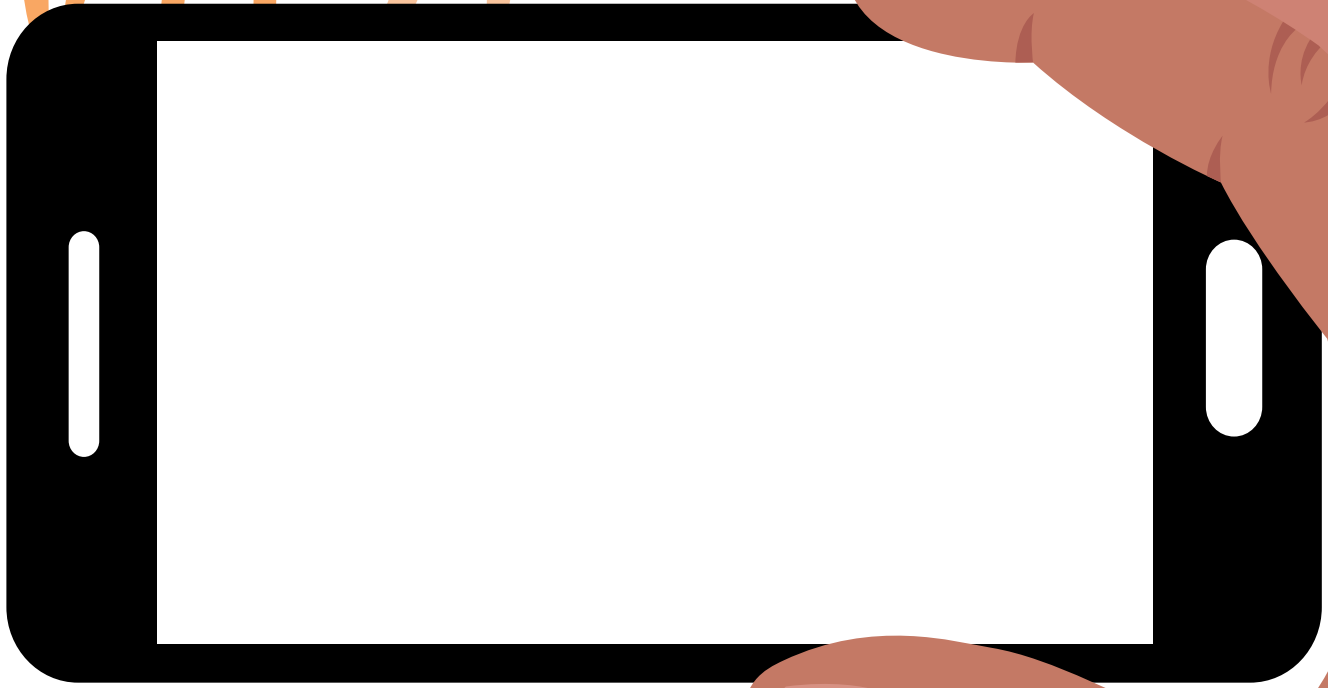
This is not the right thing to do. Go back and try again!

Picture This!





Take or Draw Only Pictures and Leave Only Footprints.

Draw a picture below of the most interesting thing you saw or did while visiting a U.S. Army Corps of Engineers lake or river. It may have been a tree, bird, mammal, fish, you and others playing it safe, or a place where you had fun hiking, swimming, fishing, boating, camping, etc.

You should not pick or collect things in the parks to take home with you. You can remember your visit by taking pictures of the things you see and post them using #USACEJrRanger and emailing them to water.safety@usace.army.mil.



Picture Taking Tips:

-  Don't get close to animals.
-  When in, on, or near the water, wear your life jacket and take only pictures of people wearing properly fitted life jackets.
-  Know your surroundings and watch your step, especially when taking selfies.
-  Smile and Have Fun!

U.S. ARMY CORPS OF ENGINEERS

CERTIFICATE OF ACHIEVEMENT



HONORARY JUNIOR RANGER

Principles of Membership

I, _____ pledge that as a Junior Ranger
I will do my part to keep the parks and waters safe and clean.
I will always remember to put safety first whenever I play
outdoors and not take risks that put me or others in danger.
I will care for the environment and keep it clean for us all.

Date _____

_____ Park Ranger, U.S. Army Corps of Engineers





US Army Corps of Engineers®



Hey Junior Rangers!

The U.S. Army Corps of Engineers (USACE) Park Rangers need your help in promoting water safety. You can start by teaching water safety to your family and friends.

At www.Bobber.info you can download the same resources the park rangers use to promote water safety throughout the United States.

Bobber the Water Safety Dog is the USACE's National Mascot for Water Safety and www.Bobber.info is your source for free educational materials to use during your water safety presentation or event.

Bobber's Website has...

Cartoons – Show the Bobber cartoons and help other kids and your family understand the water safety messages in them.

Posters – Post or handout Bobber posters in areas where you plan on doing your presentation or event. Be sure to get permission before posting them.

Coloring – Handout Bobber colorings sheets for everyone to color and point out the water safety messages on them.

Activities – Have your event participants do the Bobber activities and games. This is a fun way for them to learn about water safety.



www.Bobber.info



The park rangers and Bobber will be happy to have you as part of the water safety team!

www.Bobber.Info

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Go Forth and Explore!

This is your lake or river, so protect it, share it, and enjoy it! We are counting on you to set a good example for others by respecting and learning more about the national waterways you visit. Find out where more U.S. Army Corps of Engineers lakes and rivers are located by visiting www.CorpsLakes.us.

Discover

Visit as many national waterways as you can with your family and friends. Learn more and find fun activities about water safety at www.Bobber.info and www.PleaseWearIt.com.

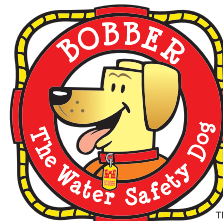


Share

Send pictures or comments of you playing it safe and having fun with your friends and family at a U.S. Army Corps of Engineers lake or river using hashtag: **#USACEJrRanger**



US Army Corps of Engineers®



www.Bobber.info

