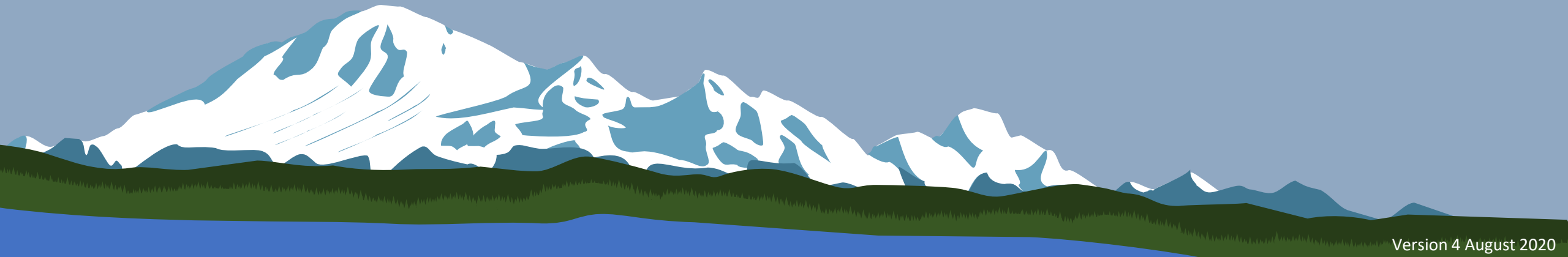
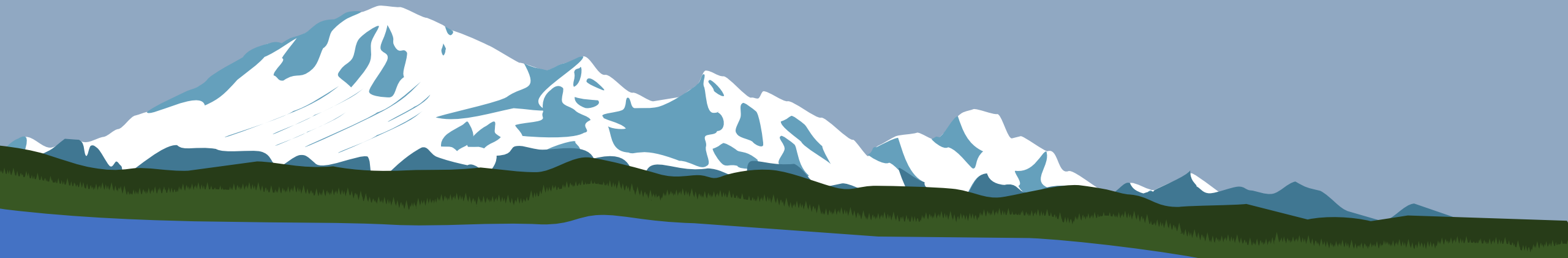


Cycling Merit Badge



Index

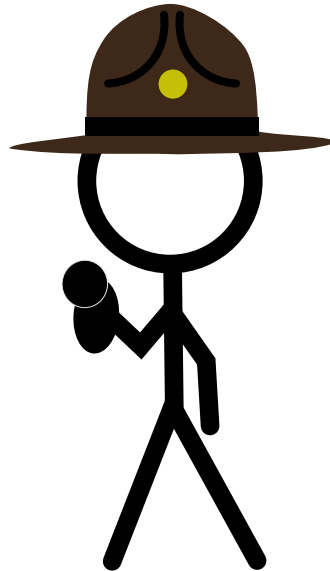
1. [Merit Badge Requirements](#)
2. [Merit Badge Intro](#)
3. [Hazards](#)
4. [First Aid](#)
5. [Safety](#)
6. [The Bike](#)
7. [Final Thoughts](#)
8. [Resources](#)
9. [Instructor's Corner](#)



Copyright Notice

This presentation is protected by US and International copyright laws. Reproduction and distribution of this presentation without written permission of the sponsor is prohibited.

© 2021



Copyright Notice

Do NOT post or upload copies of this presentation on the WEB!



Terms and Conditions of Use

This slide set was designed to aid Merit Badge Counselors to deliver a Merit Badge course and to aid Scouts in completion of a Merit Badge.

Scouts, Merit Badge Counselors and other Scouters are free us use this material for teaching and learning Merit Badge requirements. Use of material in other scout related classes is also acceptable.

You may modify (add, delete, change) the slides for your own personalized use.

Do not post original or modified versions of these slides on the internet.

Questions? Contact the owner.



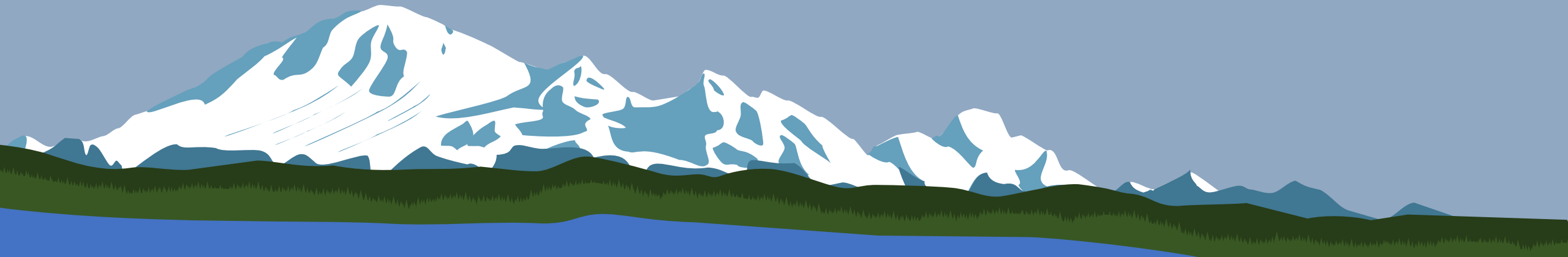
Disclaimer

This PowerPoint slideshow was designed to be used to prepare scouts for the Cycling Merit Badge and nothing more.

Examples used and opinions shared do not reflect policies of the BSA, your local council or any other person or entity related to this presentation.



Merit Badge Requirements



Requirements

Requirements

- Merit Badge requirements are taken from:
2019 Scouts BSA™ Requirements Book

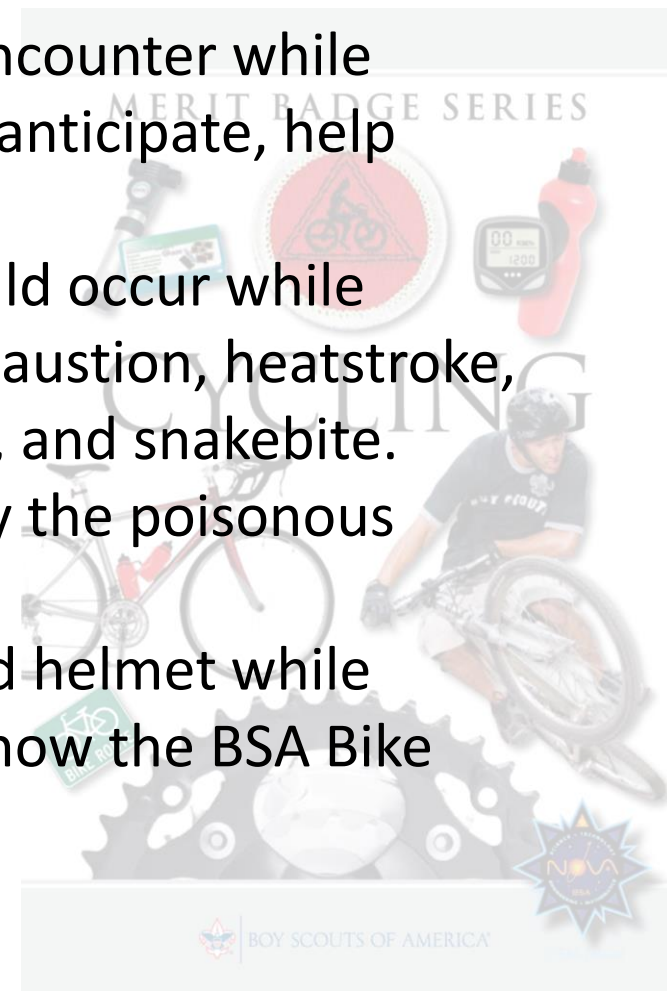


Requirements

Requirements

1. Do the following:

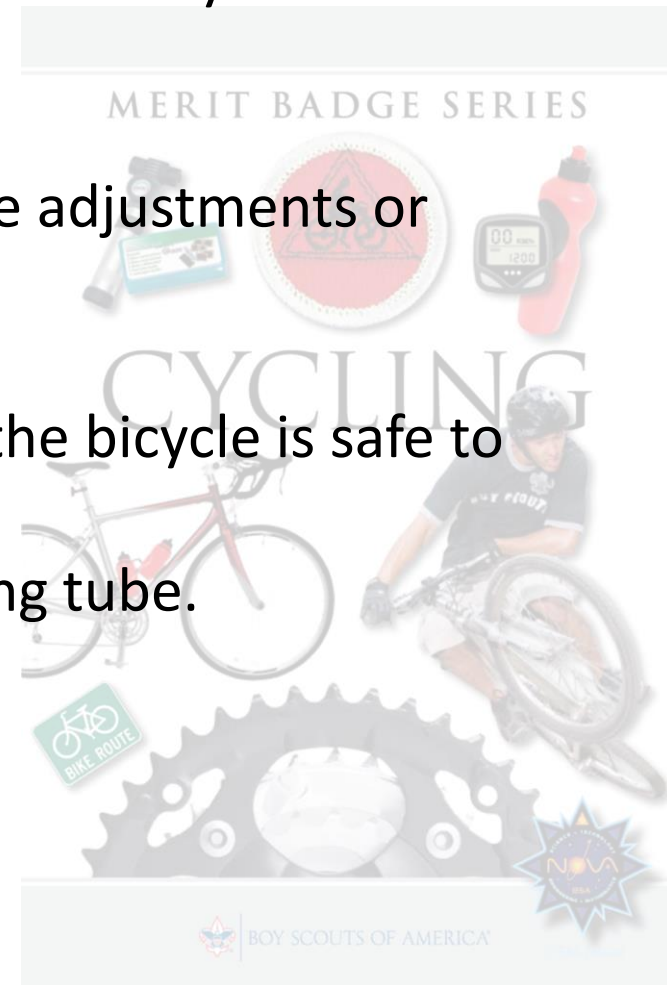
- a. Explain to your counselor the most likely hazards you may encounter while participating in cycling activities and what you should do to anticipate, help prevent, mitigate, and respond to these hazards.
- b. Show that you know first aid for injuries or illnesses that could occur while cycling, including cuts, scratches, blisters, sunburn, heat exhaustion, heatstroke, hypothermia, frostbite, dehydration, insect stings, tick bites, and snakebite. Explain to your counselor why you should be able to identify the poisonous plants and poisonous animals that are found in your area.
- c. Explain the importance of wearing a properly sized and fitted helmet while cycling, and of wearing the right clothing for the weather. Know the BSA Bike Safety Guidelines.



Requirements

Requirements

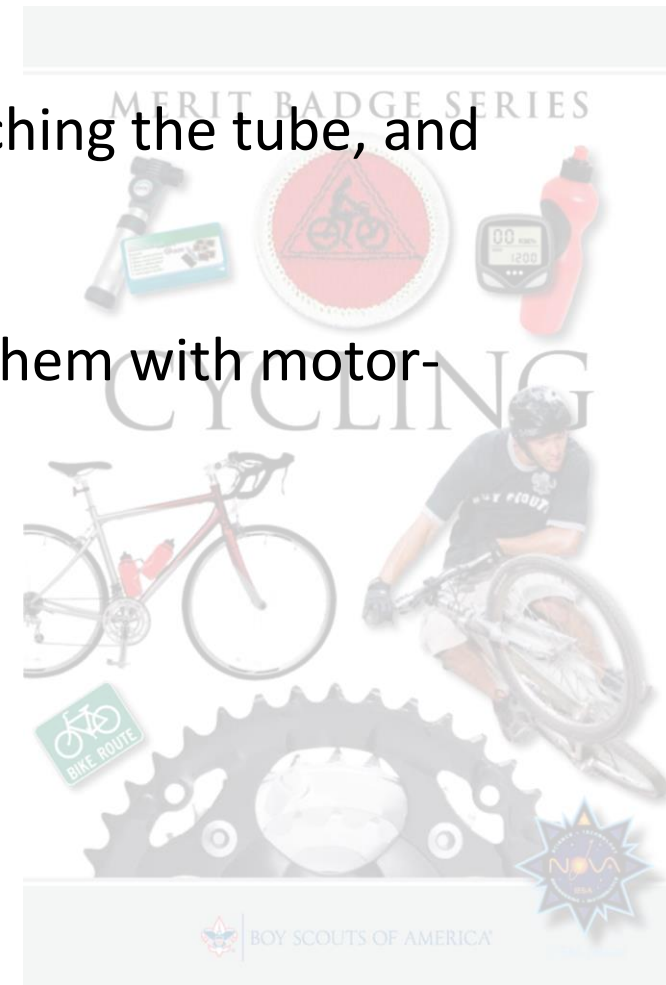
2. Clean and adjust a bicycle. Prepare it for inspection using a bicycle safety checklist. Be sure the bicycle meets local laws.
3. Show your bicycle to your counselor for inspection. Point out the adjustments or repairs you have made. Do the following:
 - a. Show all points that need regular lubrication.
 - b. Show points that should be checked regularly to make sure the bicycle is safe to ride.
 - c. Show how to adjust brakes, seat level and height, and steering tube.



Requirements

Requirements

4. Describe how to brake safely with foot brakes and with hand brakes.
5. Show how to repair a flat by removing the tire, replacing or patching the tube, and remounting the tire.
6. Describe your state and local traffic laws for bicycles. Compare them with motor-vehicle laws.



Requirements

Requirements

7.* Using the BSA buddy system, complete all of the requirements for ONE of the following options: road biking OR mountain biking.

Option A: Road Biking

Option B: Mountain Biking



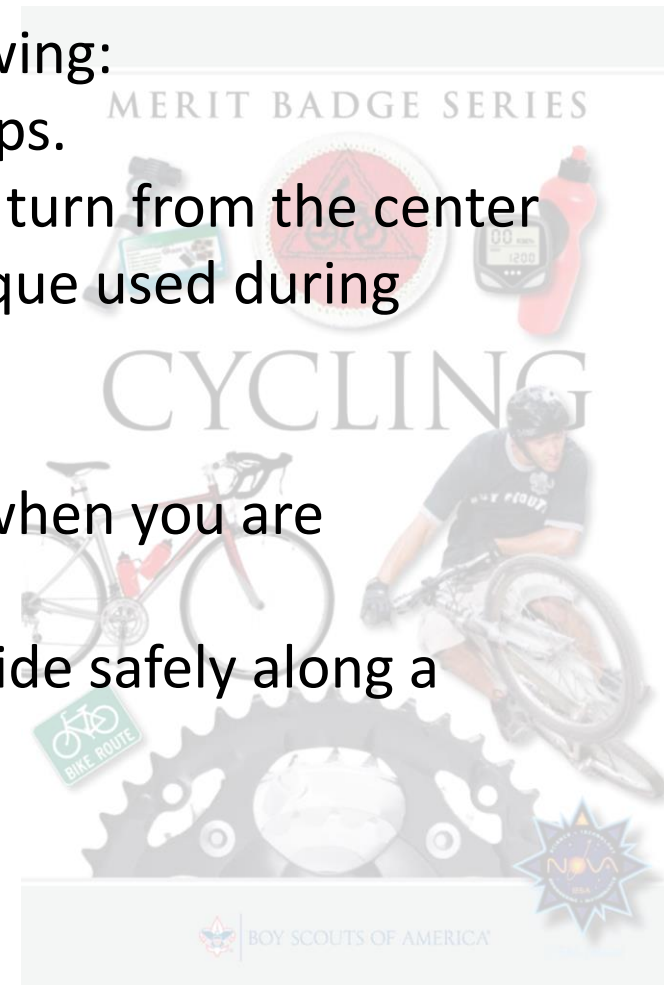
Requirements

Requirements

7. Option A: Road Biking

a. Take a road test with your counselor and demonstrate the following:

- (1) Properly mount, pedal, and brake, including emergency stops.
- (2) On an urban street with light traffic, properly execute a left turn from the center of the street; also demonstrate an alternate left-turn technique used during periods of heavy traffic.
- (3) Properly execute a right turn.
- (4) Demonstrate appropriate actions at a right-turn-only lane when you are continuing straight.
- (5) Show proper curbside and road-edge riding. Show how to ride safely along a row of parked cars.
- (6) Cross railroad tracks properly.



Requirements

Requirements

7. Option A: Road Biking

- b. Avoiding main highways, take two rides of 10 miles each, two rides of 15 miles each, and two rides of 25 miles each. You must make a report of the rides taken. List dates for the routes traveled, and interesting things seen.
- c. After completing requirement b for the road biking option, do ONE of the following:
- (1) Lay out on a road map a 50-mile trip. Stay away from main highways. Using your map, make this ride in eight hours.
 - (2) Participate in an organized bike tour of at least 50 miles. Make this ride in eight hours. Afterward, use the tour's cue sheet to make a map of the ride.



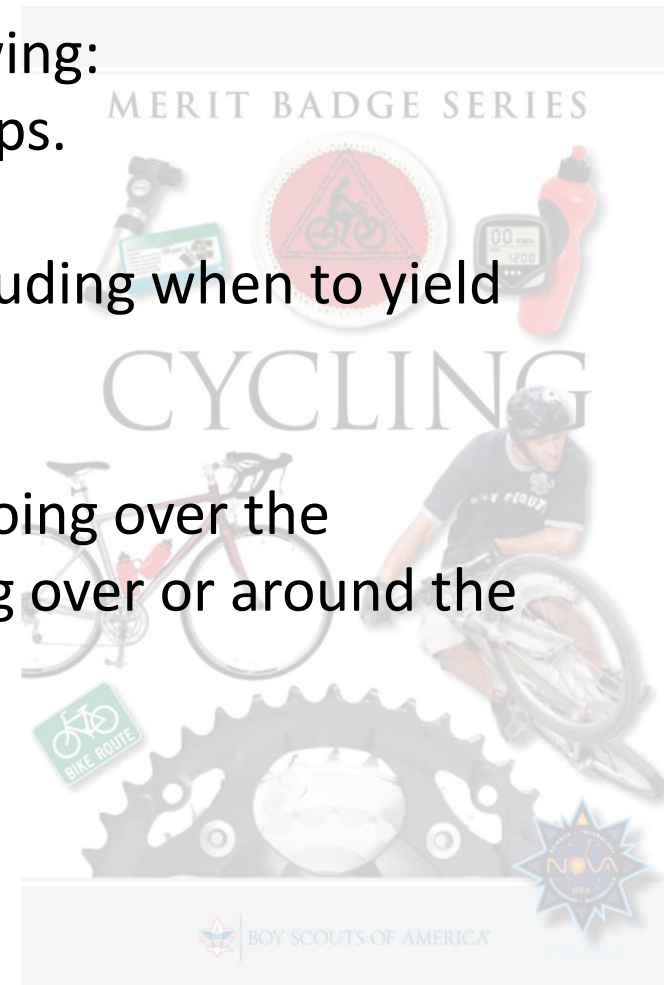
Requirements

Requirements

7. Option B: Mountain Biking

a. Take a trail ride with your counselor and demonstrate the following:

- (1) Properly mount, pedal, and brake, including emergency stops.
- (2) Show shifting skills as applicable to climbs and obstacles.
- (3) Show proper trail etiquette to hikers and other cyclists, including when to yield the right-of-way.
- (4) Show proper technique for riding up and down hills.
- (5) Demonstrate how to correctly cross an obstacle by either going over the obstacle on your bike or dismounting your bike and crossing over or around the obstacle.
- (6) Cross rocks, gravel, and roots properly.

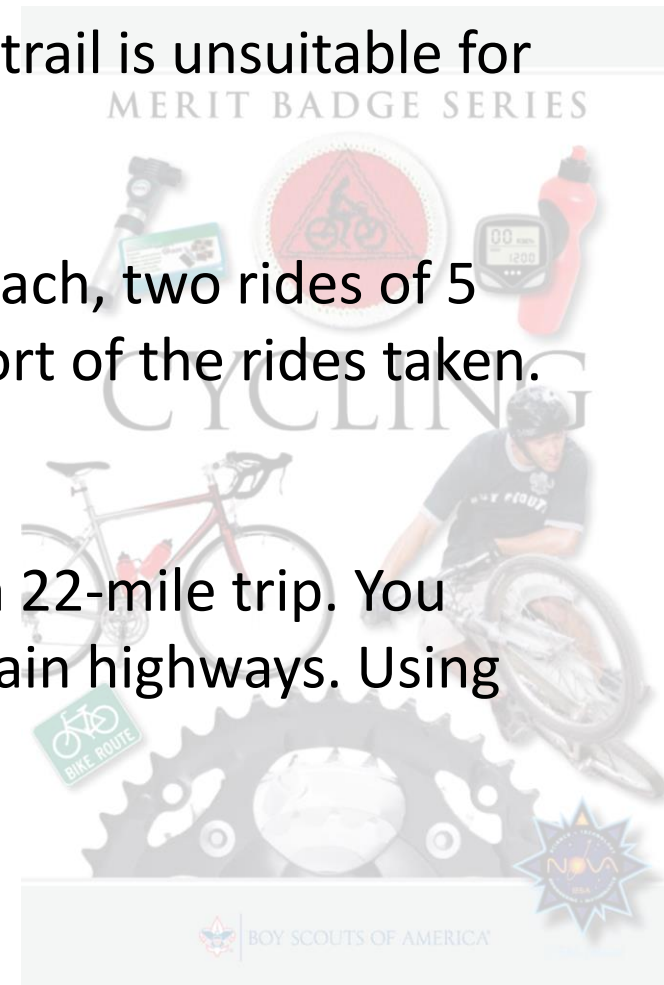


Requirements

Requirements

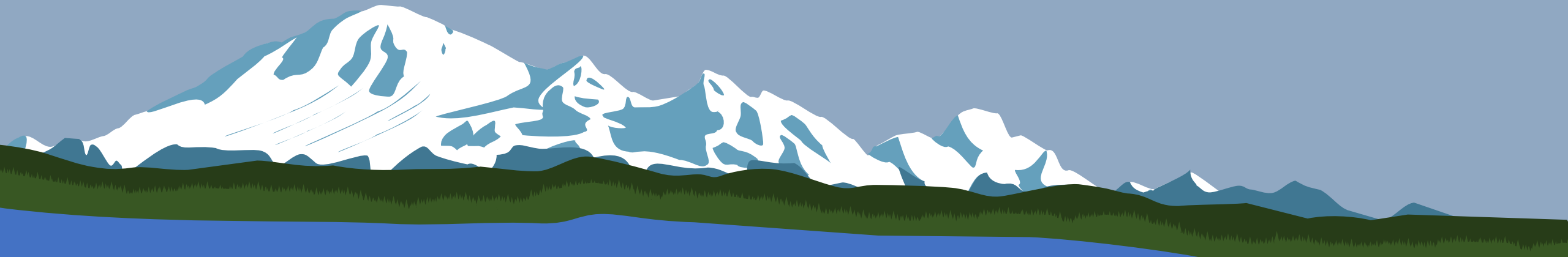
7. Option B: Mountain Biking

- b. Describe the rules of trail riding, including how to know when a trail is unsuitable for riding.
- c. On trails approved by your counselor, take two rides of 2 miles each, two rides of 5 miles each, and two rides of 8 miles each. You must make a report of the rides taken. List dates for the routes traveled, and interesting things seen.
- d. After fulfilling the previous requirement, lay out on a trail map a 22-mile trip. You may include multiple trail systems, if needed. Stay away from main highways. Using your map, make this ride in six hours.





Merit Badge Intro



Merit Badge Intro

Instructor Introduction



Merit Badge Intro

Needed for Course

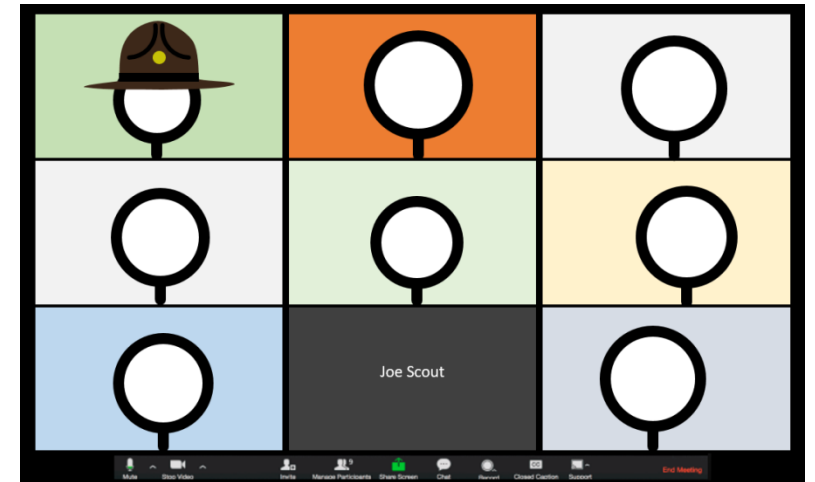
- Merit Badge Blue Card filled out and signed by your Scoutmaster
 - or other virtual agreement
- Merit Badge Pamphlet
- Scout Uniform
- A positive Scouting focus and attitude



Merit Badge Intro

Virtual Meetings

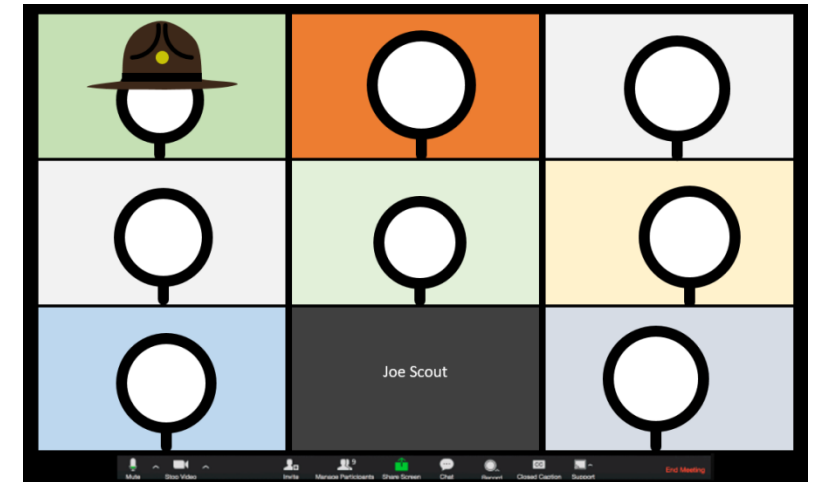
- Use your **REAL Name** and **Troop Number** if you want credit
This is how we take attendance
- MUTE yourself unless speaking to the group
- Please turn your video on so we can see you
- No Chat SPAMMING
- If you need to go pee, go
- If something isn't working, please let us know!



Merit Badge Intro

Virtual Meetings

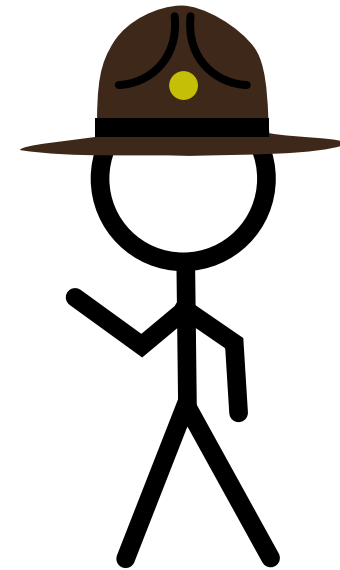
- We can't do ALL the requirements virtually
- Option 1 – Partial Completion
- Option 2 – Completion – need proof
- Please send completed homework **AFTER** the final class
- Tell us who we should CC about completion



Merit Badge Intro

Course Overview

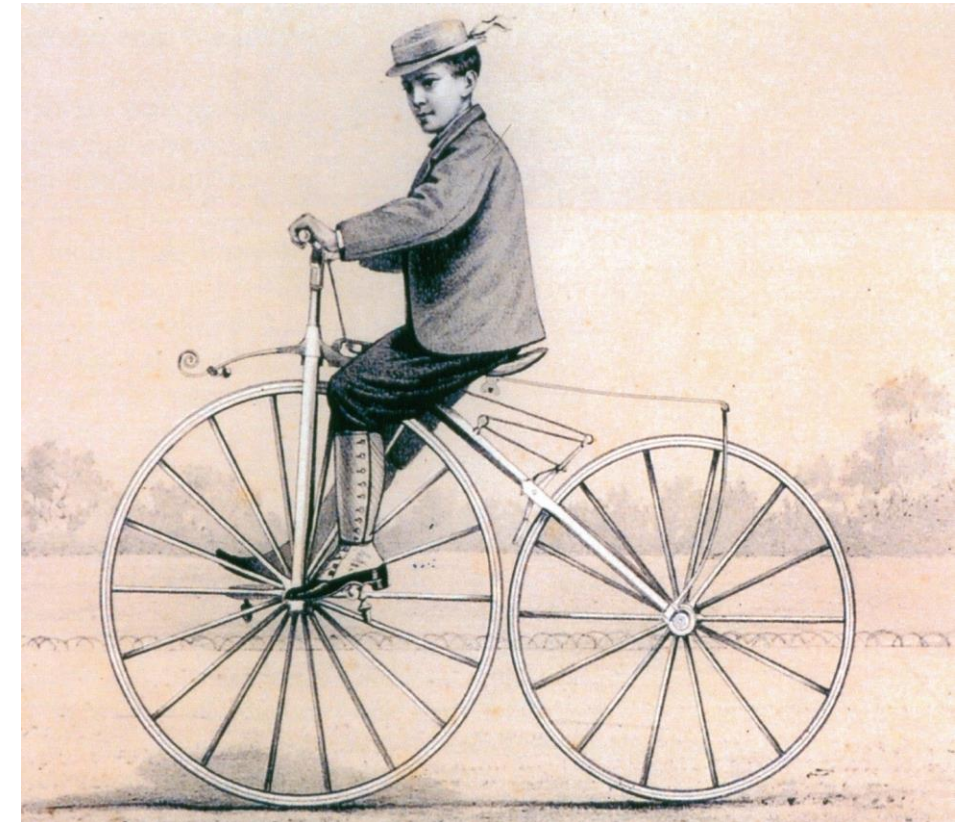
- We will cover most of the requirements for this Merit Badge in class
- We need proof that you completed these requirements
 - Please turn in a completed [Workbook](#) if possible
This makes is easier on the counselor
 - If you can't complete a [Workbook](#), please contact your councilor for alternatives



Merit Badge Intro

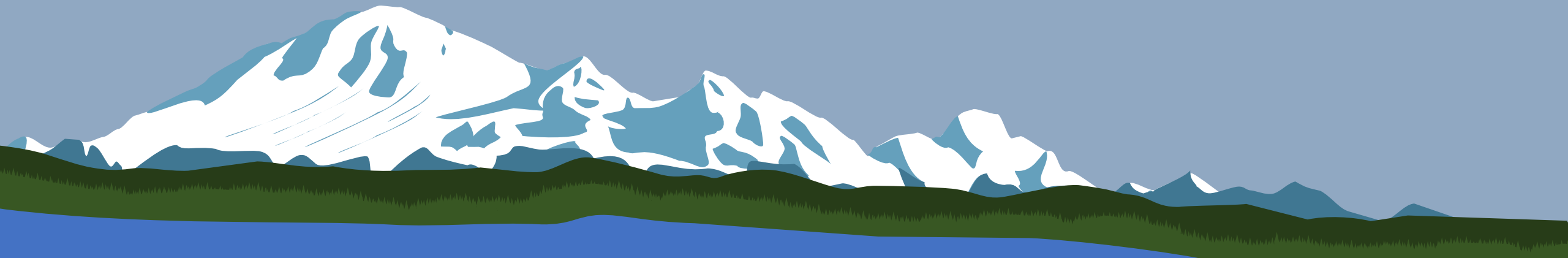
What is Cycling?

- Since its introduction in the 1800s, bicycle have been hugely popular





Hazards



Requirements

Requirement 1a – Hazards

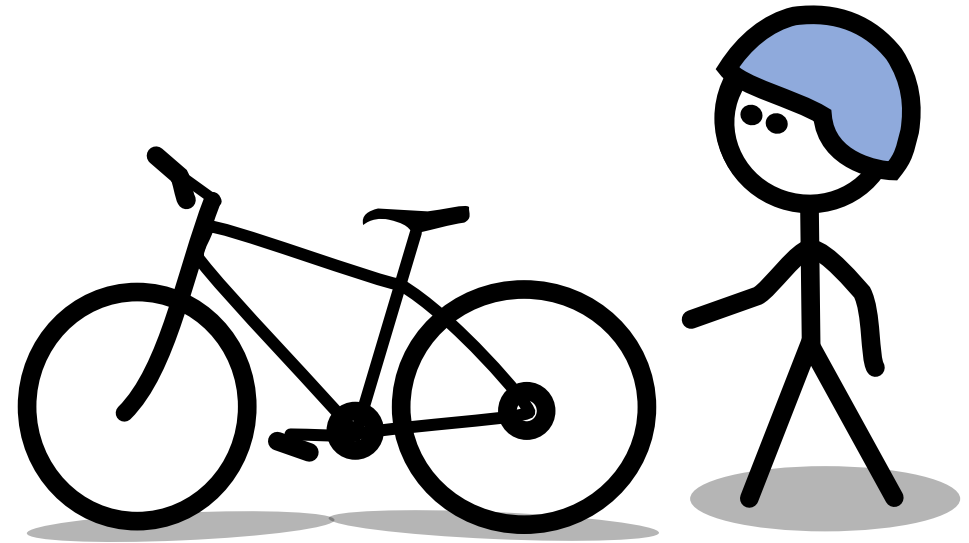
Explain to your counselor the most likely hazards you may encounter while participating in cycling activities and what you should do to anticipate, help prevent, mitigate, and respond to these hazards.



Hazards

Hazards

- Environmental
- Injuries
- Flora
- Fauna
- Traffic
- Trail



Hazards

Hazards - Environmental

- **Cold Temperatures** come with increased risk of Cold Injuries
 - Discussed in First-Aid Section
 - Planning for proper clothing and shelter will help prevent injuries
 - Wear synthetic clothing – this doesn't retain very much water
 - Don't wear cotton in the cold – it holds water close to your body
 - Dress in layers – this make it easy to adjust insulation

Hazards

Hazards - Environmental

- **Hot Temperatures** come with the risk of Heat Injuries
 - Discussed in First-Aid Section
 - Balancing of work load is vital
 - Pushing through the heat is dangerous
 - Know when to take a brake or when to stop an activity
 - Hydration is vital in hot environments
 - Make sure you are staying hydrated
 - Plan for water stops as needed
 - Covering exposed skin will keep you cooler when exposed to the hot sun
 - Shelter selection helps reduce risk of injury

Hazards

Hazards – Environmental – Rain

- Rain, even in the tropics, increases the risk of hypothermia
- Be prepared to possible storms
- Have rain gear readily available
- If the storm is really bad, consider setting up shelters
- Help others in crew get into shelter and get dry

Hazards

Hazards – Environmental – Snow

- Snow is fine, but it melts
- Melted snow is dangerous for those who are unprepared
- Pack the proper gear if subfreezing temps are anticipated

Hazards

Hazards – Environmental – Lighting

- Lighting is deadly
- “When Lighting Roars, Go Indoors”
- Tents do NOT protect you from lighting
- Goal:
 - Get into grounded building
 - Get into metal hardtop vehicle
 - If these options not available
 - Get off high ground
 - Open areas



Hazards

Hazards – Injuries

- Safe activities should be selected
- Use appropriate safety gear and supervision
- Follow safety guidelines
- Know how to treat injuries

Hazards

Hazards – Flora

- Know about potential plant hazards in area
- Contact poisoning is a concern
 - Poison Oak
 - Poison Ivy
- Know of any poisonous plants that may be eaten
 - Many poisonous berries look very inviting
 - Know how to identify poisonous plants
 - Don't consume or touch them

Hazards

Hazards – Fauna

- Know of hazardous animal life in your area
- Some animals will attack
 - Don't approach animals
 - Know what actions to take with each animal hazard
- Some bugs bite
 - Discussed in First-Aid section
 - Wear clothing that covers your skin and use insect repellent
- Venomous Snakes and other animals may be in your area
 - Know how to identify them
 - Avoid them
 - Know how to treat envenomation

Hazards

Hazards – Traffic

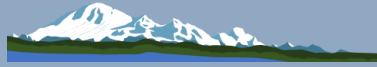
- One of the most dangerous hazards a cyclist will encounter is traffic
 - Drivers are not always paying attention
 - It can be hard for drivers to see cyclists
 - Drivers have been known to hit bikes intentionally
- Watch out, especially for oncoming traffic that is turning left

Hazards

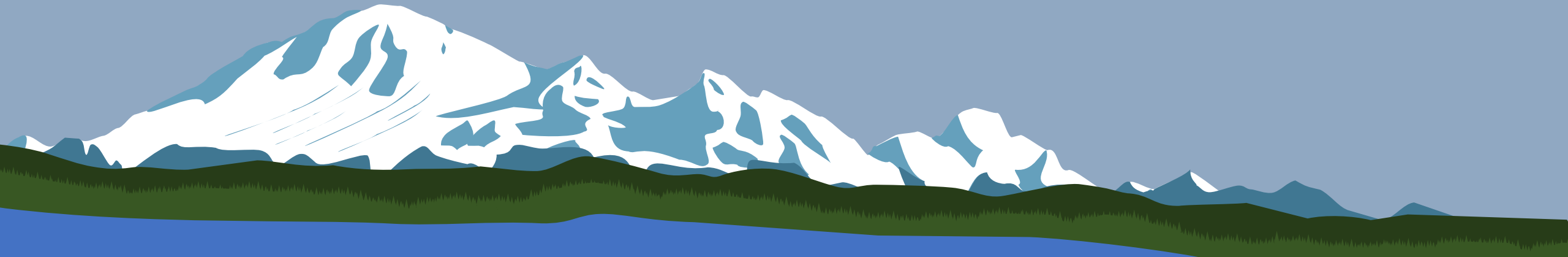
Hazards – Trail

- Trails and roads are not always maintained can may be damaged
- Here are some potential hazards:
 - Potholes
 - Cracks
 - Railroad Track
 - Tar snakes
 - Gravel
 - Debris
 - Roadkill
 - Fallen trees
 - Washouts

- [1. Merit Badge Requirements](#)
- [2. Merit Badge Intro](#)
- [3. Badges](#)
- [4. First Aid](#)
- [5. Safety](#)
- [6. The Bike](#)
- [7. Final Thoughts](#)
- [8. Resources](#)
- [9. Instructor's Corner](#)



First Aid



Requirements

Requirement 1b – First Aid

Show that you know first aid for injuries or illnesses that could occur while cycling, including

- Cuts
- Scratches
- Blisters
- Sunburn
- Heat exhaustion
- Heatstroke
- Hypothermia
- Frostbite
- Dehydration
- Insect stings
- Tick bites
- Snakebite

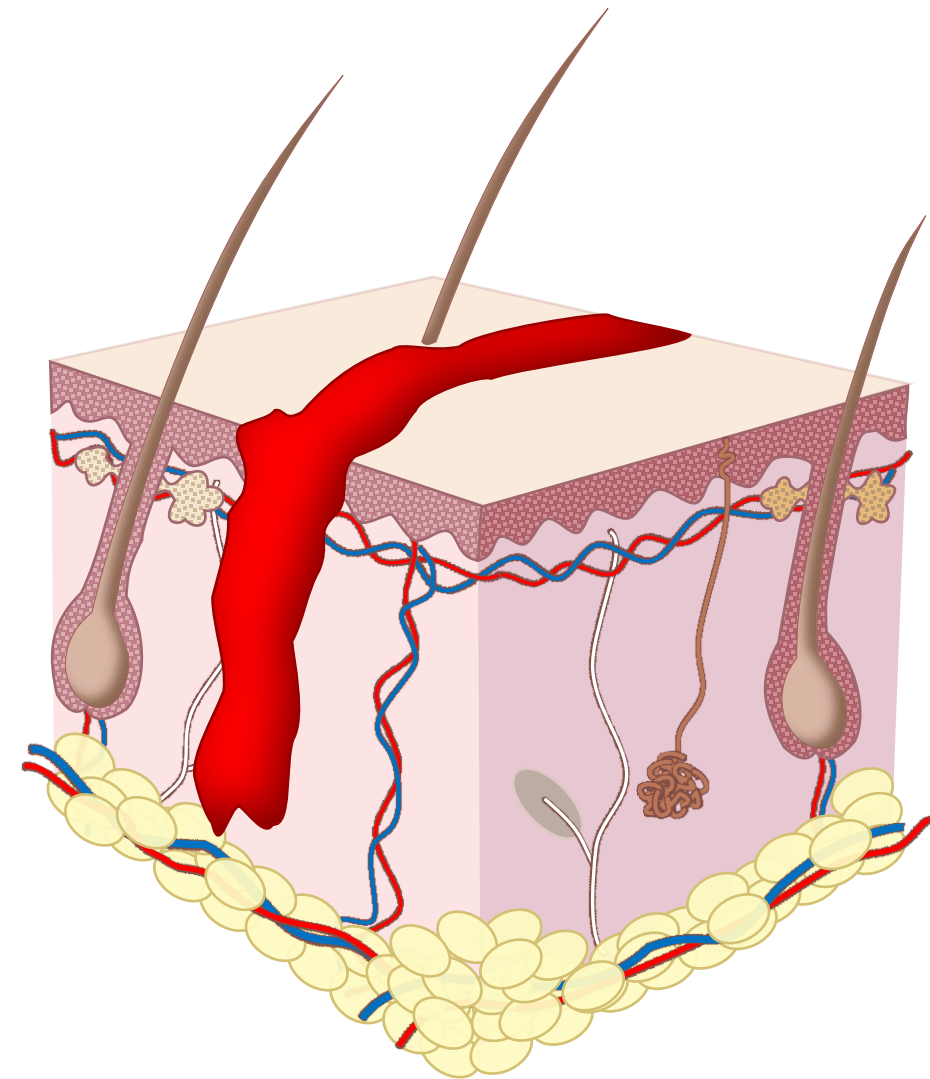
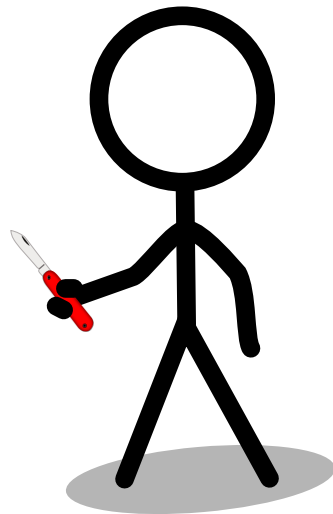
Explain to your counselor why you should be able to identify the poisonous plants and poisonous animals that are found in your area.



Minor Wounds and Injuries

Simple Cuts and Scrapes (Abrasions)

- **Cut** – outer layers of skin is torn or lacerated
 - May bleed a lot
 - Risk of infection
 - Commonly associated with scout knife



Minor Wounds and Injuries

Simple Cuts and Scrapes (Abrasions)

- **Abrasion** – outer layers of skin rubbed or scraped off
 - Such as when bicyclist falls on pavement
 - Risk of infection

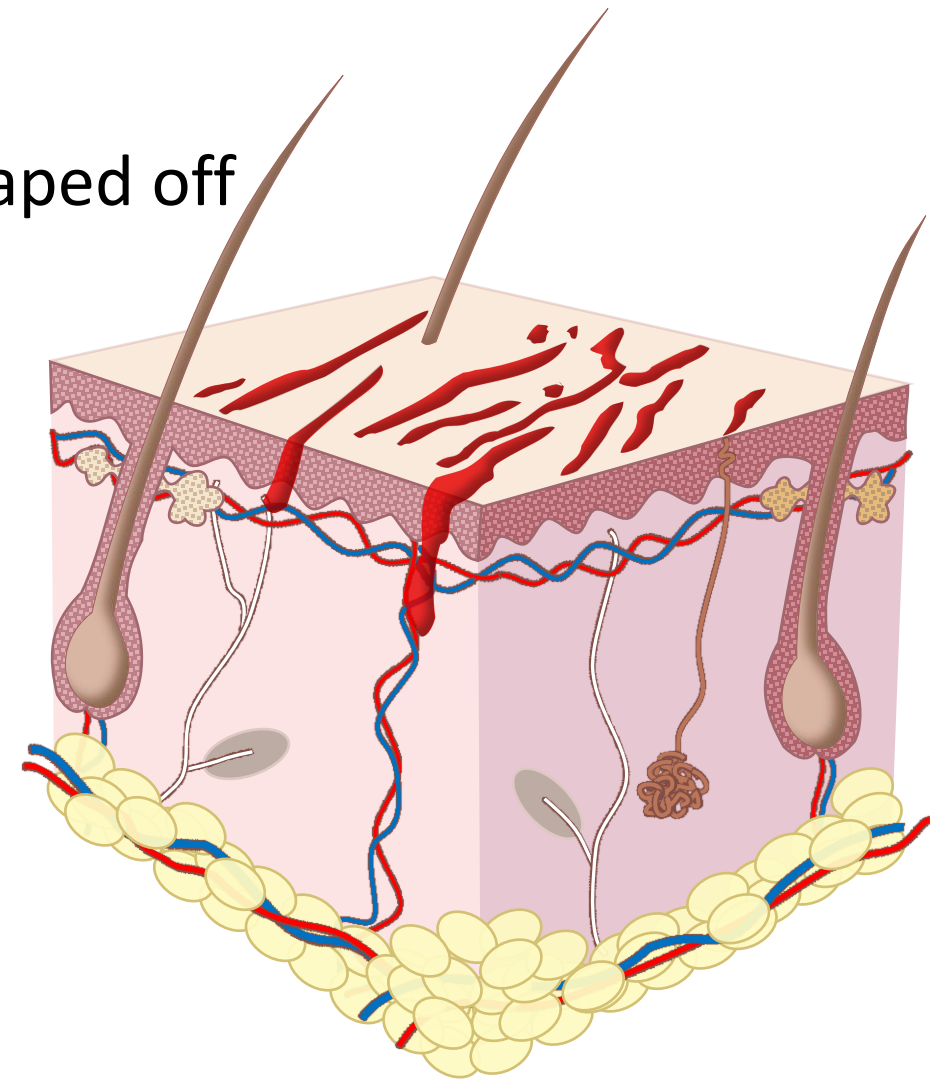
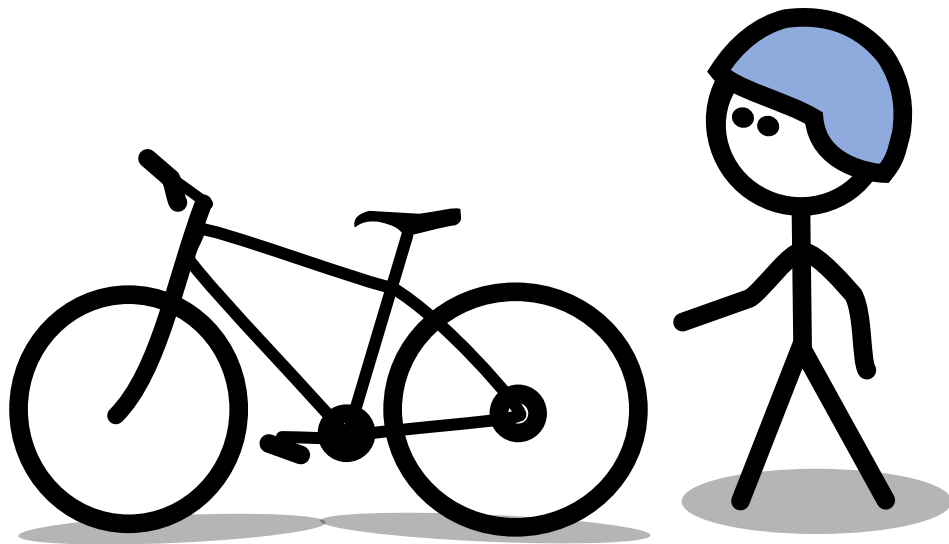


Image Source: U.S. Army Medical Department Center and School Fort Sam Houston, TX 78234-6100 Wound Care Subcourse MD0576

Minor Wounds and Injuries

Simple Cuts and Scrapes (Abrasions)

- **Prevention** (cuts and abrasions)
 - Dress appropriately for activity
 - Jeans, boots, gloves, long sleeved shirts
 - Knife safety

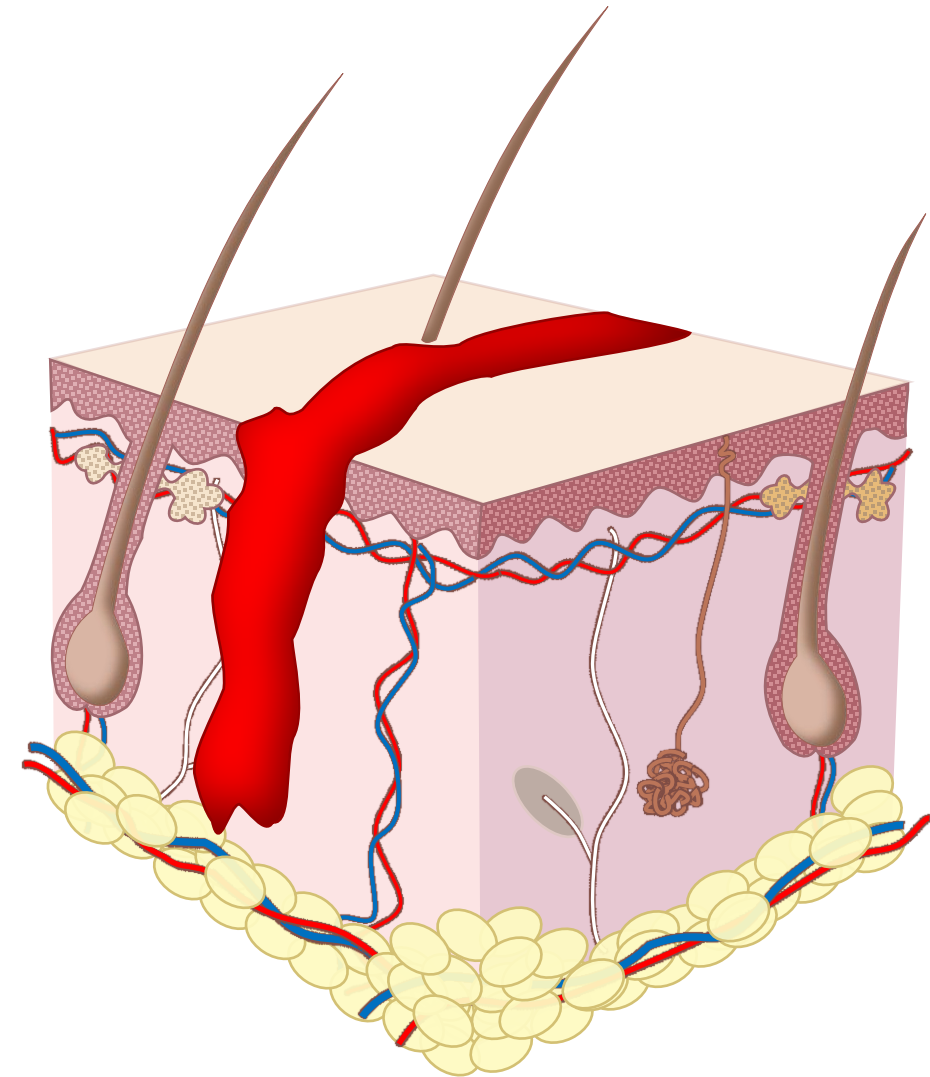
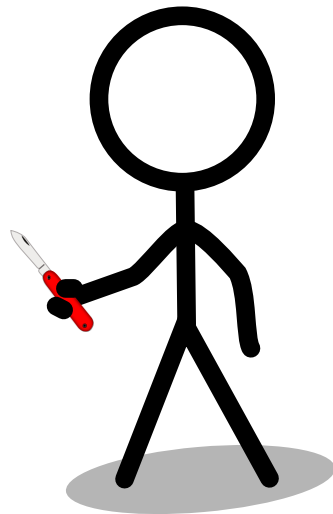
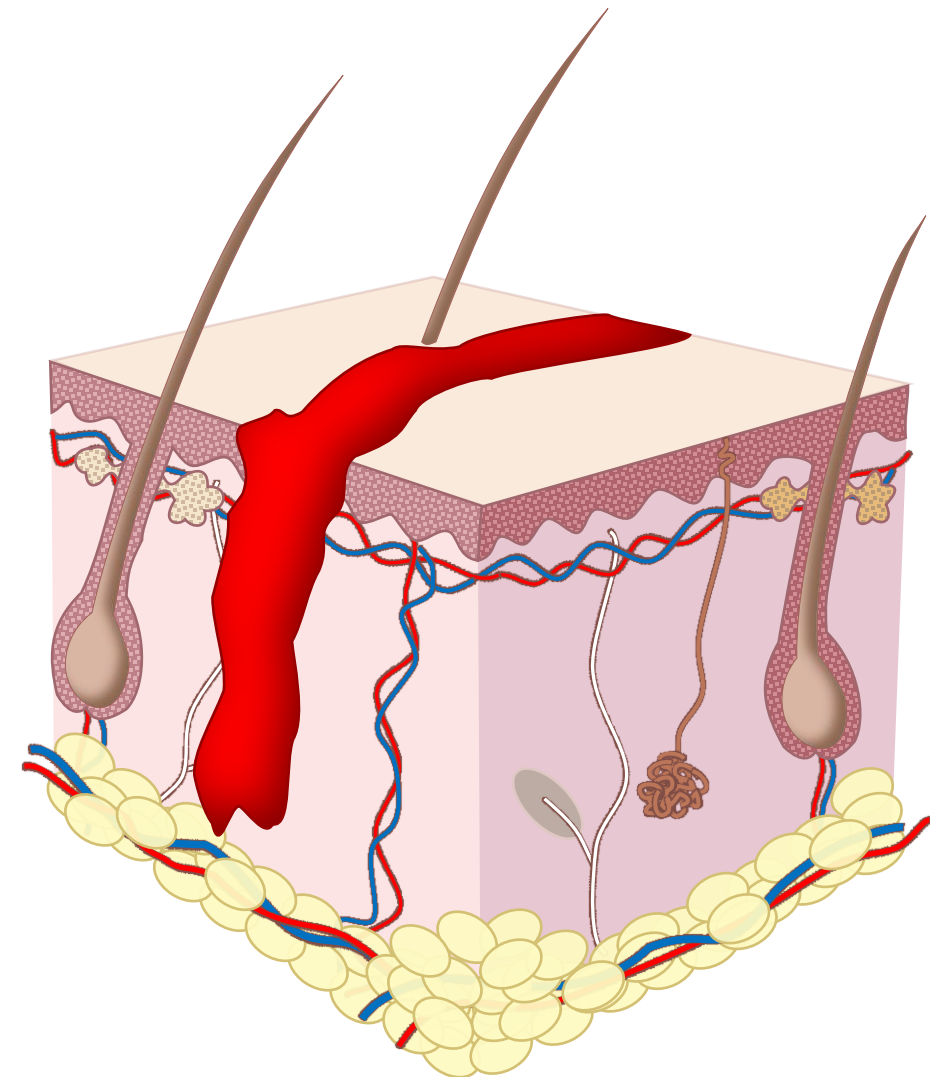
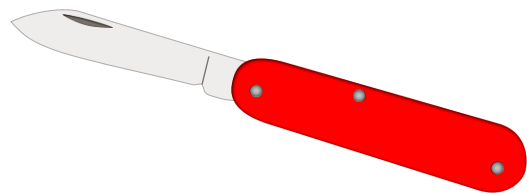


Image Source: U.S. Army Medical Department Center and School Fort Sam Houston, TX 78234-6100 Wound Care Subcourse MD0576

Minor Wounds and Injuries

Simple Cuts and Scrapes (Abrasions)

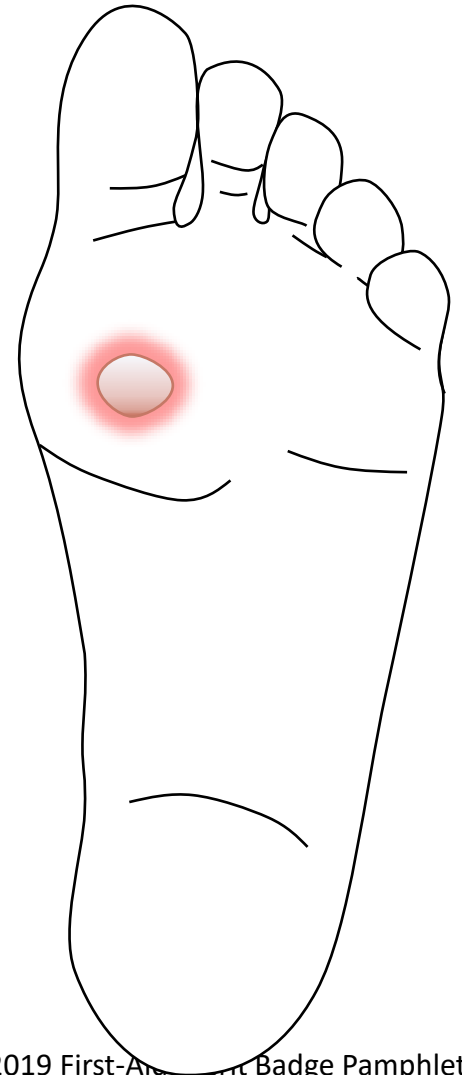
- **First-Aid** (cuts and abrasions)
 - Flush with water for at least 5 minutes
 - Scrub gently if needed
 - Apply antibiotic ointment
 - Cover with dry, sterile dressing or adhesive bandage



Minor Wounds and Injuries

Blisters on the Hand and Foot

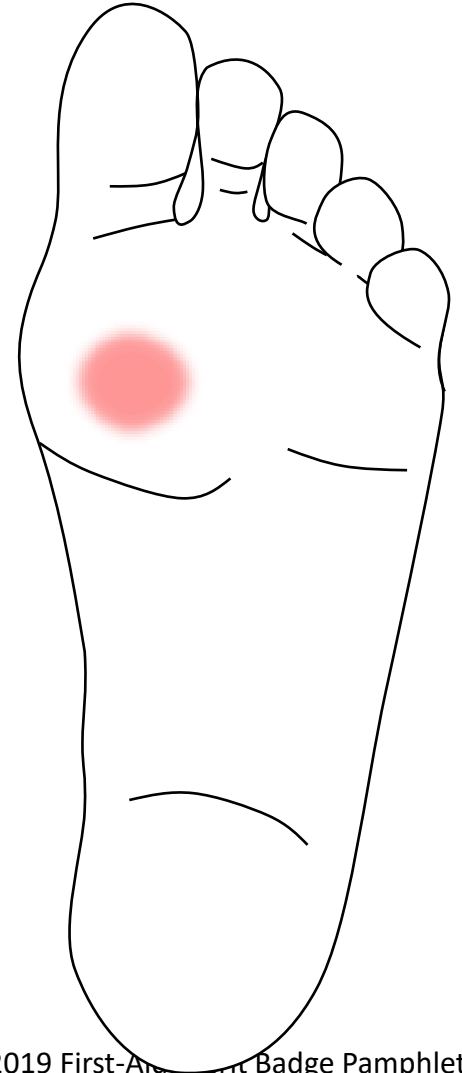
- Often referred to as “Friction Blisters”
- Blisters may form on hands if doing heavy or repetitive work
- Foot blisters are a common backpacking injury



Minor Wounds and Injuries

Blisters on the Hand and Foot – Hot Spot

- **Hot Spot** – tender area before blister begins to form
 - Stop immediately!
 - Treat this before it becomes a blister



Minor Wounds and Injuries

Blisters on the Hand and Foot – Hot Spot

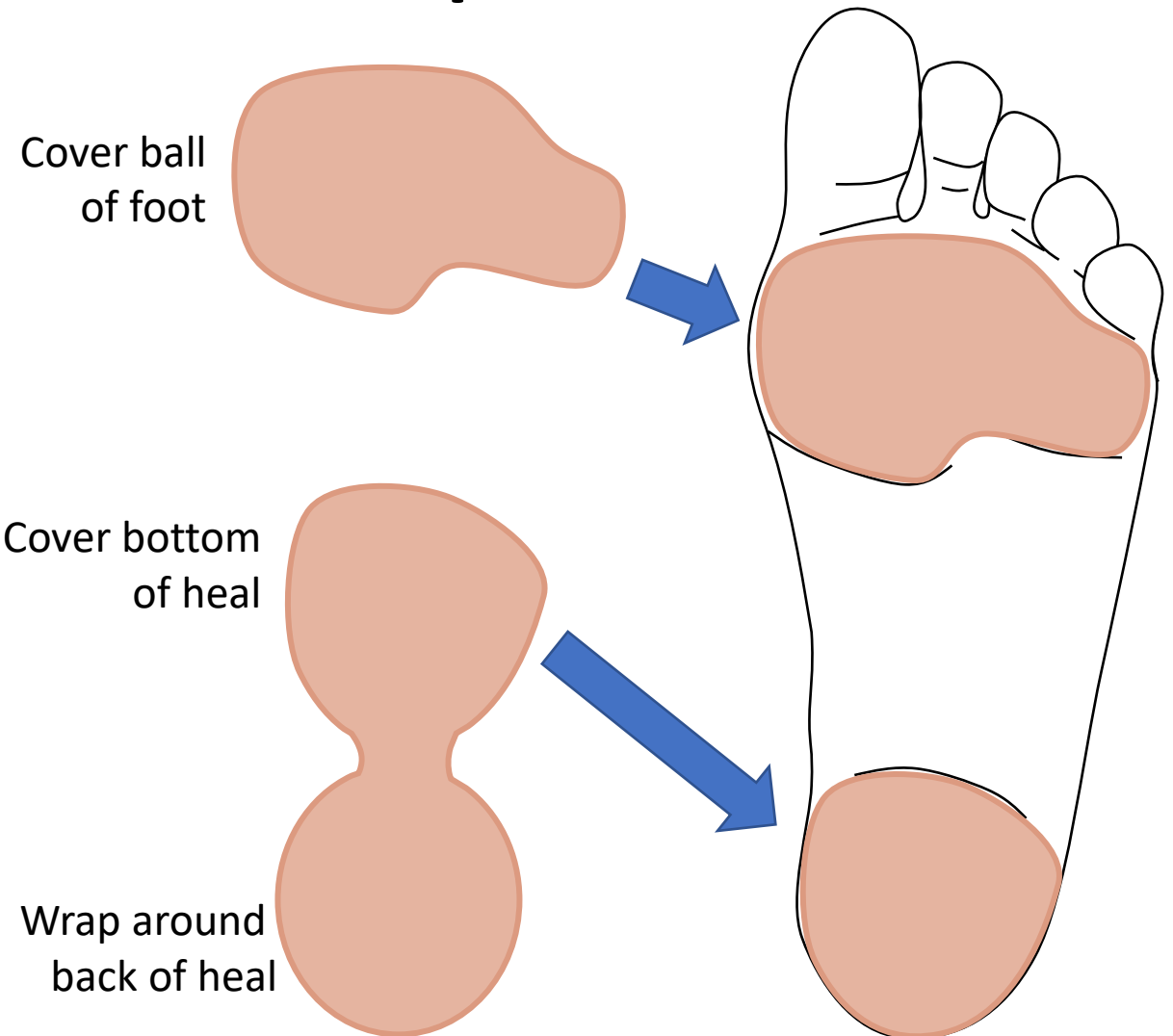
- **Hot Spot First-Aid**

Know your feet

Know your Hot Spots

Moleskin **BEFORE**
and prevent blisters

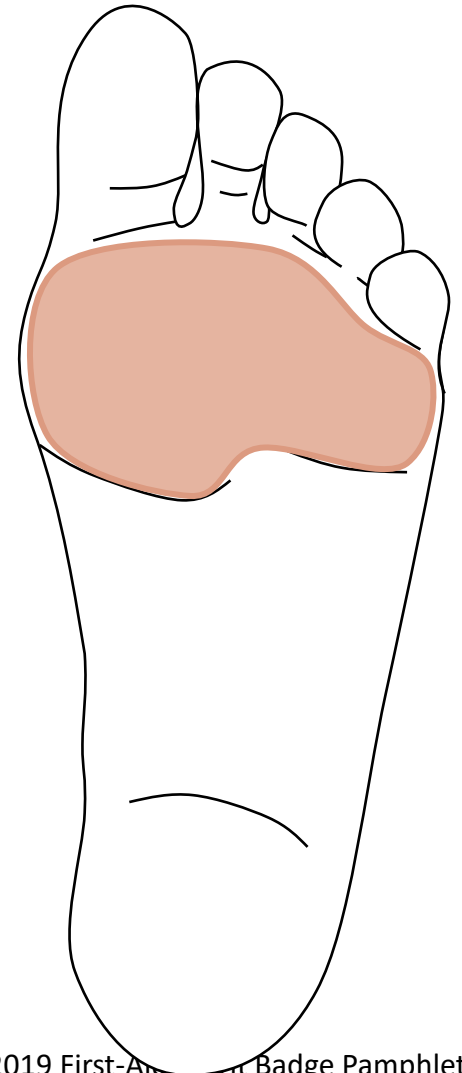
No Wrinkles!



Minor Wounds and Injuries

Blisters on the Hand and Foot

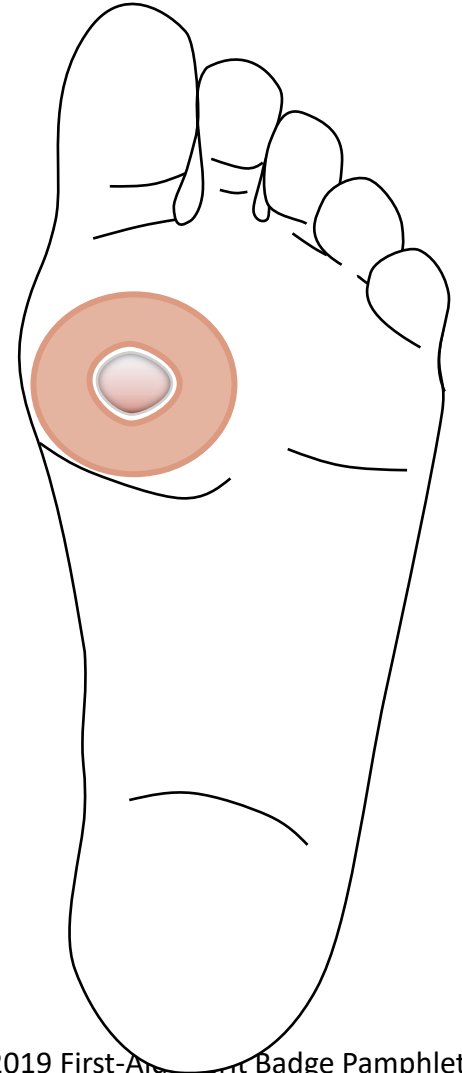
- **Prevention - Hand**
 - Wear gloves when working
- **Prevention - Foot**
 - Wear shoes or boots that fit
 - Change socks if become wet or sweaty
 - Treat Hot Spots early



Minor Wounds and Injuries

Blisters on the Hand and Foot

- **First-Aid**
 - Moleskin donut around blister
 - This reduces pressure on blister
 - Special blister products can help
 - SecondSkin
 - Blist-O-Ban





Minor Wounds and Injuries

Blisters on the Hand and Foot - Special

- **Expanding Blister**
 - If you must continue to walk with a blister, it may expand or rupture
 - At times, it will be better to preemptively drain it
 - This needs to be done as cleanly as possible
 - There is still a risk of infection as drainage creates an entrance through the skin

Minor Wounds and Injuries

Blisters – Drainage

- Clean, Decompress and Dress

Clean Area

- Soap and water is fine
- Betadine is better
- Wipe with alcohol

Sterilize Needle

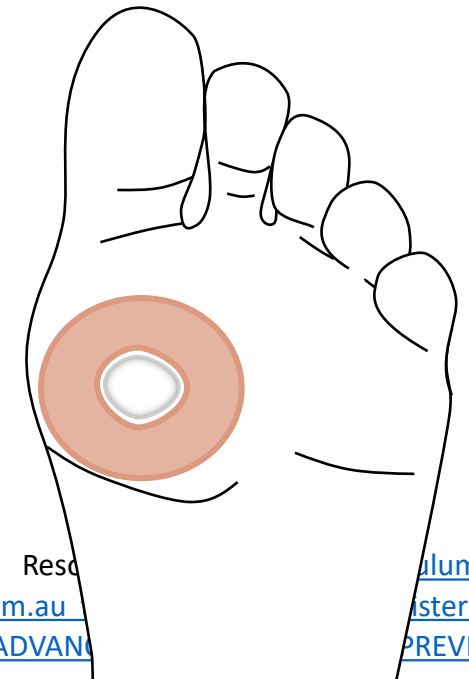
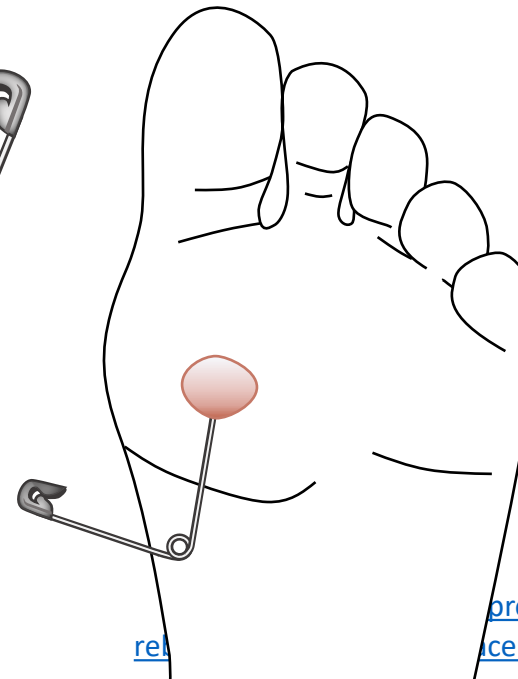
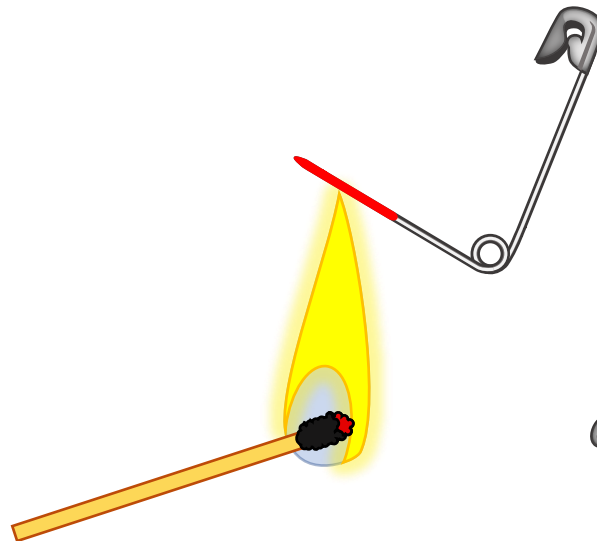
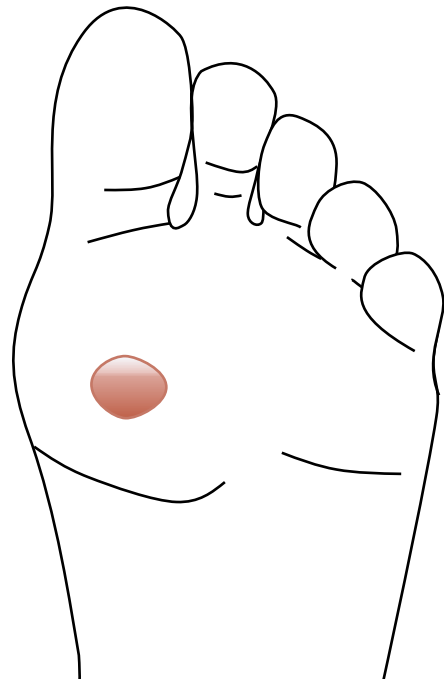
- Heat until red
(and allow to cool)
- or Use rubbing alcohol

Pierce Blister

- Pierce base of blister
- Make one or more holes
- Avoid Cutting with knife

Cover Blister

- Ideally first use Paper Tape
- then Tincture of Benzoin
- then Moleskin or Flex Tape

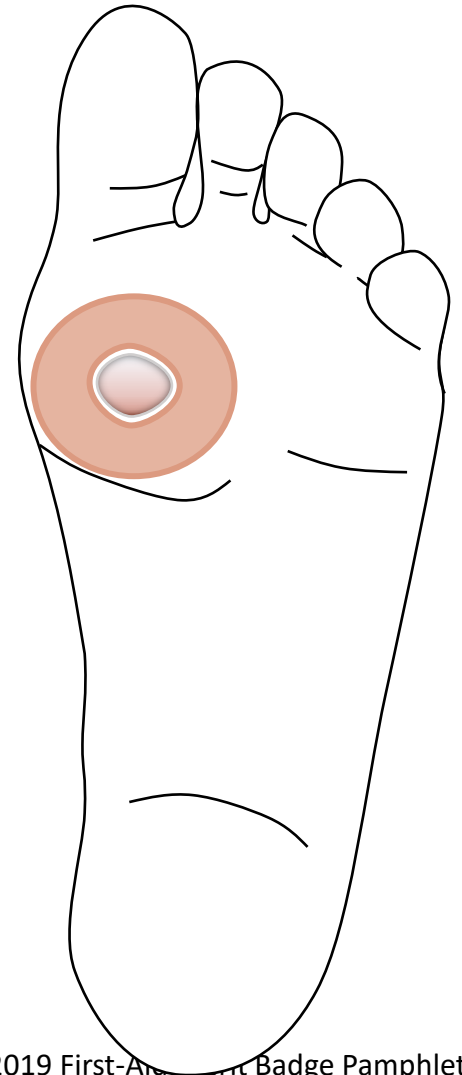




Minor Wounds and Injuries

Blisters on the Hand and Foot - Special

- **Ruptured Blisters**
 - Blisters should be kept intact if possible
 - Ruptured blisters are at high risk of infections
 - **First-Aid** – keep them clean and treat as a cut

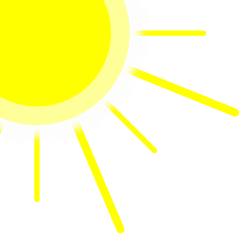




Minor Wounds and Injuries

Blisters on the Hand and Foot - Special

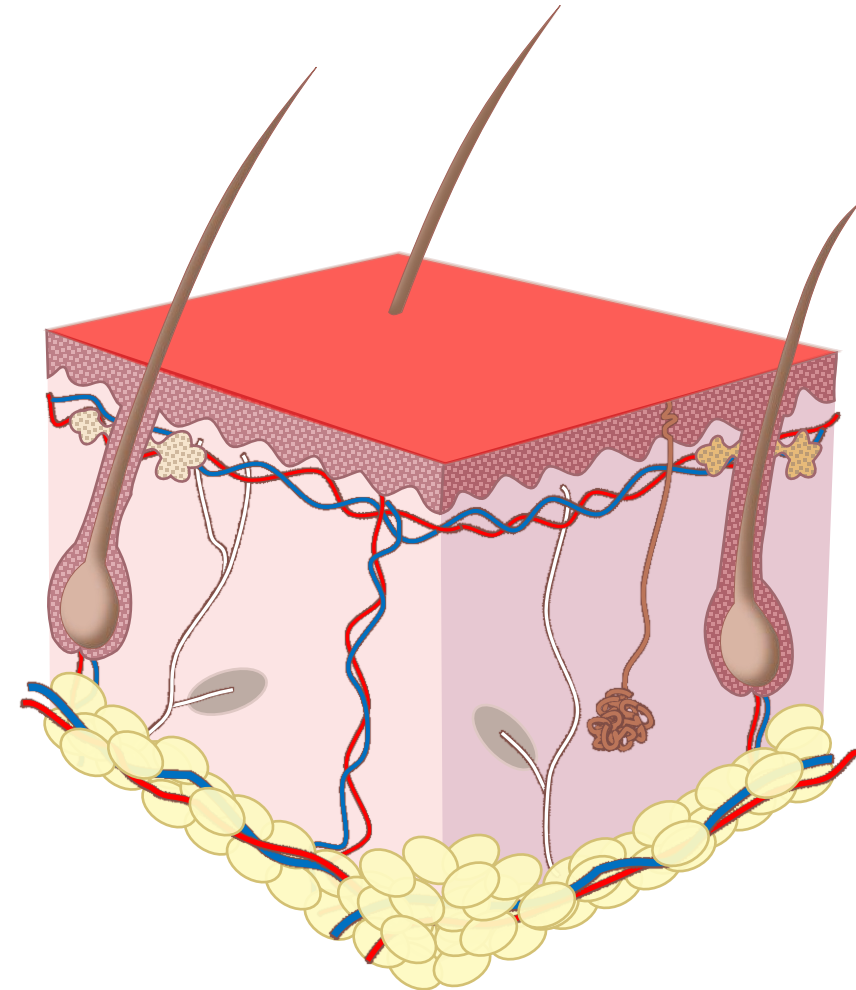
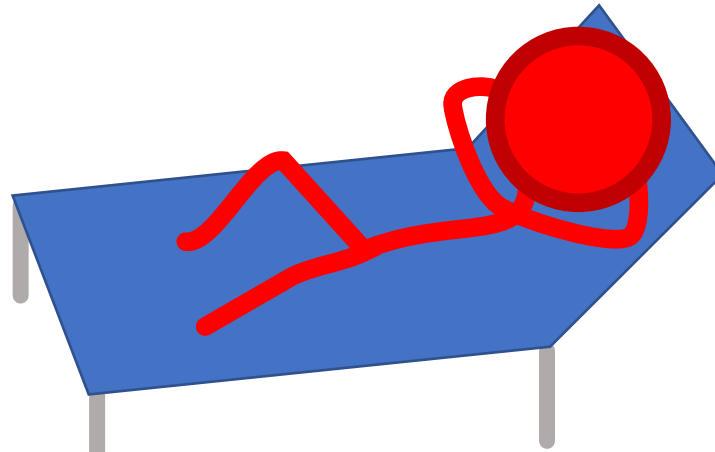
- **Blister or open wound of foot and Diabetes**
 - People with diabetes are at risk of severe complications
 - They should follow up with a medical provider if they have a wound on their foot



Sun Burns

Burns – Severity – 1st Degree Sunburn

- Only affects the outer most layer of skin
- **Symptoms**
 - Painful
 - Reddened skin



Sun Burns

Burns – Severity – 1st Degree Sunburn

- **First-Aid**
 - Generally does not require medical treatment unless
 - Covers more than 20% body surface

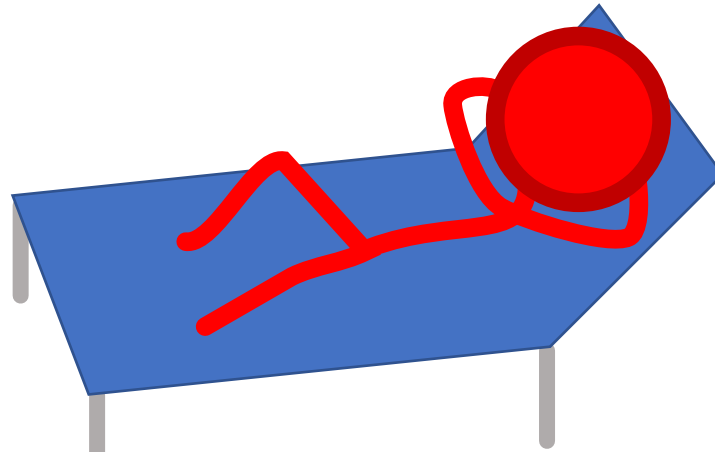
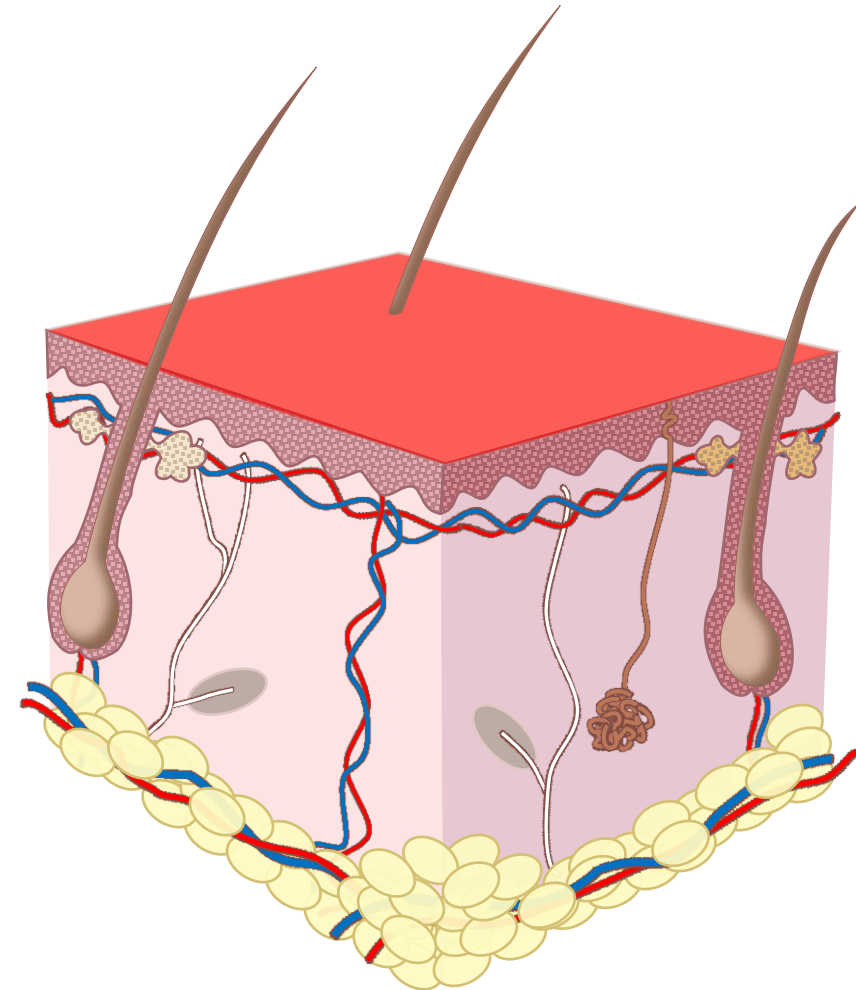


Image Source: U.S. Army Medical Department Center and School Fort Sam Houston, TX 78234-6100 Wound Care Subcourse MD0576



Sun Burns

Burns – Severity – 1st Degree Sunburn

- **First-Aid**
 - Best Treatment
 - Avoidance and prevention
 - Cover exposed skin

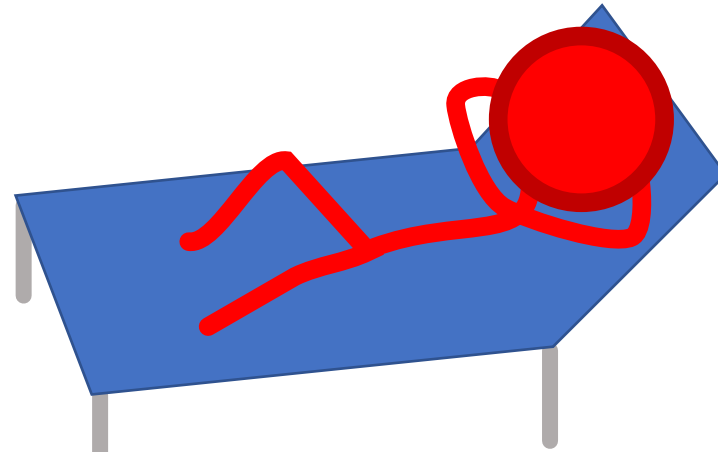
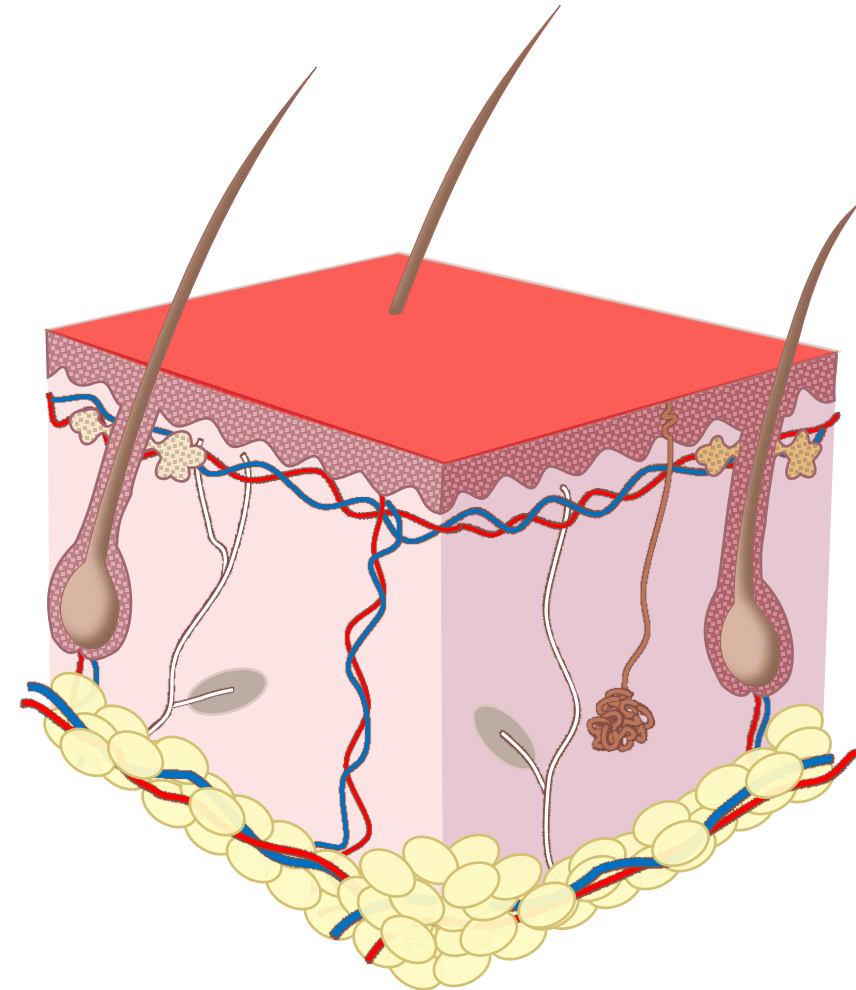


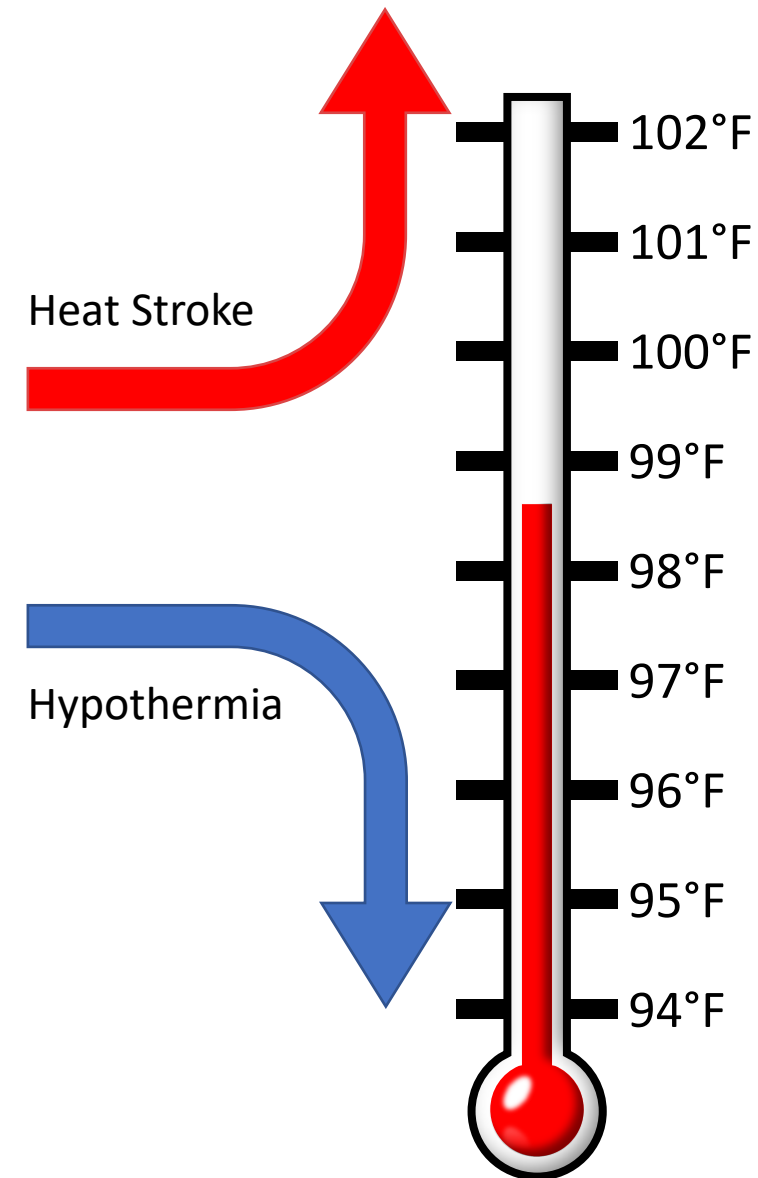
Image Source: U.S. Army Medical Department Center and School Fort Sam Houston, TX 78234-6100 Wound Care Subcourse MD0576



Cold Weather Injuries

Body Temperature

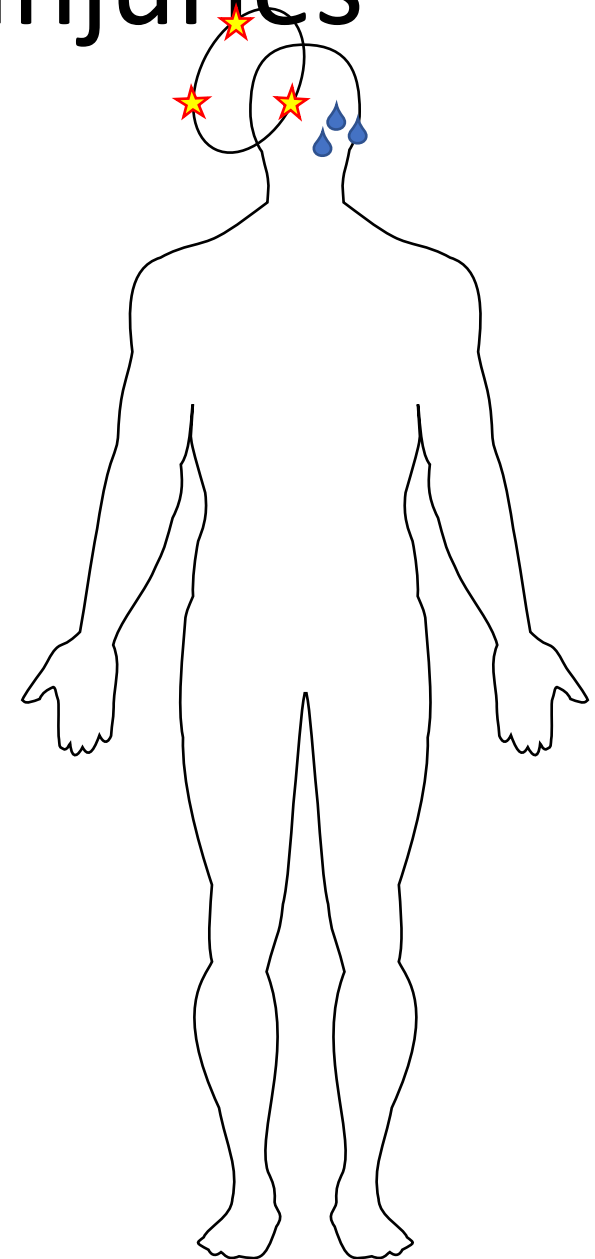
- The human body operates best around 98.6°F
- If body loses heat faster than it can generate it, it will fail to function
- If body overheats and is unable to cool itself, it will fail to function



Cold & Heat Conditions & Injuries

Heat Exhaustion

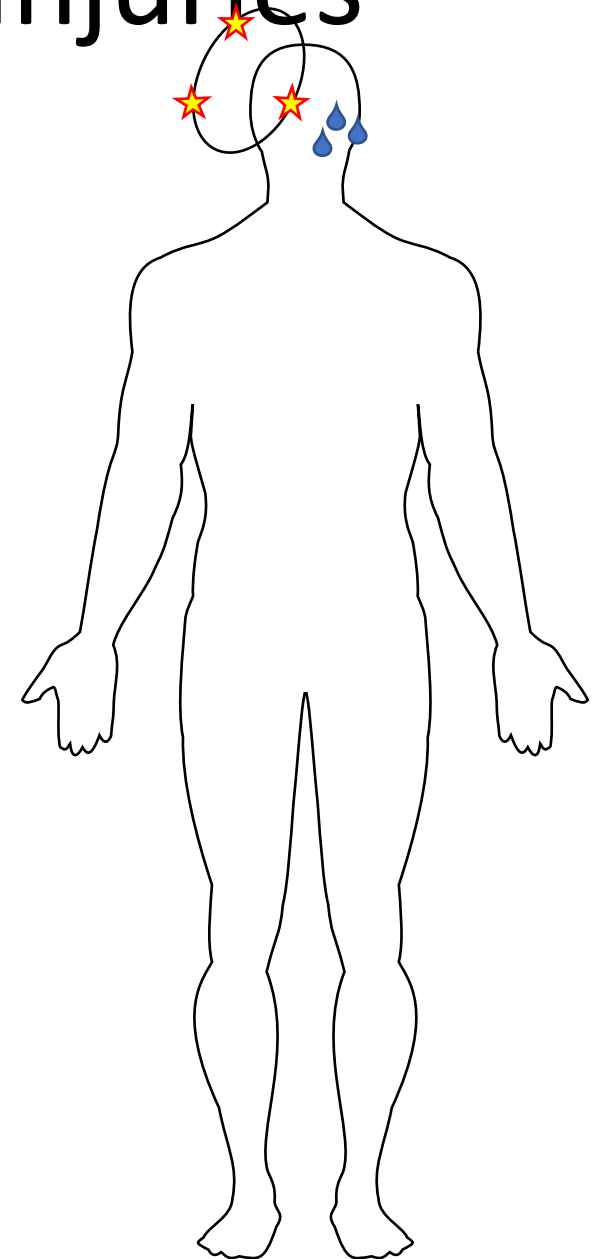
- Brought on by warm weather
- Often associated with dehydration or inadequate acclimation to heat
- Common during outdoor activities in hot environments



Cold & Heat Conditions & Injuries

Heat Exhaustion – Symptoms

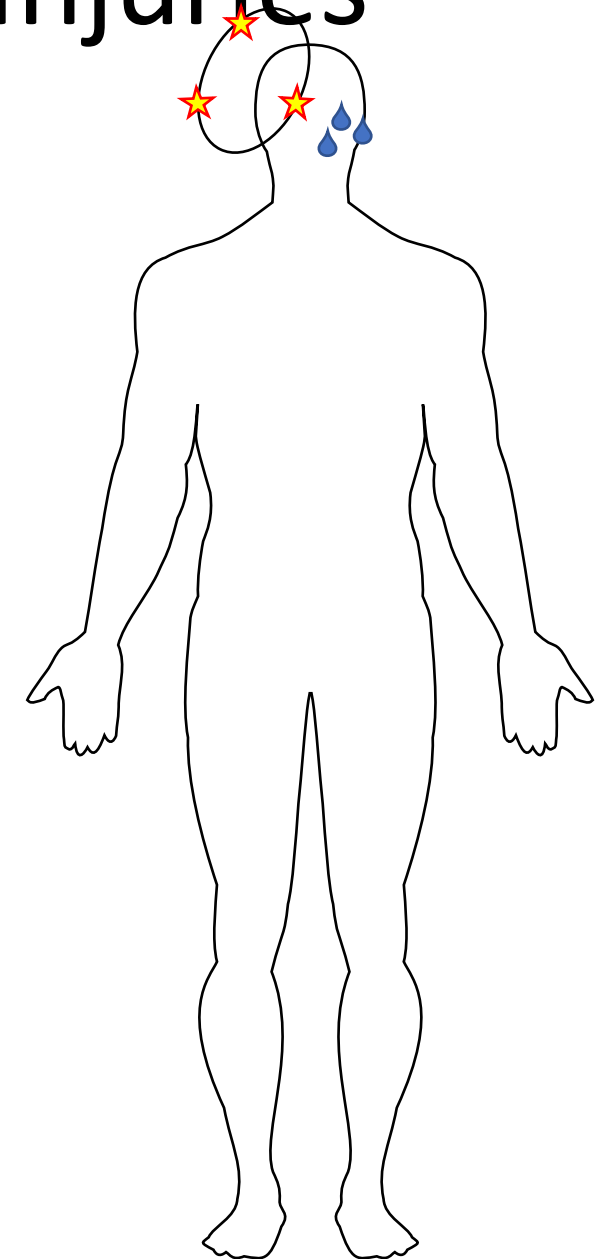
- Symptoms of Heat Exhaustion include:
 - Severe lack of energy
 - General weakness
 - Headache
 - Nausea
 - Faintness
 - Sweating
 - Cool, pale, moist skin
 - Rapid pulse



Cold & Heat Conditions & Injuries

Heat Exhaustion – First-Aid

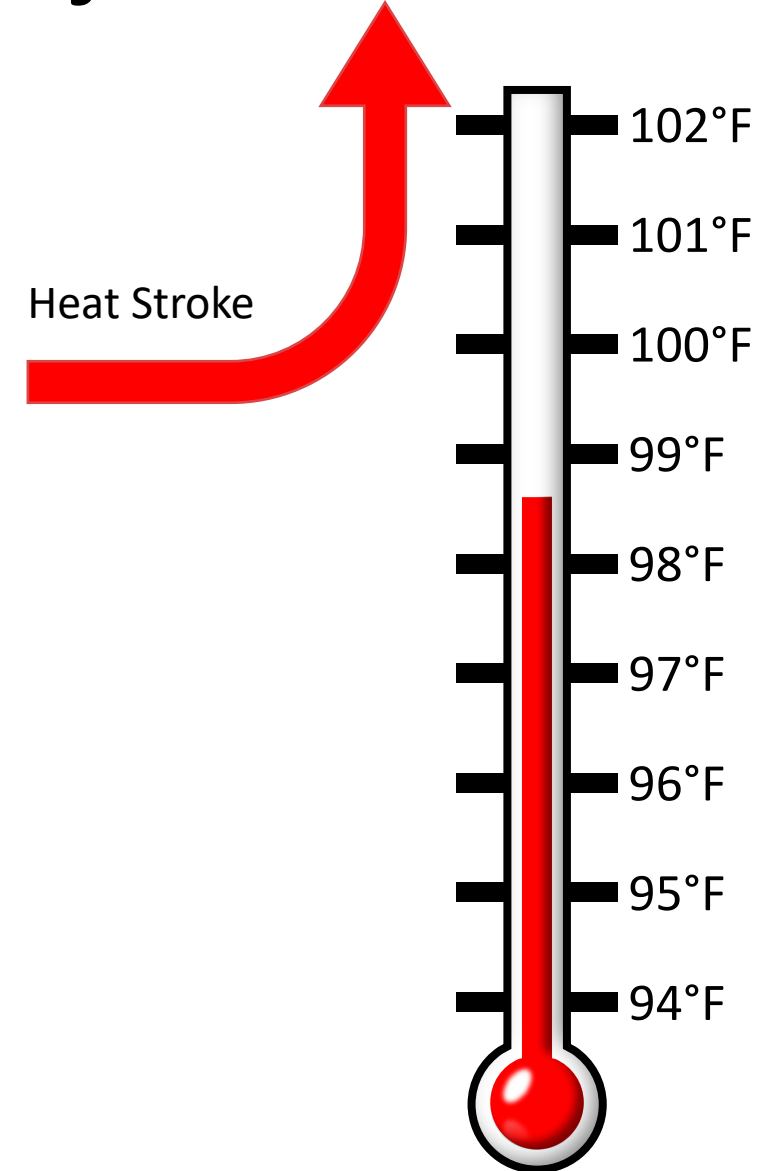
- First-Aid includes:
 - Get victim in Shade
 - Encourage to drink fluids
 - Apply cool, wet towels or cloths to the skin
 - Wet victim's clothing with cool water and fan
 - Raising legs can help them feel better
- Victim should feel better in two or three hours
 - Take it easy the rest of the day



Cold & Heat Conditions & Injuries

Heat Stroke

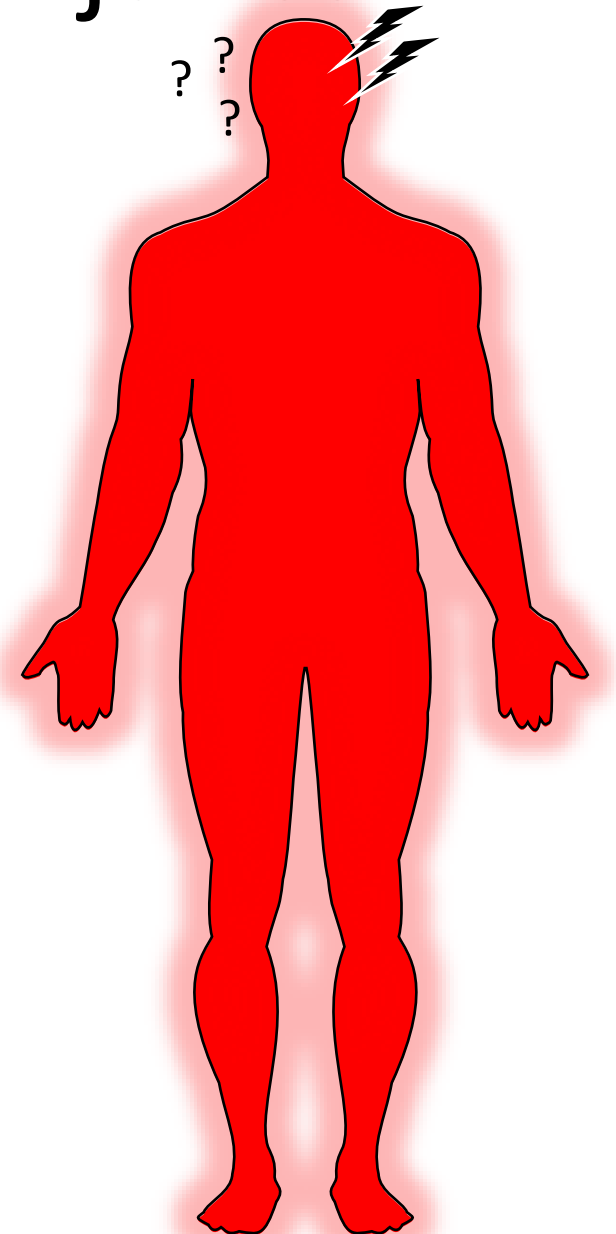
- Body overheats to the point of being life-threatening (105°F)
- Body loses ability to cool itself
- May occur with over-exertion in hot weather
- Also occurs with elderly in hot climates



Cold & Heat Conditions & Injuries

Heat Stroke - Symptoms

- Symptoms include:
 - Hot sweaty (but sometimes dry) skin
 - Confusion
 - **Disorientation**
 - Rapid pulse
 - Shallow breathing
 - Vomiting
 - Seizures



Irritability, Ataxia (balance problems), or Confusion are hallmark signs of Heat Stroke

Heat Exhaustion

Faint or dizzy

Excessive Sweating



Cool, pale, clammy skin

Nausea or vomiting

Rapid, weak pulse

Muscle cramps

Heat Stroke

Throbbing Headache

No Sweating

Red, hot dry skin

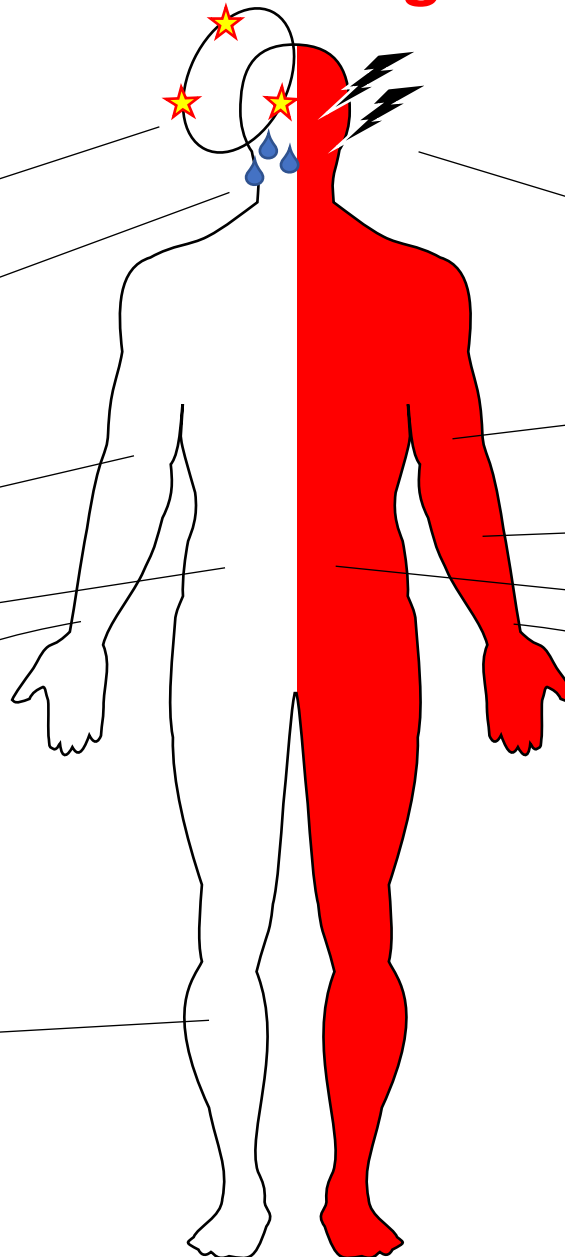


$\geq 104^\circ$

Nausea or vomiting

Rapid, strong pulse

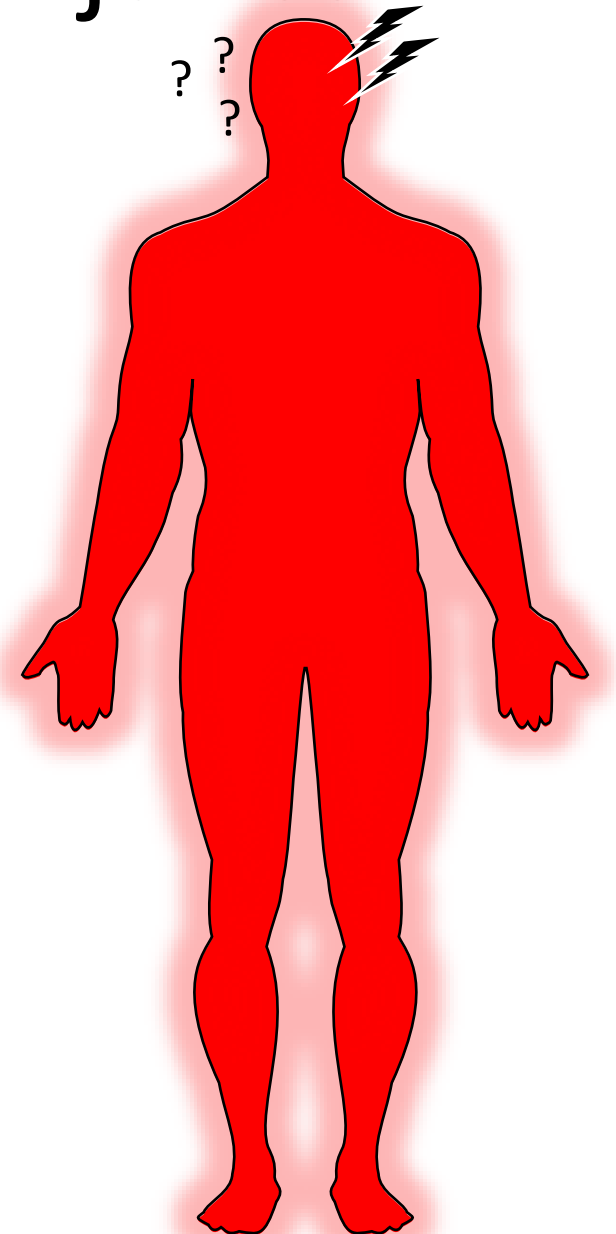
May lose consciousness or have seizures



Cold & Heat Conditions & Injuries

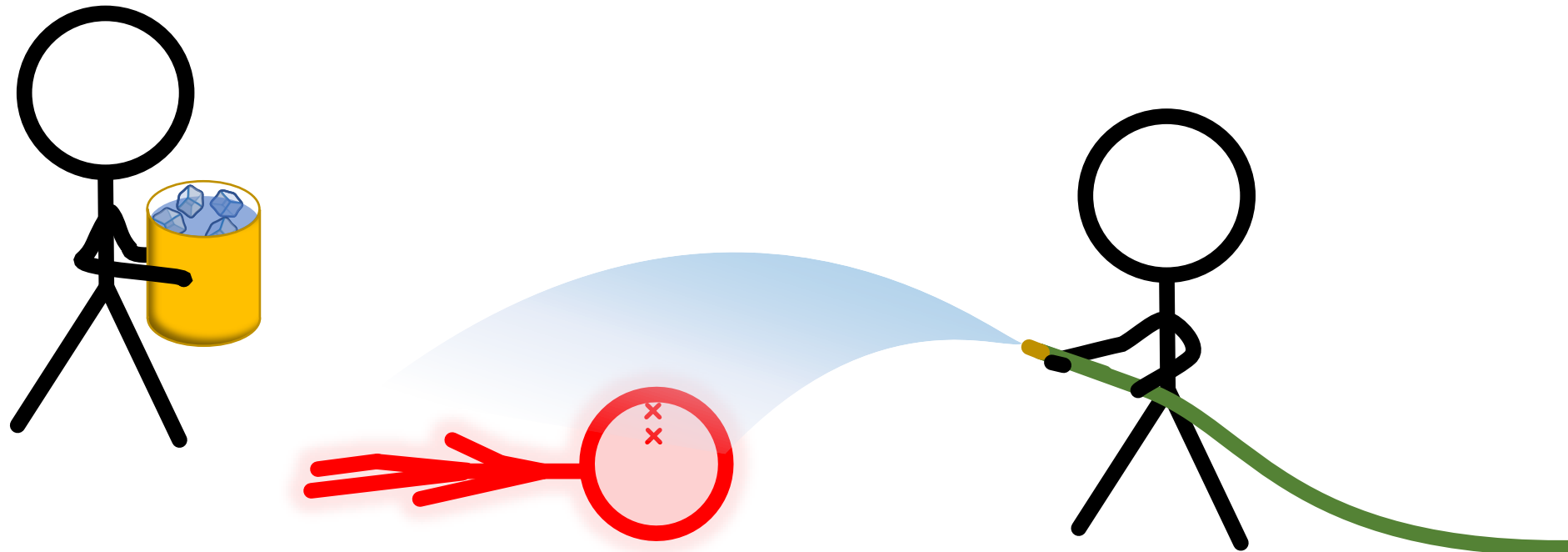
Heat Stroke – First-Aid

- This is **LIFE-THREATENING**
- Cool immediately!
- Call 911! Do it NOW!
- Cooling includes:
 - Immersion or spray of cold water
 - Ice packs wrapped in cloth in armpits and skin
 - Fanning
 - AC



Heat Injuries

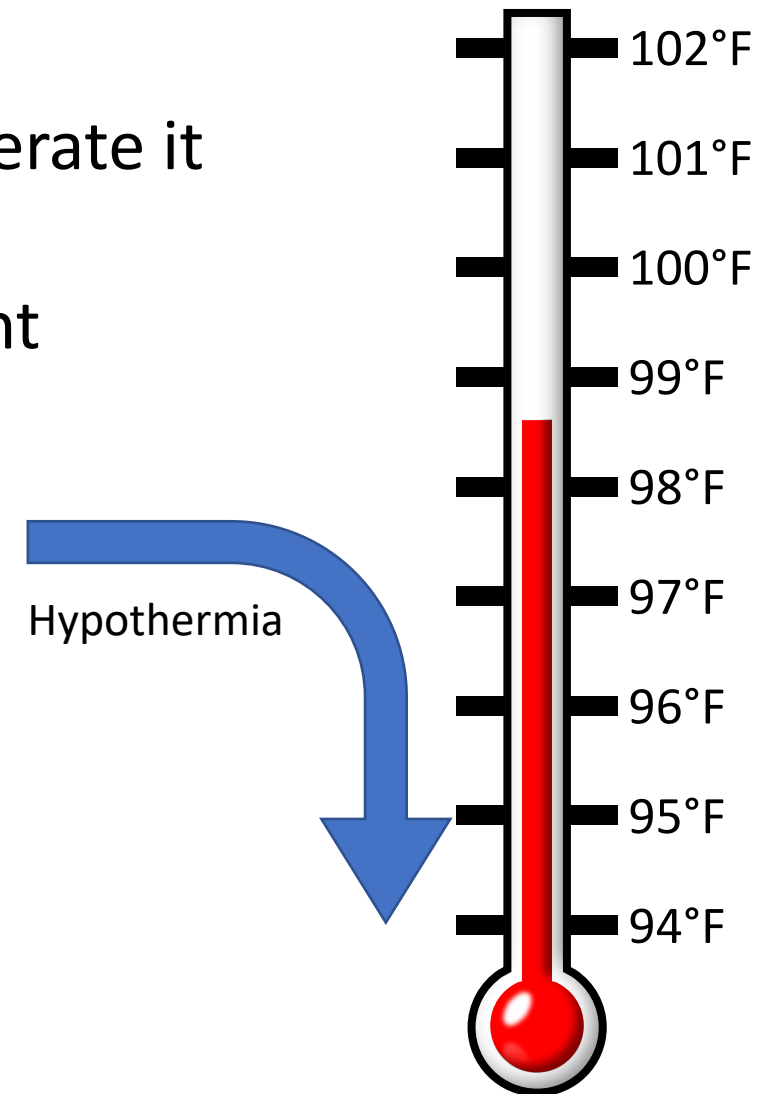
Heat Stroke – First-Aid



Cold Weather Injuries

Hypothermia

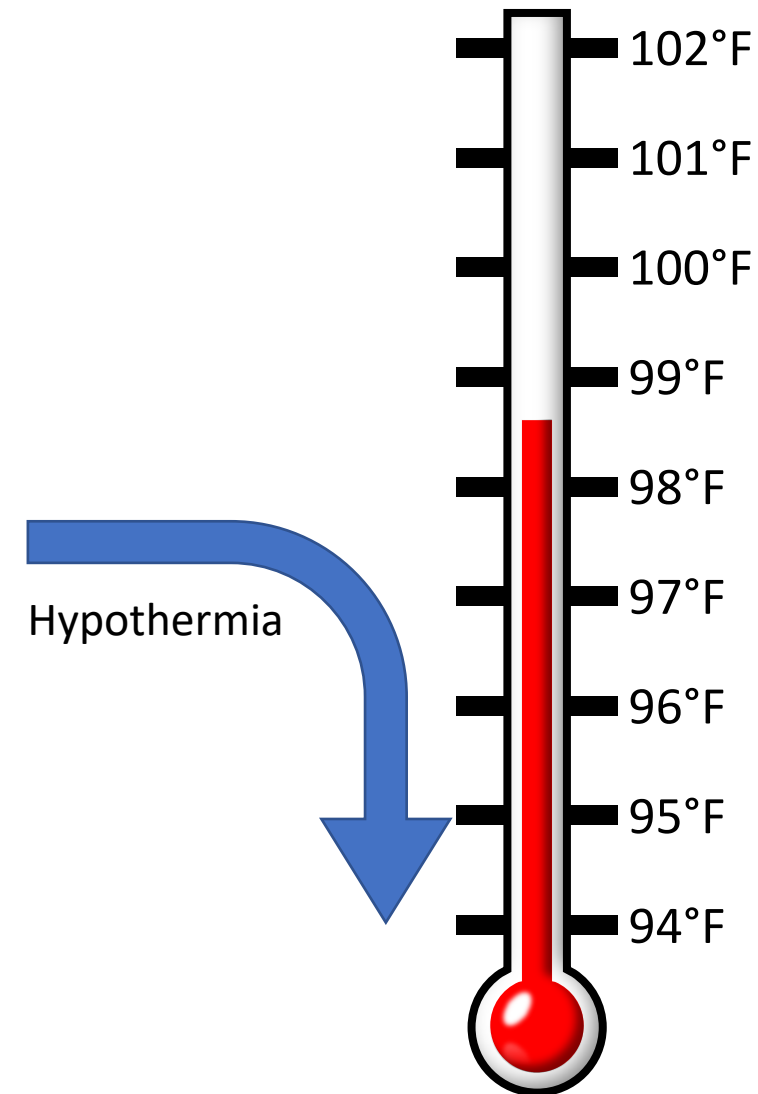
- Occurs when body loses heat faster than it can generate it
- Danger if inadequately dressed for cold environment



Cold Weather Injuries

Hypothermia

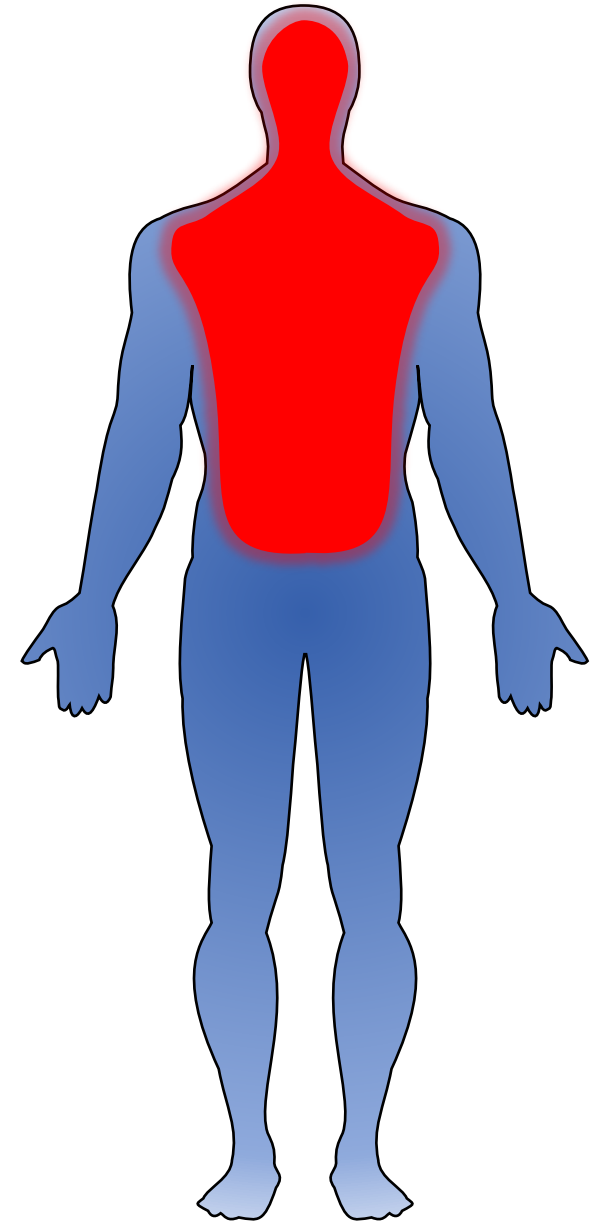
- Danger compounded by:
 - Rain
 - Wind
 - Hunger
 - Exhaustion
 - Dehydration
- Being wet and cold is a dangerous combination



Cold Weather Injuries

Hypothermia – Symptoms

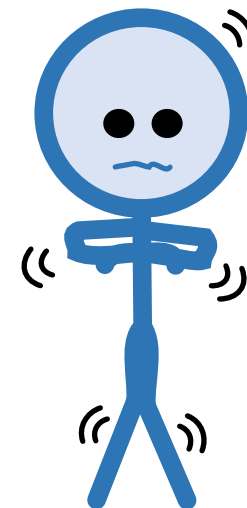
- Numbness
- Fatigue
- Irritability
- Slurred speech
- Uncontrollable shivering
- Poor judgement or decision making



Cold Weather Injuries

Hypothermia – First-Aid

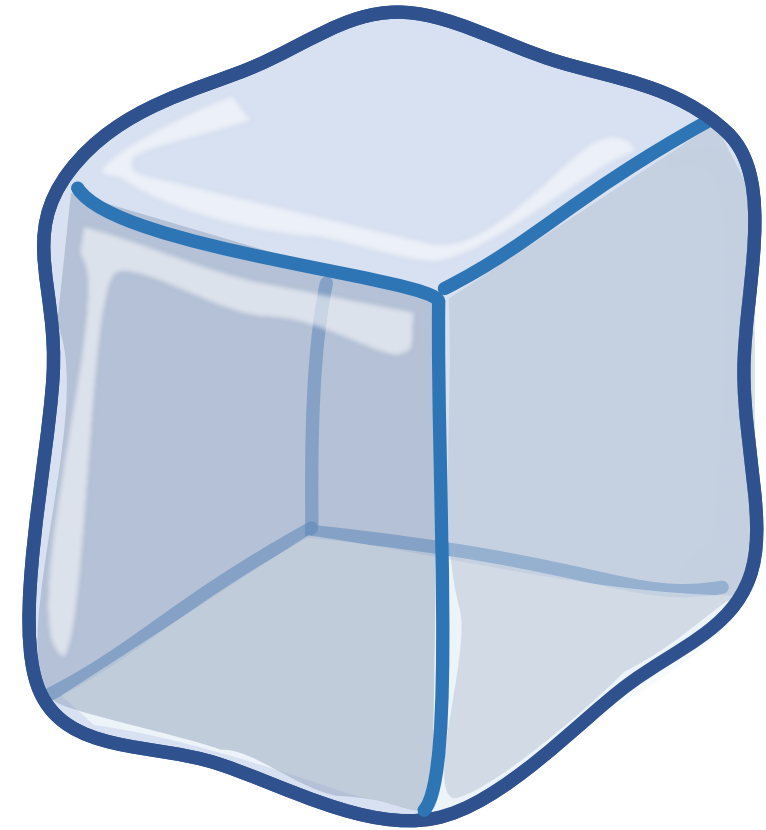
- Get the victim's body warm again!
 - Move to building or tent
 - Remove wet clothing
 - Dry off
 - Warm dry clothes and/or blankets
 - Warm, sweet liquids if conscious
 - Warm water in water bottles, wrapped in towel and place in armpits
 - Observe
- **NEVER Immerse in Warm/Hot Water** – this can be lethal!



Cold Weather Injuries

Frostbite

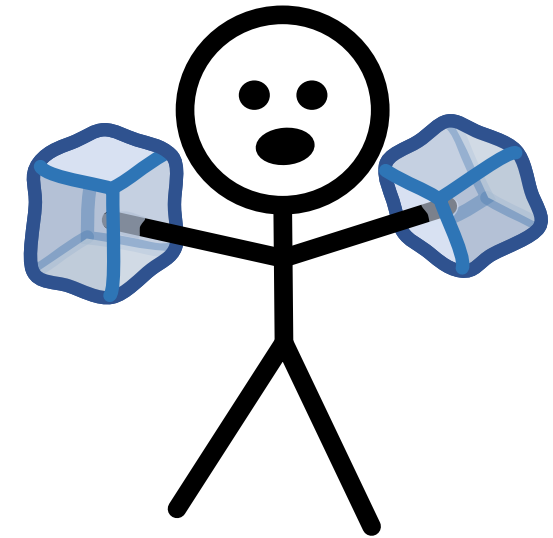
- Frostbite is when skin and tissues freeze and form ice crystals
- Exposed areas at high risk:
 - Ears
 - Nose
 - Cheeks
 - Fingers and hands
 - Toes and feet



Cold Weather Injuries

Frostbite

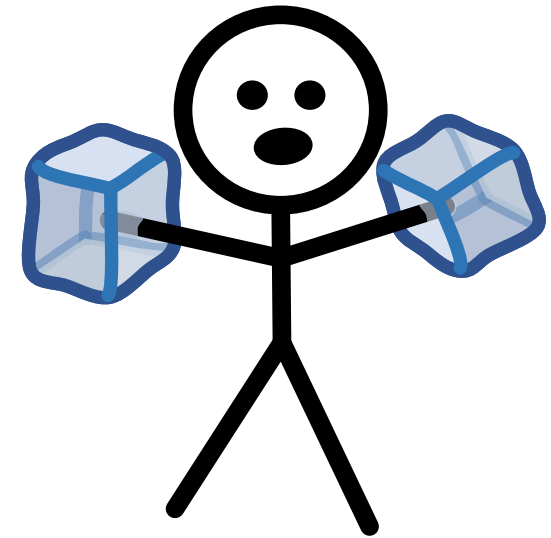
- With continuous exposure, frostbite can freeze deeper tissue
- This causes significant damage and cuts off blood circulation
 - Can lead to:
 - Tissue death
 - Gangrene



Cold Weather Injuries

Frostbite – Symptoms

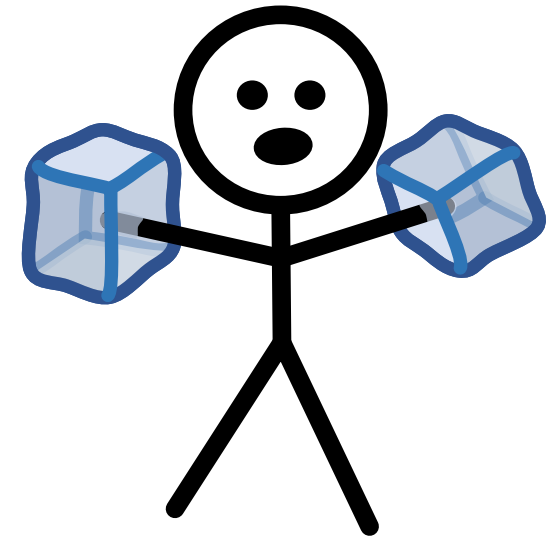
- Victim may **Feel**:
 - Pain then numbness in effected body part
 - May not notice anything



Cold Weather Injuries

Frostbite – Symptoms

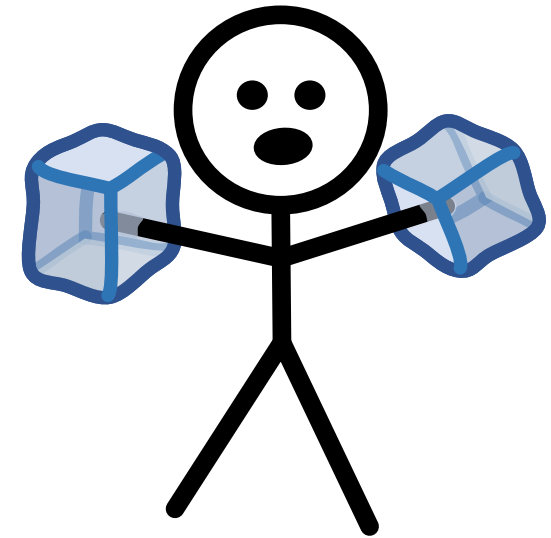
- **May See:**
 - Grayish-white patches on skin
 - Blisters or dark skin suggest severe stages of frostbite



Cold Weather Injuries

Frostbite – First-Aid

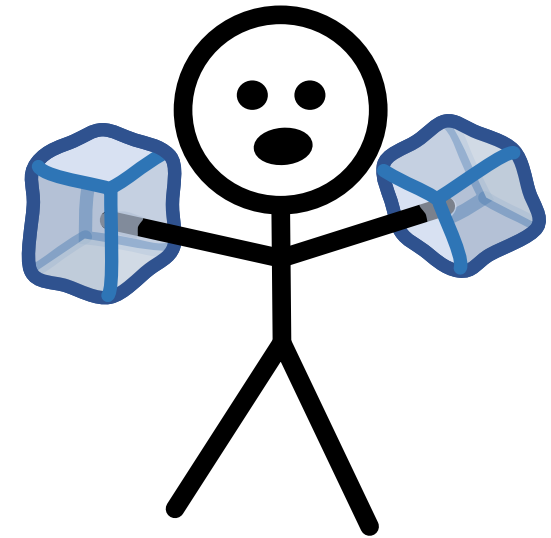
- Best treatment is to **AVOID Getting It** – it is generally preventable
- If you suspect frostbite:
 - Remove wet clothing
 - Wrap injured area in dry blanket
 - Get victim to medical care as soon as possible



Cold Weather Injuries

Frostbite – First-Aid

- Rewarming is an option
 - **Do NOT** rewarm if there is risk of refreeze! This is BAD!
 - Place affected area in warm (100-105°F) water
 - Allow affected area to regain color and warmth
 - Dry off and bandage loosely with dry dressing between digits



Dehydration

Dehydration

- The body is made up of 70% water
- Proper hydration is required for basic body functions
- Dehydration increases the risk of both cold and heat injuries
- Cold and heat both increase the risk of Dehydration



Dehydration

Dehydration

- Water is lost via:
 - Breathing
 - Sweating
 - Digestion
 - Urination



Dehydration

Dehydration – Symptoms

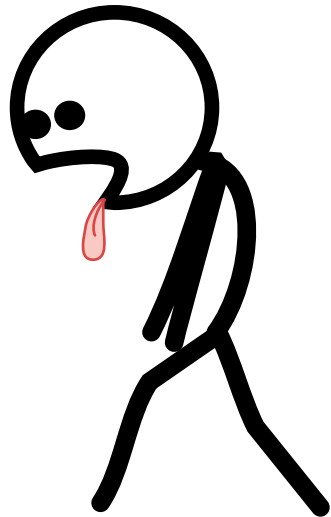
- Signals of **Mild** dehydration
 - Fatigue
 - Increased thirst
 - Dry lips
 - Dark yellow urine



Dehydration

Dehydration – Symptoms

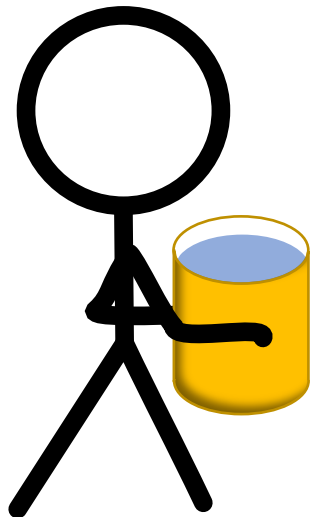
- Signals of **Moderate and Severe** dehydration
 - Dry mouth with little saliva
 - Dry skin
 - Weakness
 - Dizziness
 - Confusion
 - Nausea
 - Fainting
 - Muscle cramps
 - Loss of appetite
 - Decreased sweating
 - Decreased urine production
 - Less frequent urine
 - Dark brown urine



Dehydration

Dehydration – First-Aid

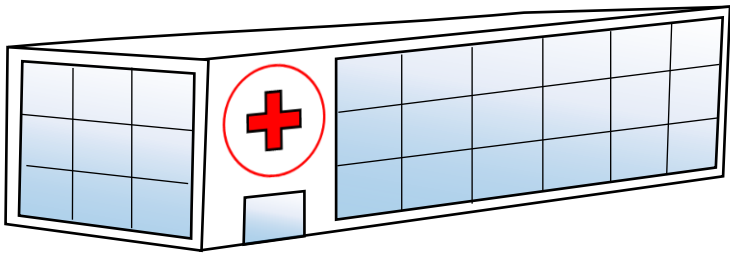
- For **Mild** Dehydration:
 - Drink plenty of water or sports drinks
 - Drink 1-2 quart/liters over 2-4 hours
 - Rest for 24 hours and continue to hydrate
 - Avoid excessive physical activity
 - May take 36 hours to replace lost fluids



Dehydration

Dehydration – First-Aid

- **Moderate/Severe** dehydration requires Emergency Care
 - Needs to be treated in hospital
 - Needs IV fluids





Fast-food for lunch?



Bites and Stings

Bites of Ticks

- Tick bites are irritating and can transmit diseases



Bites and Stings

Bites of Ticks

- **Prevention**
 - Wear pants and long-sleeved shirts in tick infested areas
 - Button up collar
 - Tuck pants in boots or socks



Bites and Stings

Bites of Ticks

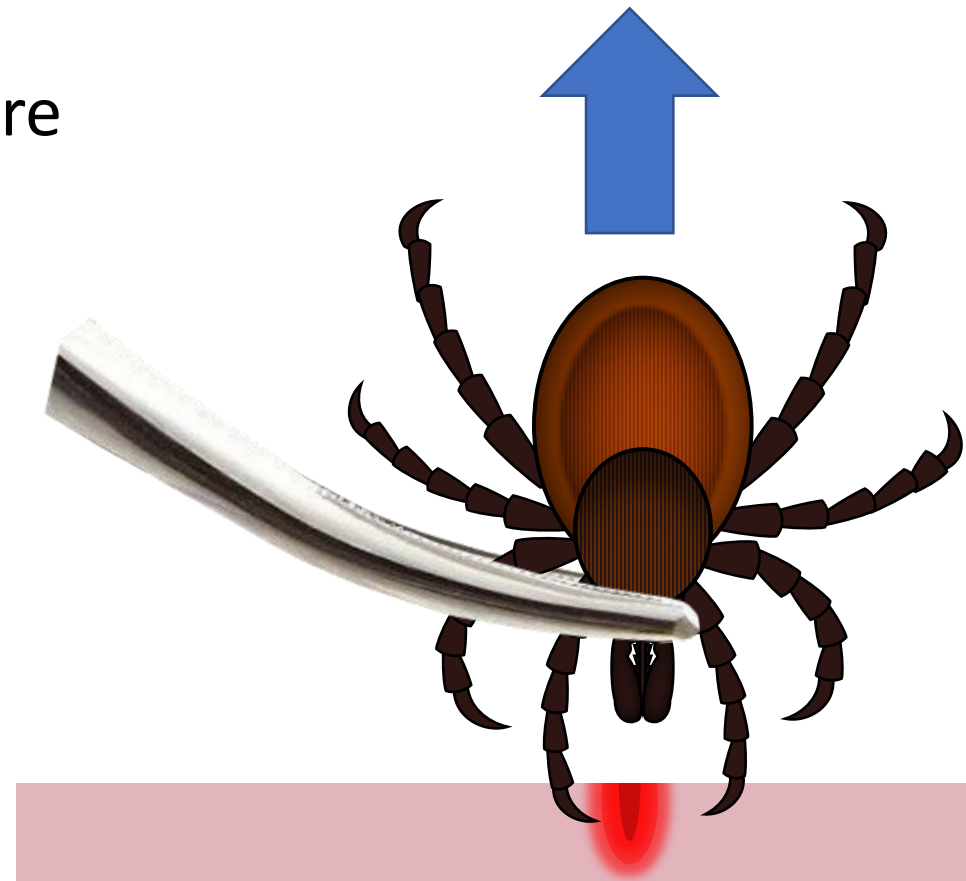
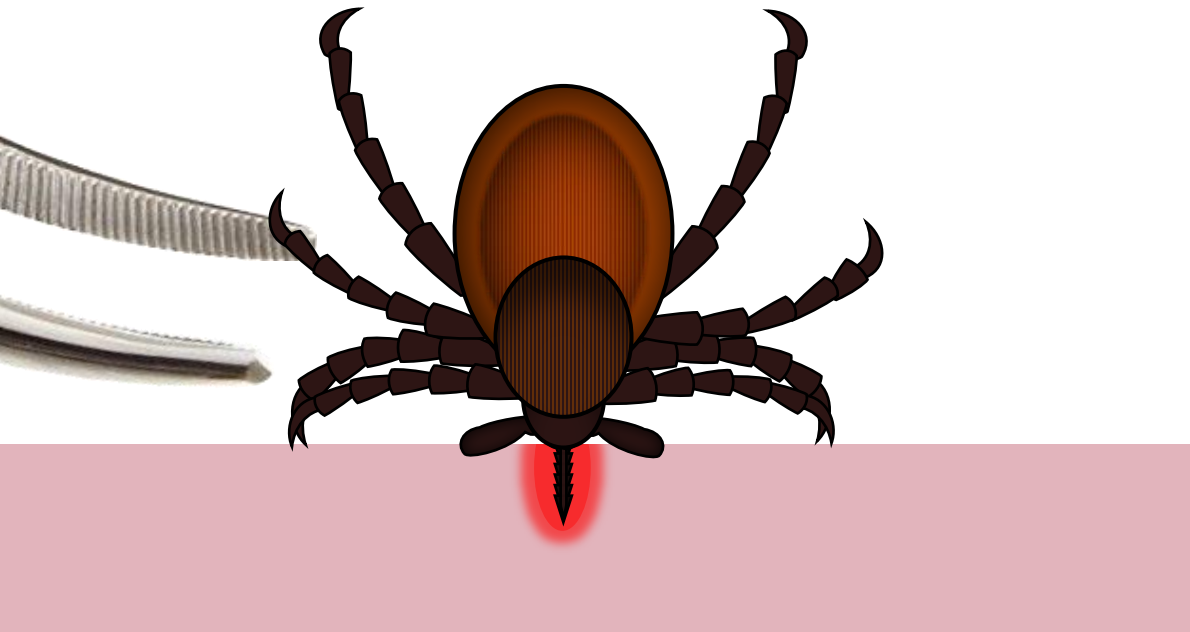
- **First-Aid**
 - Inspect self daily
 - Remove ticks as soon as you find them
 - Wash wound with soap and water
 - Seek medical care if you become sick or develop a rash after bite

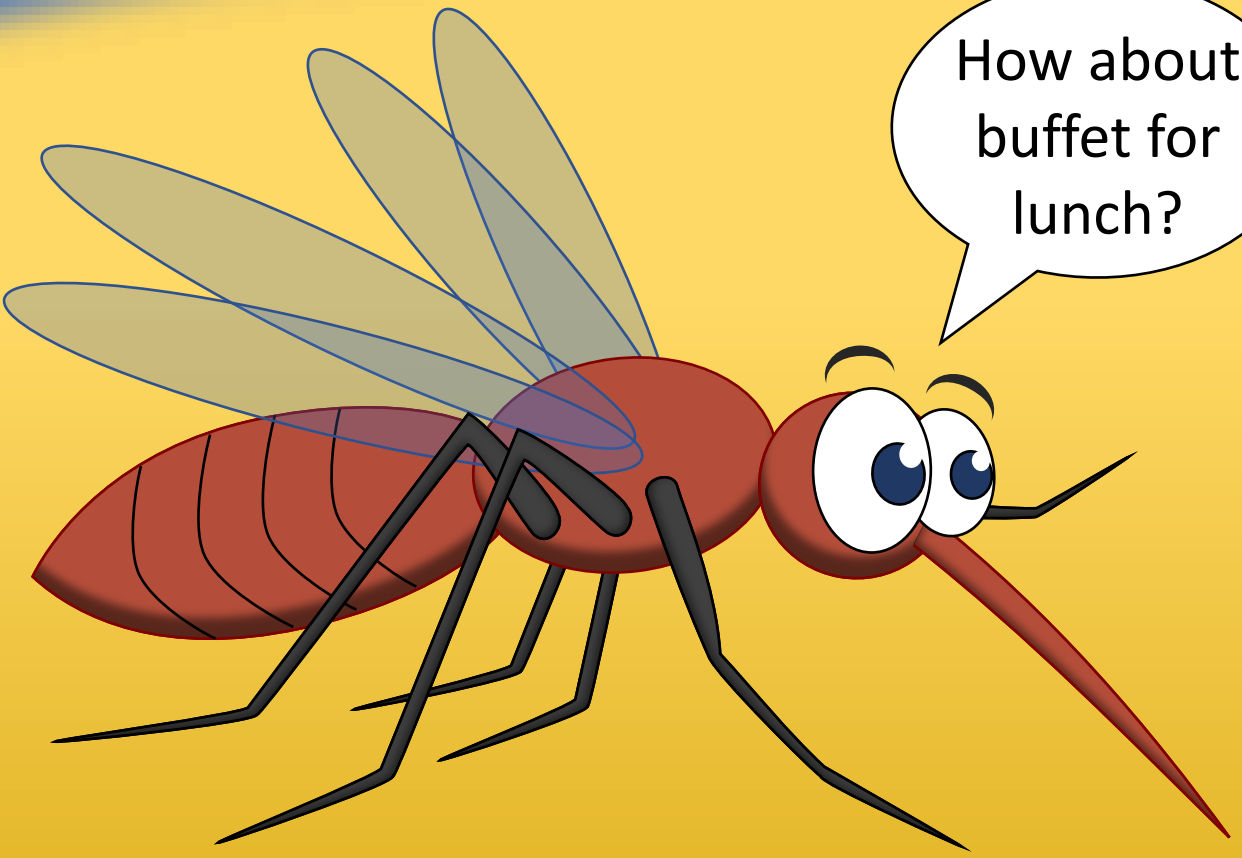


Bites and Stings

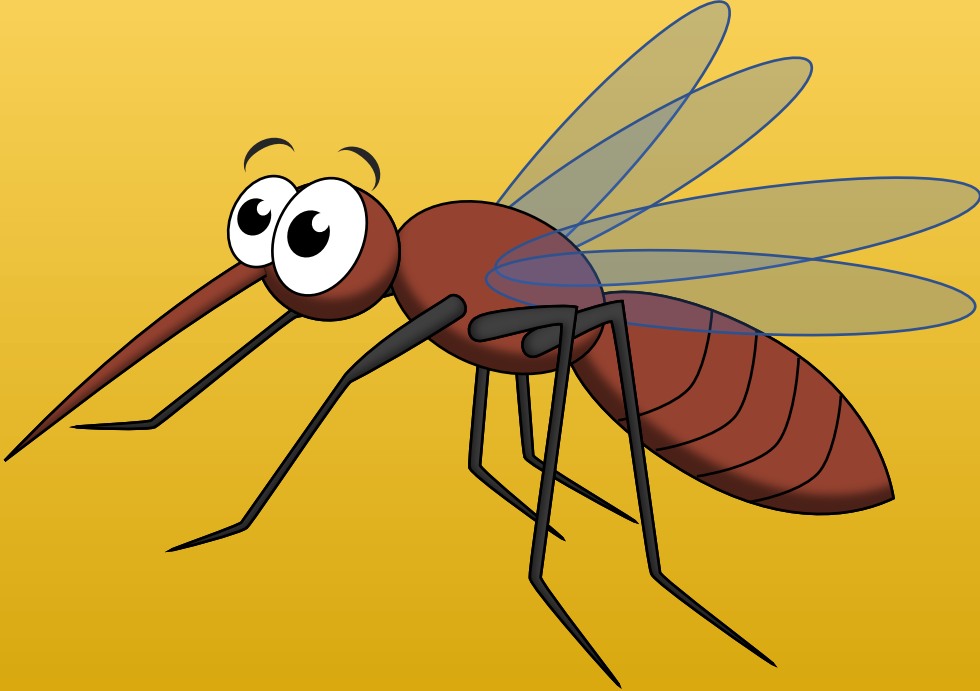
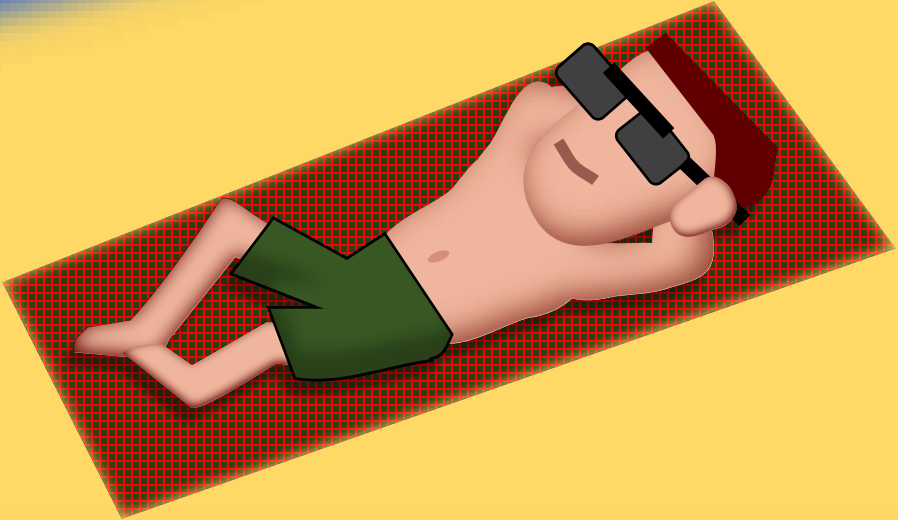
Ticks – Removal – Tweezers

- Use fine-tipped tweezers to grasp the tick close to the skin's surface
- Don't squeeze body
- Pull upward with steady, even pressure
- Don't twist or jerk the tick or the mouth-parts may break off





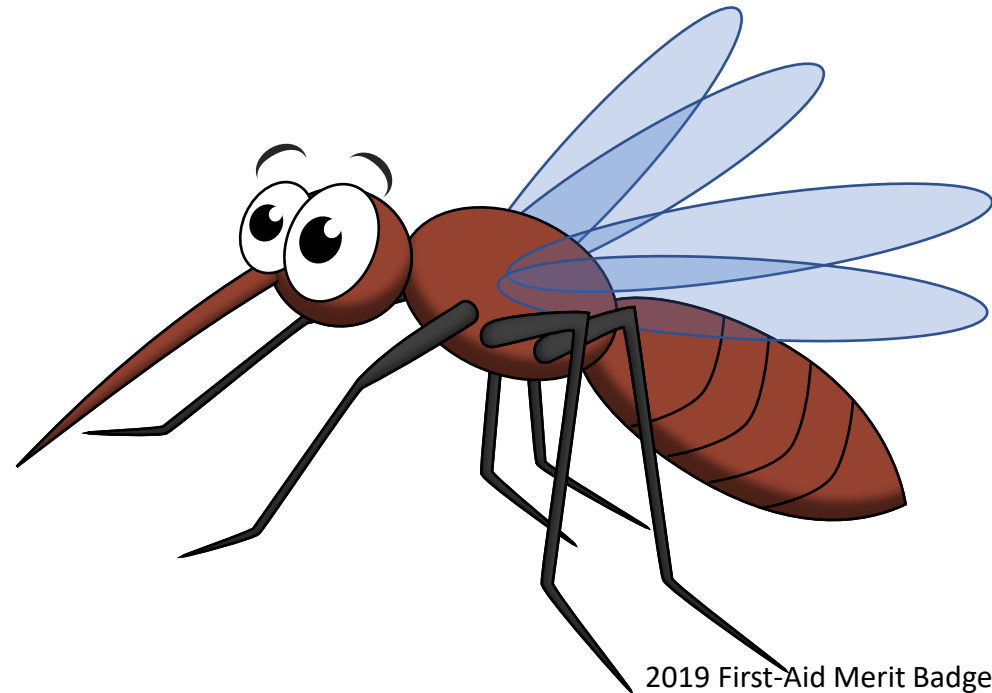
How about buffet for lunch?



Bites and Stings

Bites or Stings of Insects & Things with > 4 Legs

- Bites can itch and irritate
- Some bug bites include venom which cause other problems





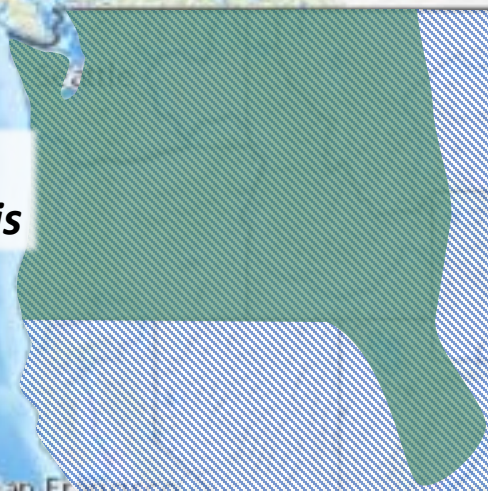
Fire Ants in the US





Dangerous Spiders in the US

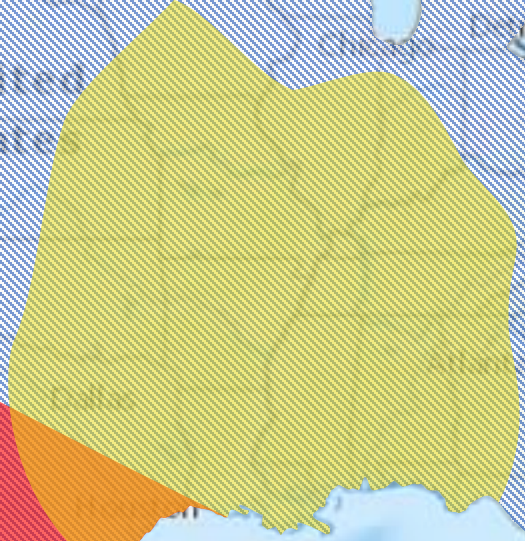
Hobo Spiders
Tegenaria agrestis



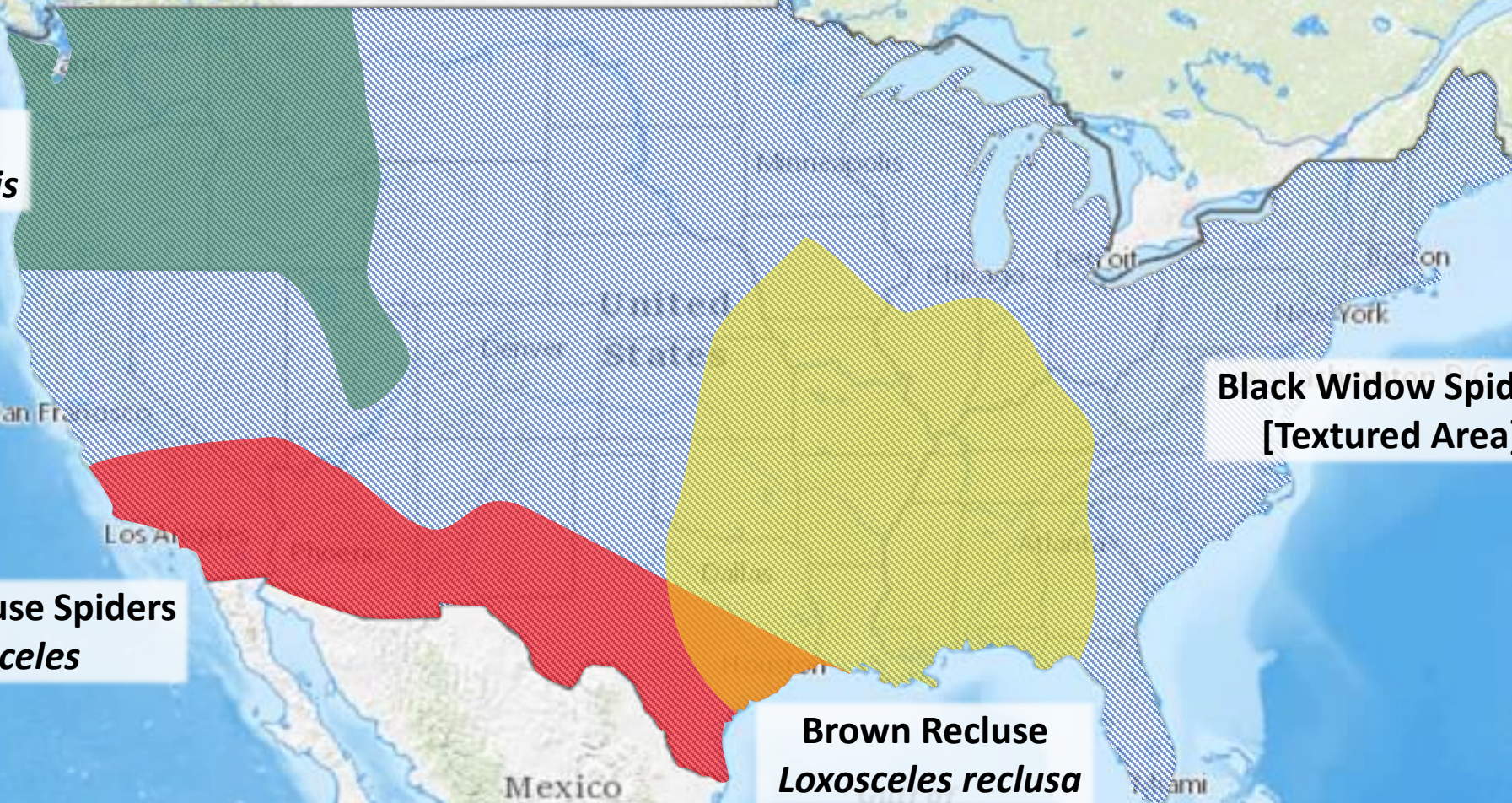
Other Recluse Spiders
Loxosceles



Brown Recluse
Loxosceles reclusa

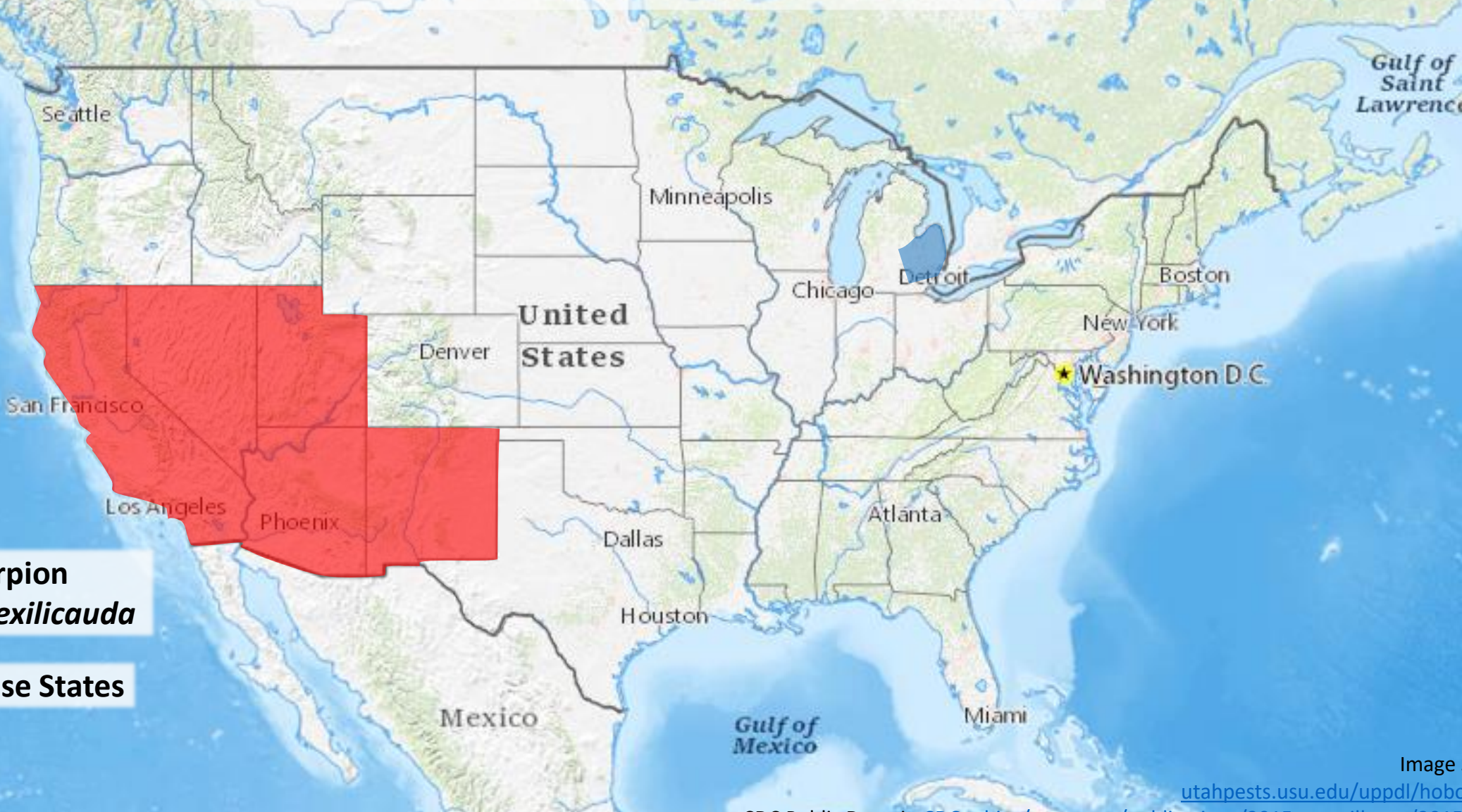


Black Widow Spiders
[Textured Area]





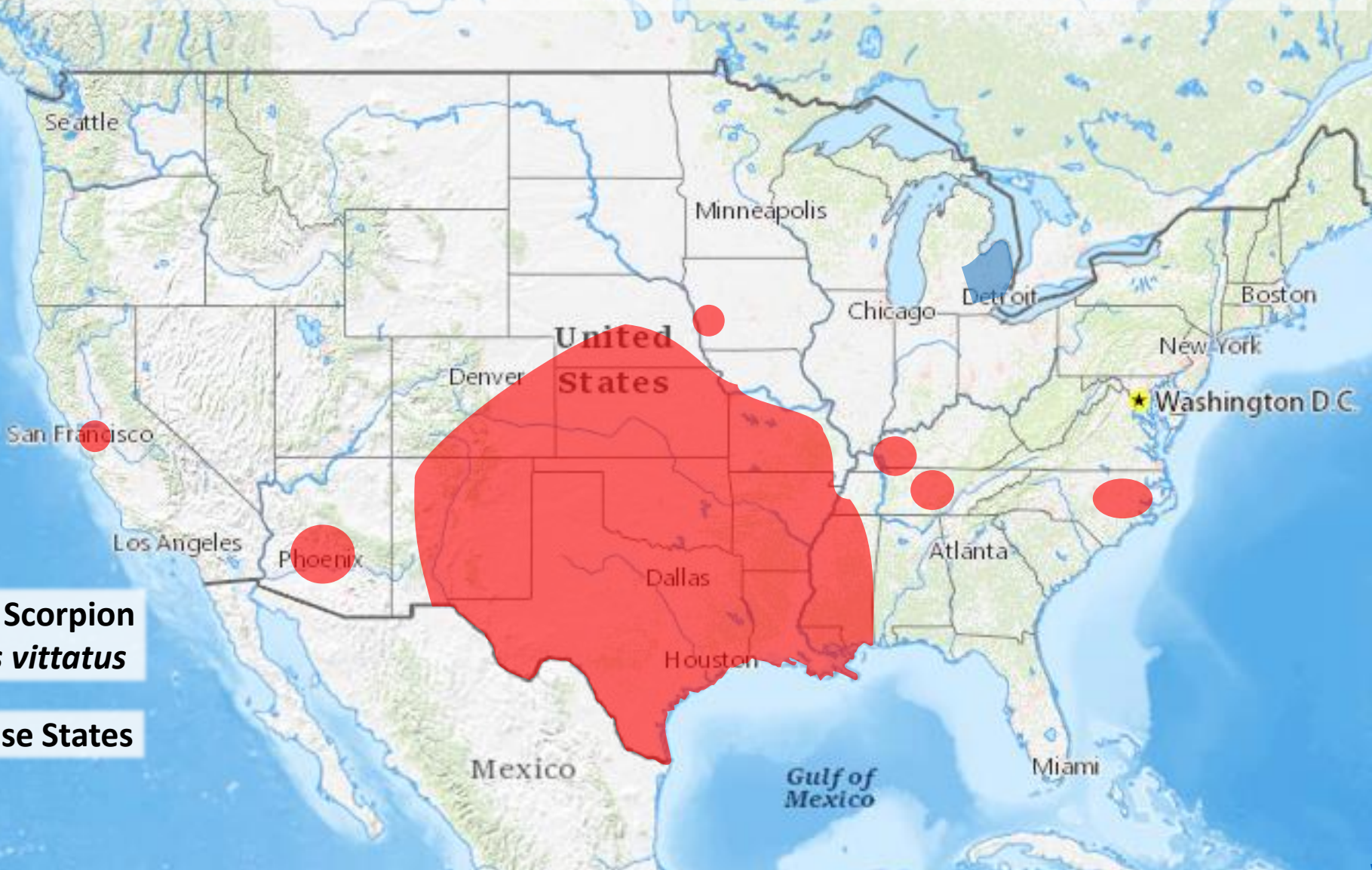
Bark Scorpion in the US



Bark Scorpion
Centruroides exilicauda
 Found in these States



Stripped Bark Scorpion in the US



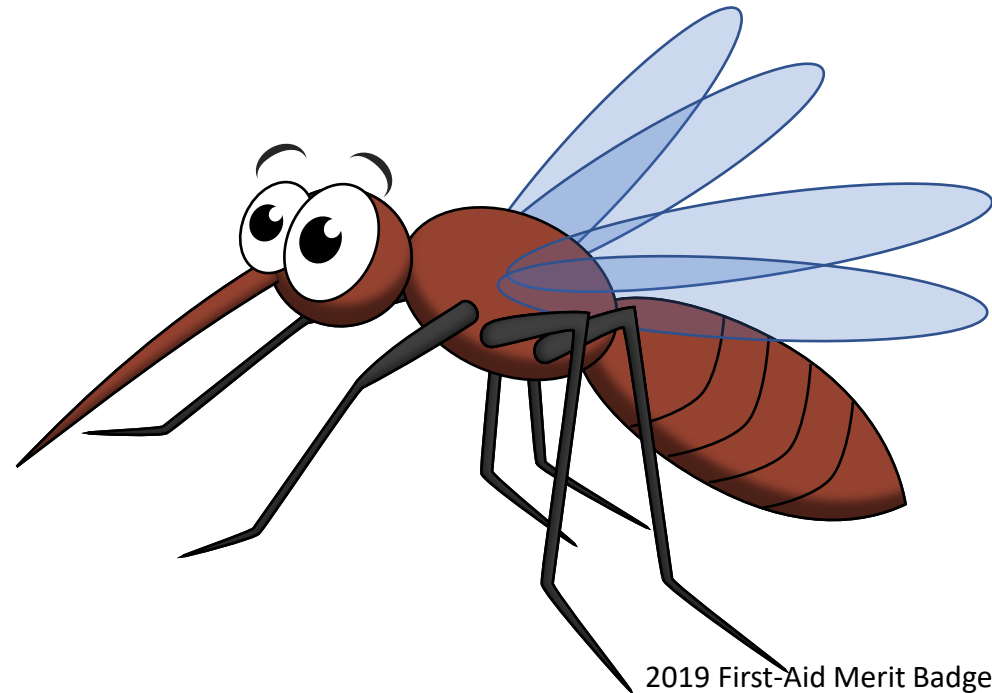
Striped Bark Scorpion
Centruroides vittatus

Found in these States

Bites and Stings

Bites or Stings of Insects & Things with > 4 Legs

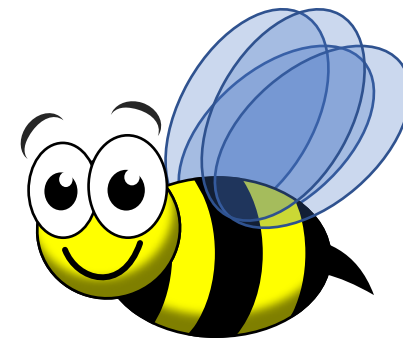
- **First-Aid**
 - Wash area with soap and water
 - Watch and treat for Anaphylaxis (discussed later)
 - Avoid scratching bite area
 - Seek medical attention if:
 - Become ill
 - Difficulty breathing
 - Severe pain and swelling



Bites and Stings

Bites or Stings of Insects - Bees

- Bees leave a venom sac behind
- Wasps and hornets can inject venom multiple times
- All REALLY hurt!





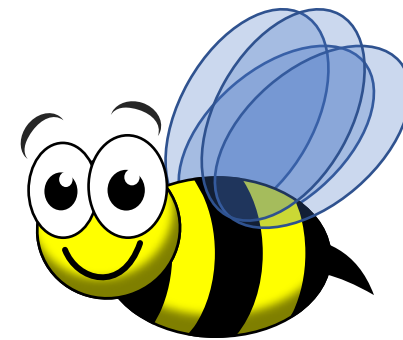
Africanized Honey Bees in the US



Bites and Stings

Bites or Stings of Insects - Bees

- **First-Aid**
 - If stinger is left behind, brush off with flat-surfaced object
 - Wash area with soap and water
 - Watch and treat for Anaphylaxis (discussed later)
 - An ice pack is nice



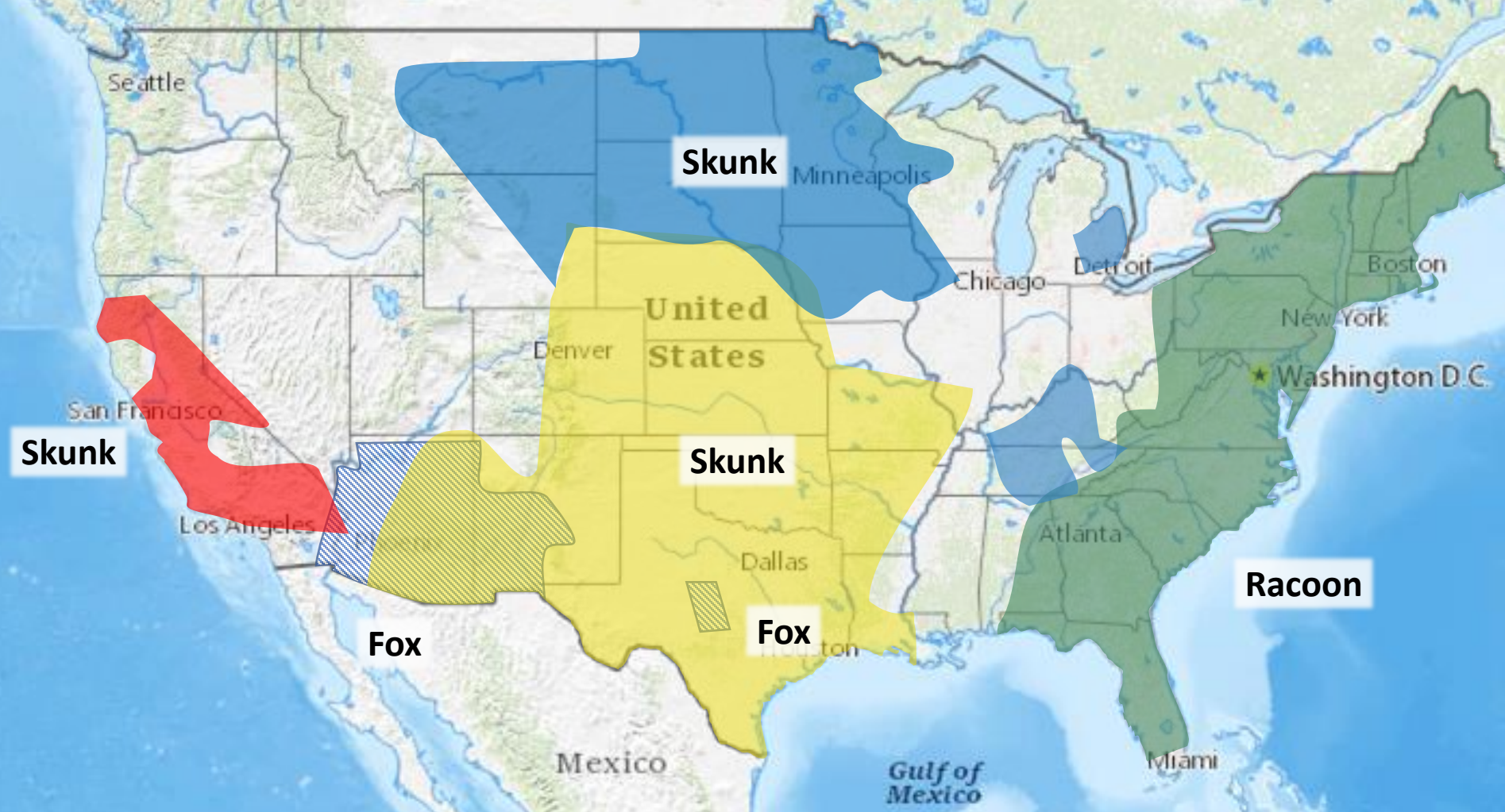
Bites and Stings

Bite of a Suspected Rabid Animal

- Any bite from an animal will place you at risk of infection
- Some mammals carry Rabies – a lethal disease
- Unprovoked attacks from mammals suggests Rabies



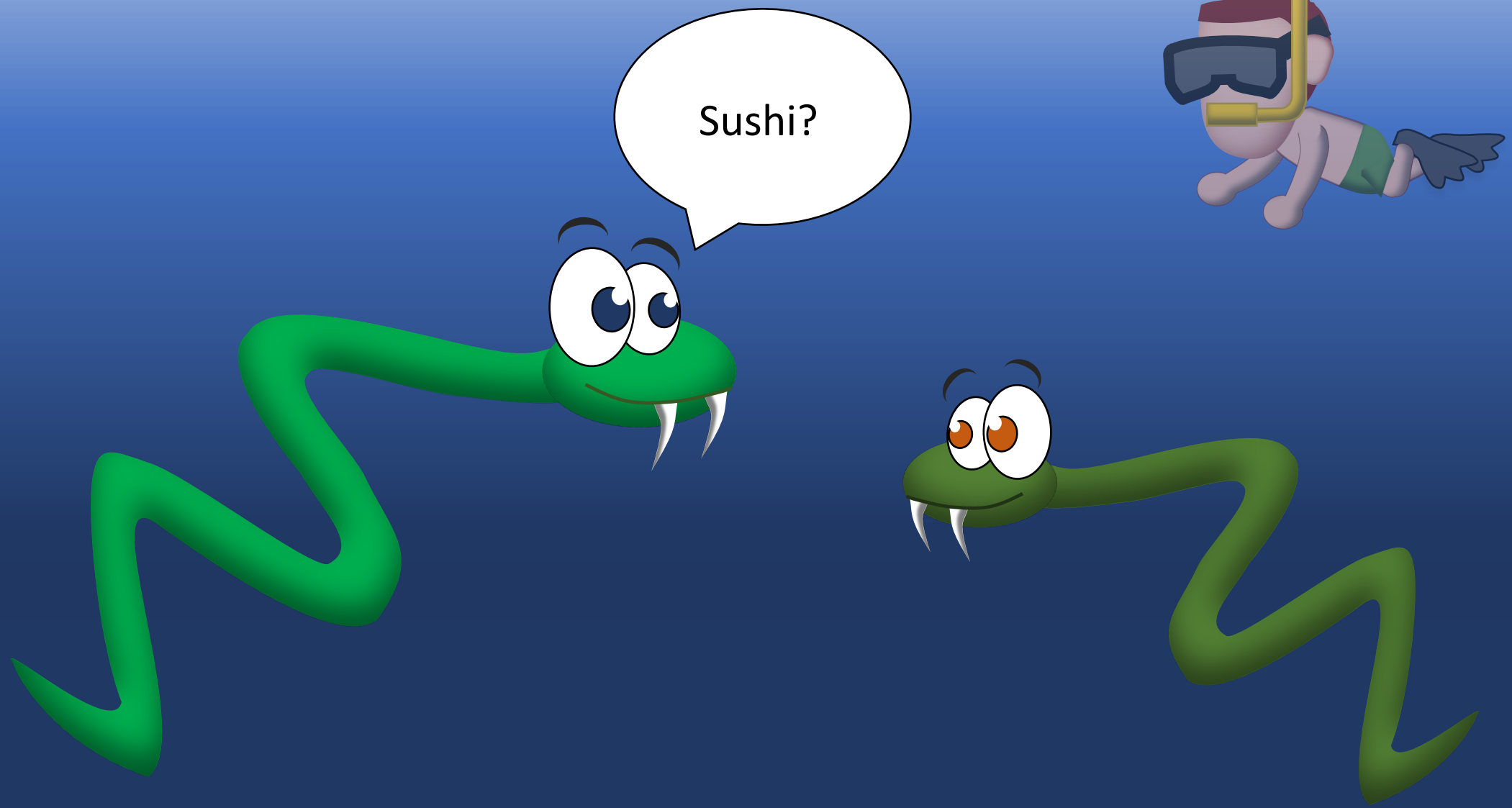
Rabies in the US



Bites and Stings

Bite of a Suspected Rabid Animal

- **First-Aid**
 - Animal needs to be tested for Rabies
 - Report animal bites to police, rangers or animal control
 - Don't try to catch animal yourself, you'll just get bit
 - Scrub area with soap and water for 5 minutes
 - Cover with sterile dressing and bandage
 - Seek medical care to determine if Rabies treatment is needed



Bites and Stings

Venomous Snakebite

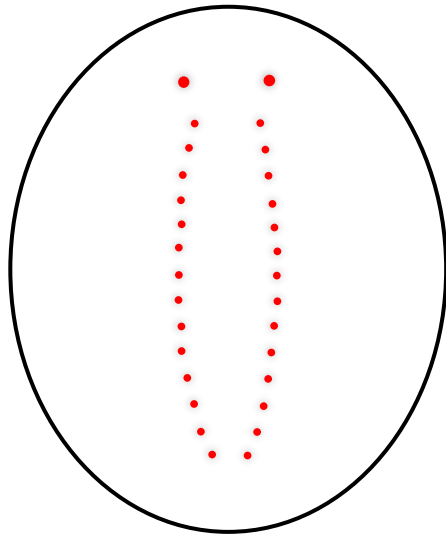
- Venomous snakes in the US come in three basic forms:
 - Pit Vipers
 - Coral Snakes
 - Exotic pet snakes



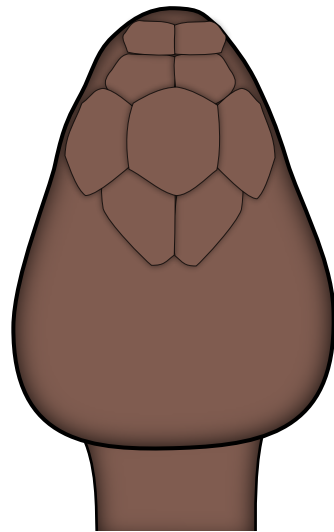
Bites and Stings

Venomous Snakebite – Pit Vipers

- Pit Vipers include:
 - Rattlesnakes
 - Copperheads
 - Cottonmouths



Bite Pattern



Triangular
Head

[commons.wikimedia.org Cottonmouth](https://commons.wikimedia.org/Cottonmouth)

[commons.wikimedia.org Copperhead](https://commons.wikimedia.org/Copperhead)

[commons.wikimedia.org Crotalus cerastes](https://commons.wikimedia.org/Crotalus_cerastes)

Image Source: NAVEDTRA 14295 Hospital Corpsman

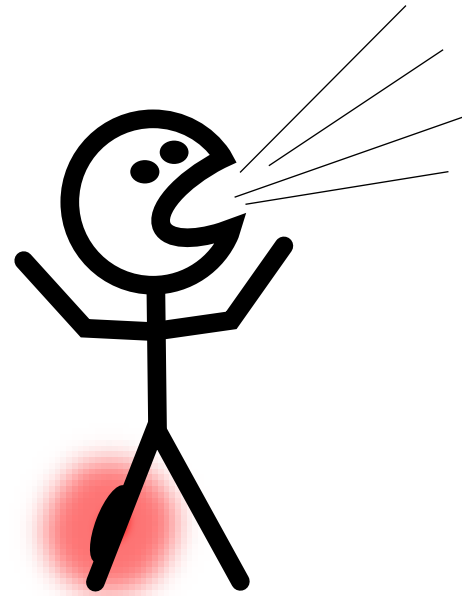
FM 21-11 1988 First Aid

2019 First-Aid Merit Badge Pamphlet Page 77

Bites and Stings

Venomous Snakebite – Pit Vipers

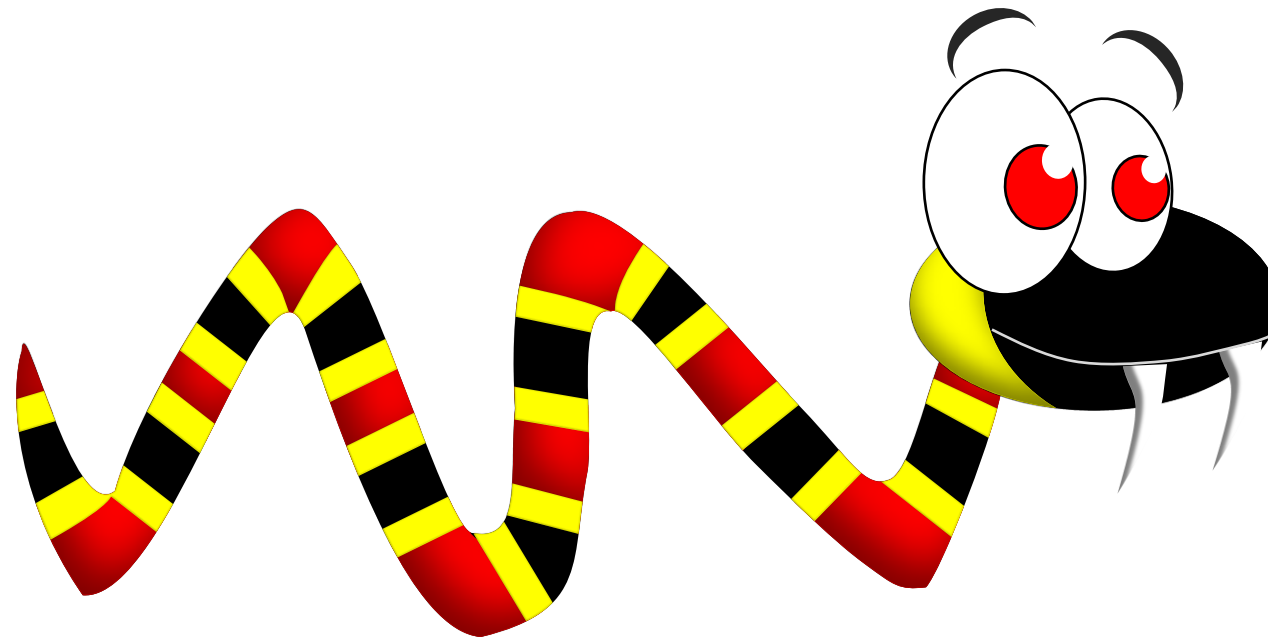
- They inject high volumes of venom that can cause:
 - Extreme pain
 - Swelling
 - Skin discoloration
 - Shock – deadly if not treated



Bites and Stings

Venomous Snakebite – Coral Snake

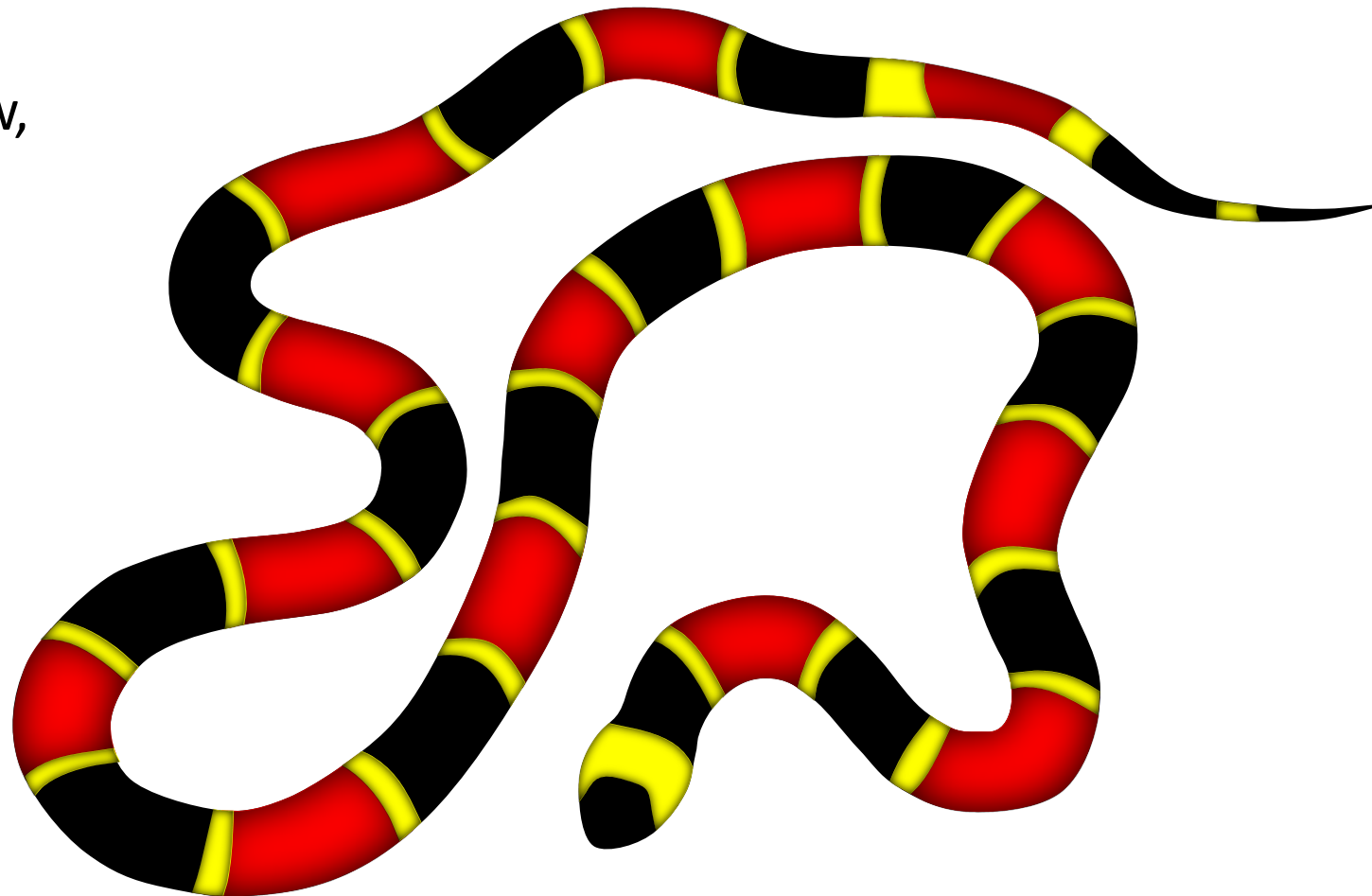
- Coral Snakes are different from Pit Vipers
 - Look very different
 - Smaller with small round head
 - Very colorful – Red, Black and Yellow bands



Bites and Stings

Venomous Snakes – Coral Snakes

Red Touch Yellow,
Kills a Fellow



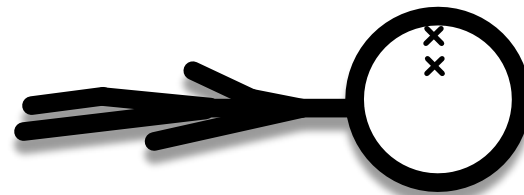
Red Touch Black,
Friend of Jack
(US only!)

Color intensity and banding patterns are variable, even in the US.
In other parts of the Americas, colors can be reversed (red bands adjacent to black bands)!

Bites and Stings

Venomous Snakebite – Coral Snake

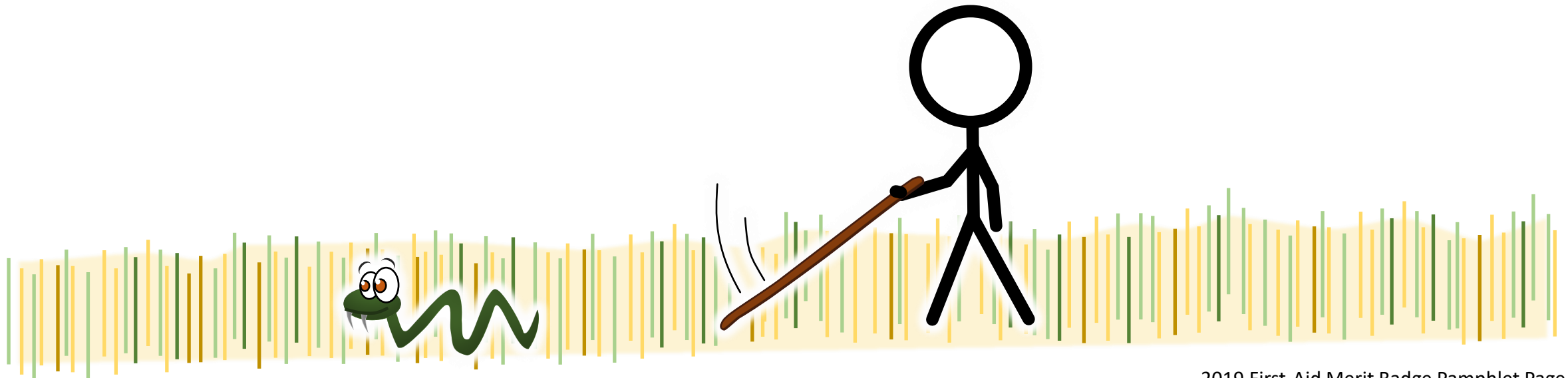
- Coral Snakes are different from Pit Vipers
 - Inject a very different venom
 - Slows physical and mental reactions
 - Sleepiness
 - Nausea
 - Shortness of breath
 - Convulsions
 - Shock
 - Coma



Bites and Stings

Venomous Snakebite – Avoidance

- It is better to avoid getting bitten than to deal with a bite
 - Use hiking stick to poke stones and brush ahead of you
 - Watch hands as you collect firewood or climb over rocks



Bites and Stings

Venomous Snakebite – First-Aid

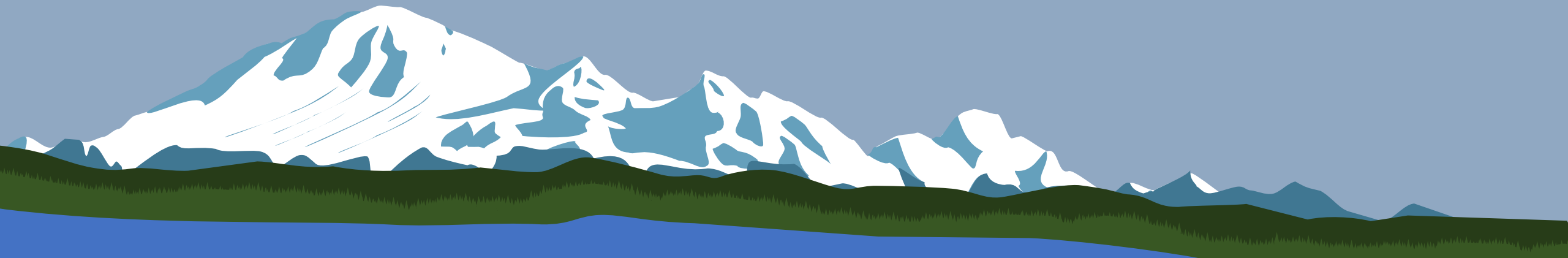
- Basics of Snakebite First-Aid

- Step 1** Get victim to hospital AS SOON AS POSSIBLE
Victim may need antivenom
- Step 2** Remove rings and constrictive jewelry
- Step 3** If you are forced to wait for medical care to arrive
the go ahead and wash the wound
- Step 4** Have victim lie down
Position injured area below level of heart
Keep victim calm
- Step 5** Treat for shock





Safety



Safety

Requirement 1c – Safety

Explain the importance of wearing a properly sized and fitted helmet while cycling, and of wearing the right clothing for the weather.

Know the BSA Bike Safety Guidelines.

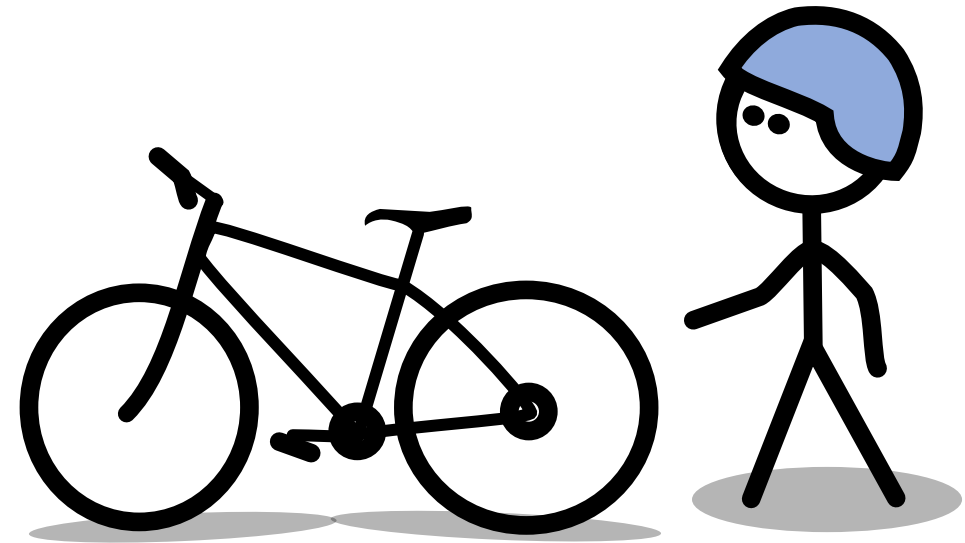


Safety

Requirement 1c – Safety – Helmet

Wear a properly fitted helmet

- Protect your brain; save your life!
- Bicycle helmets can reduce head injuries by 85 percent, according to the National Highway Traffic Safety Administration (NHTSA).

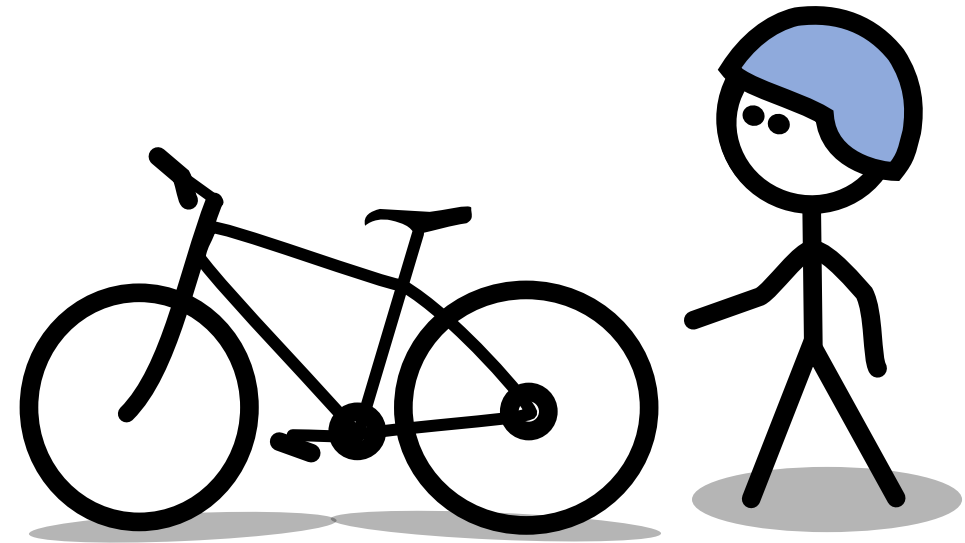


Safety

Requirement 1c – Safety – Bike Fit

Adjust your bicycle to fit.

- Make sure you can stand over the top tube of your bicycle.
- Assure bicycle readiness.
- Make sure all parts are secure and working well. Assure that tires are fully inflated and brakes are working properly.

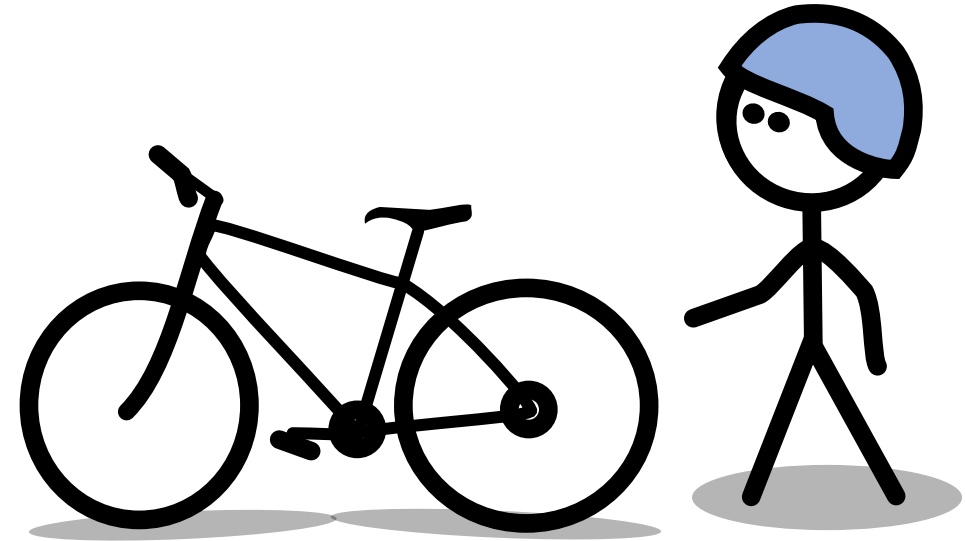


Safety

Requirement 1c – Safety – Bike Readiness

Assure bicycle readiness.

- Make sure all parts are secure and working well.
- Assure that tires are fully inflated and brakes are working properly.

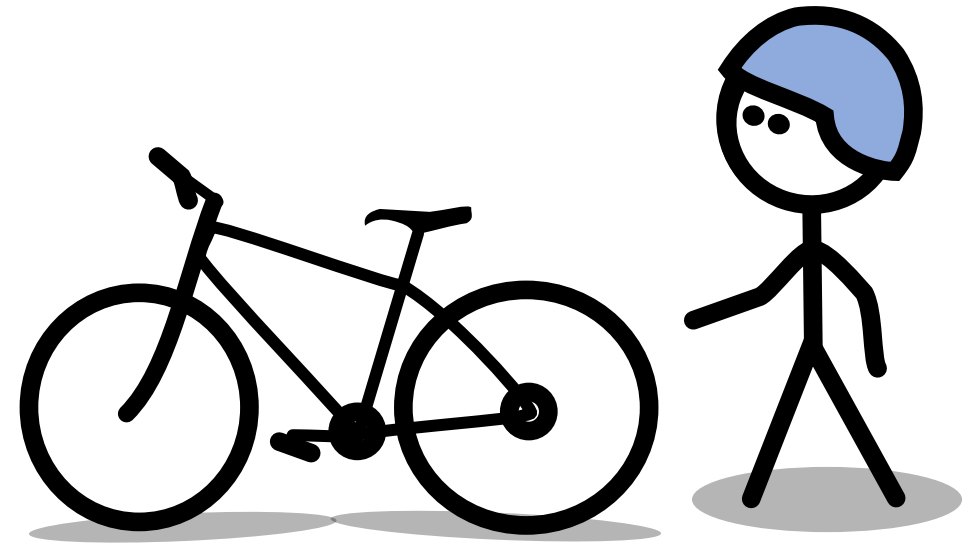


Safety

Requirement 1c – Safety – Be Seen

See and be seen.

- Wear clothing that makes you more visible, such as bright neon or fluorescent colors.
- Wear reflective clothing or tape.
- Avoid riding at night.

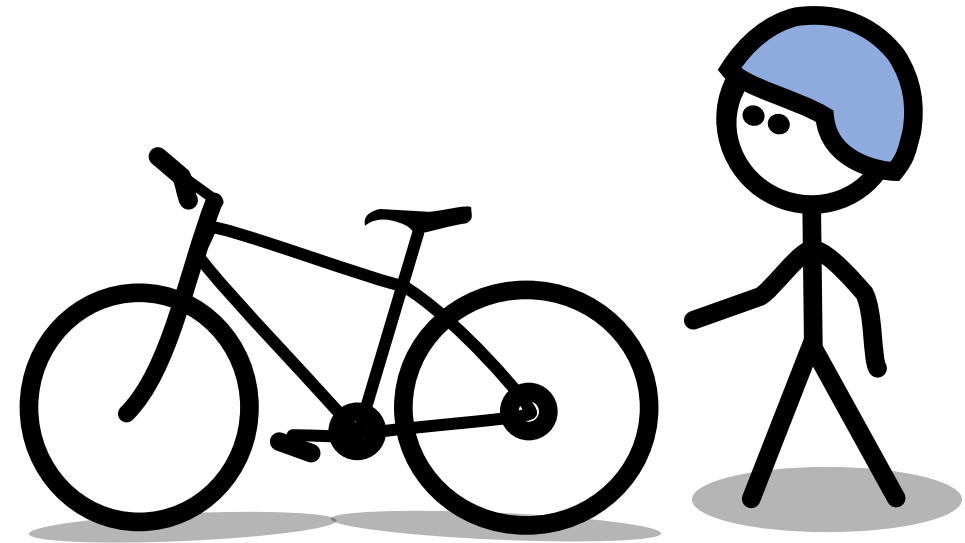


Safety

Requirement 1c – Safety – Road Hazards

Watch for and avoid road hazards.

- Stay alert at all times.
- Be on the lookout for hazards, such as potholes, broken glass, gravel, puddles, leaves, animals, or anything that could cause you to crash.
- If you are riding with friends and you are in the lead, call out and point to the hazard to alert the riders behind you.

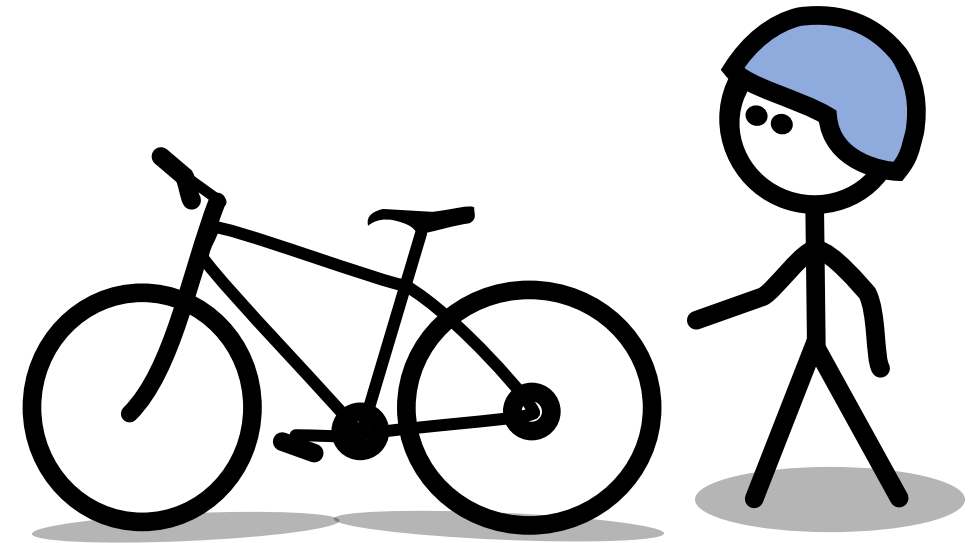


Safety

Requirement 1c – Safety – Rules

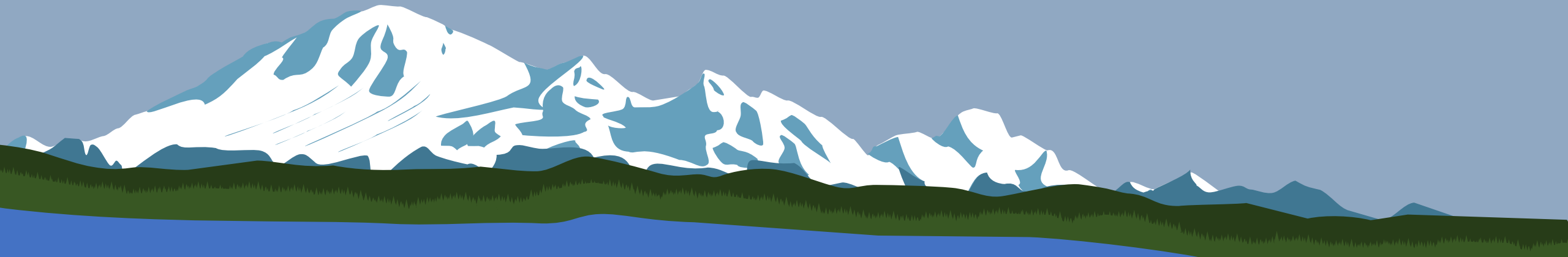
Follow the rules of the road.

- Check and obey all local traffic laws.
- Always ride on the right side of the road in the same direction as other vehicles.
- Go with the flow—not against it!
- Yield to traffic and watch for parked cars.





The Bike



The Bike

Requirement 2 – Safety Checklist

Clean and adjust a bicycle.

Prepare it for inspection using a bicycle safety checklist.

Be sure the bicycle meets local laws.



The Bike

Requirement 2 – Safety Checklist



www.youtube.com/watch?v=eiEfbPC6dXg

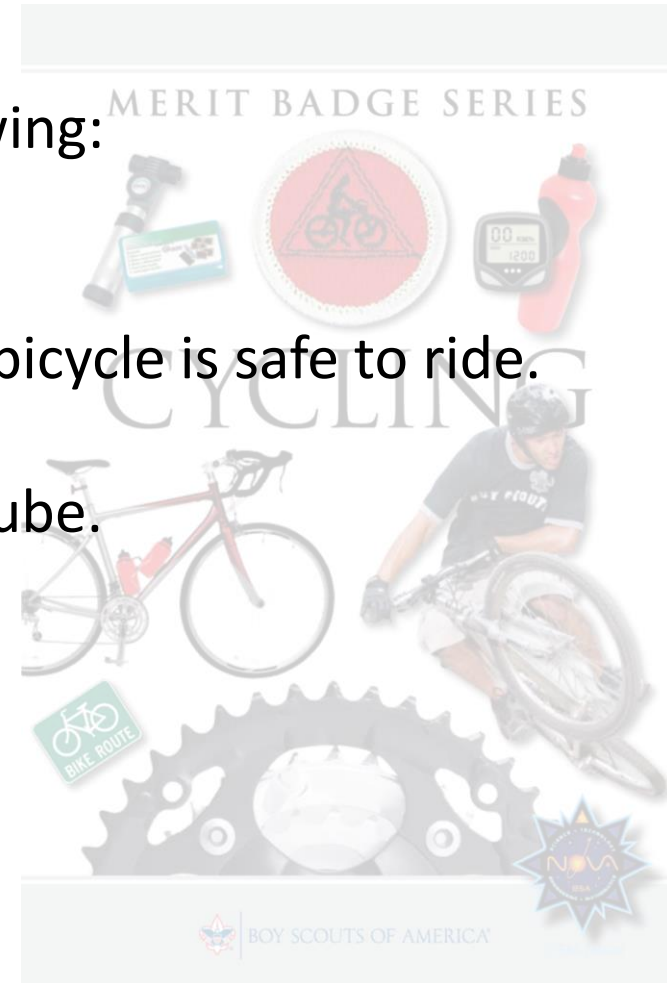
The Bike

Requirement 3 – Safety Inspection

Show your bicycle to your counselor for inspection.

Point out the adjustments or repairs you have made. Do the following:

- Show all points that need regular lubrication.
- Show points that should be checked regularly to make sure the bicycle is safe to ride.
- Show how to adjust brakes, seat level and height, and steering tube.



The Bike

Requirement 3 – Safety Inspection



www.youtube.com/watch?v=luy7wwMm6HY

The Bike

Requirement 4 – Brakes

Describe how to brake safely with foot brakes and with hand brakes.



The Bike

Requirement 4 – Brakes



www.youtube.com/watch?v=frlKK_XU-qE

The Bike

Requirement 5 – Changing a Tire

Show how to repair a flat by removing the tire, replacing or patching the tube, and remounting the tire.



The Bike

Requirement 5 – Changing a Tire



www.youtube.com/watch?v=96_2dAQvxvI

The Bike

Requirement 6 – Traffic Laws

Describe your state and local traffic laws for bicycles.

Compare them with motor-vehicle laws.



The Bike

Requirement 6 – Traffic Laws – Bikes and Autos

Washington State

- **Riding on the road** - When riding on a roadway, a cyclist has all the rights and responsibilities of a vehicle driver ([RCW 46.61.755](#)).

Bicyclists who violate traffic laws may be ticketed ([RCW 46.61.750](#)).

The Bike

Requirement 6 – Traffic Laws – Bikes and Autos

Washington State

- **Roads closed to bicyclists** - Some designated sections of the state's limited access highway system may be closed to bicyclists.

See [the permanent bike restrictions map](#) for more information.

In addition, local governments may adopt ordinances banning cycling on specific roads or on sidewalks within business districts.

The Bike

Requirement 6 – Traffic Laws – Bikes and Autos

Washington State

- **Children bicycling**

Parents or guardians may not knowingly permit bicycle traffic violations by their ward ([RCW 46.61.700](#)).

The Bike

Requirement 6 – Traffic Laws – Bikes and Autos

Washington State

- **Riding side by side**

Bicyclists may ride side by side, but not more than two abreast ([RCW 46.61.770](#)).

The Bike

Requirement 6 – Traffic Laws – Bikes and Autos

Washington State

- **Riding at night**

For night bicycle riding, a white front light (not a reflector) visible for 500 feet and a red rear reflector are required.

A red rear light may be used in addition to the required reflector ([RCW 46.61.780](#)).

The Bike

Requirement 6 – Traffic Laws – Bikes and Autos

Washington State

- **Shoulder vs. bike lane**

Bicyclists may choose to ride on the path, bike lane, shoulder or travel lane as suits their safety needs ([RCW 46.61.770](#)).

The Bike

Requirement 6 – Traffic Laws – Bikes and Autos

Washington State

- **Bicycle helmets** - Currently, there is no state law requiring helmet use.

However, some cities and counties do require helmets.

Aberdeen	Gig Harbor	Pierce County	Snohomish
Bainbridge Island	Kent	(unincorporated)	Spokane
Bellevue	King County	Port Angeles	Steilacoom
Bremerton	Lynnwood	Port Orchard	University Place
DuPont	Lakewood	Poulsbo	Vancouver
Eatonville	Milton	Puyallup	
Fircrest	Orting	Renton	

The Bike

Requirement 6 – Traffic Laws – Bikes and Autos



The Bike

Requirement 7 - Riding

7.* Using the BSA buddy system, complete all of the requirements for ONE of the following options: road biking OR mountain biking.

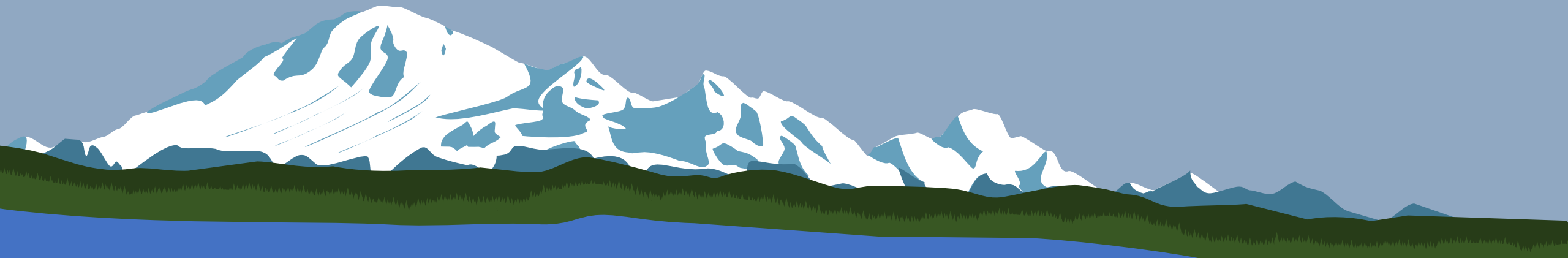
Option A: Road Biking

Option B: Mountain Biking





Road Biking



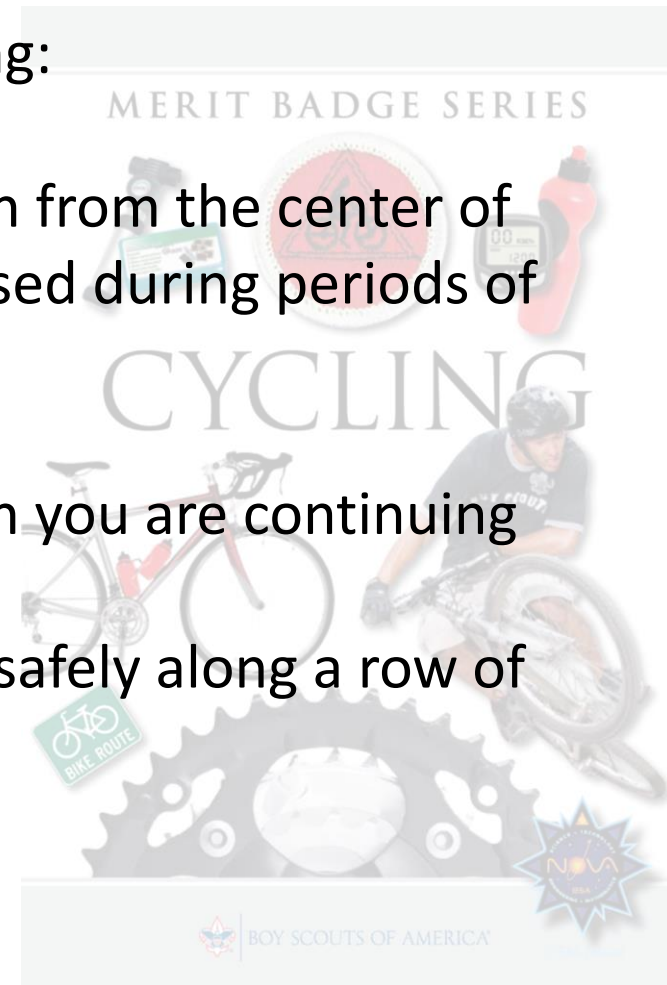
Road Biking

Requirements

Requirement 7a Option A

Take a road test with your counselor and demonstrate the following:

- (1) Properly mount, pedal, and brake, including emergency stops.
- (2) On an urban street with light traffic, properly execute a left turn from the center of the street; also demonstrate an alternate left-turn technique used during periods of heavy traffic.
- (3) Properly execute a right turn.
- (4) Demonstrate appropriate actions at a right-turn-only lane when you are continuing straight.
- (5) Show proper curbside and road-edge riding. Show how to ride safely along a row of parked cars.
- (6) Cross railroad tracks properly.



Road Biking

Requirement 7b Option A – Rides

Avoiding main highways, take

- two rides of 10 miles each
- two rides of 15 miles each
- two rides of 25 miles each

You must make a report of the rides taken.

List dates for the routes traveled, and interesting things seen.



Road Biking

Requirement 7c Option A – 50-Miler

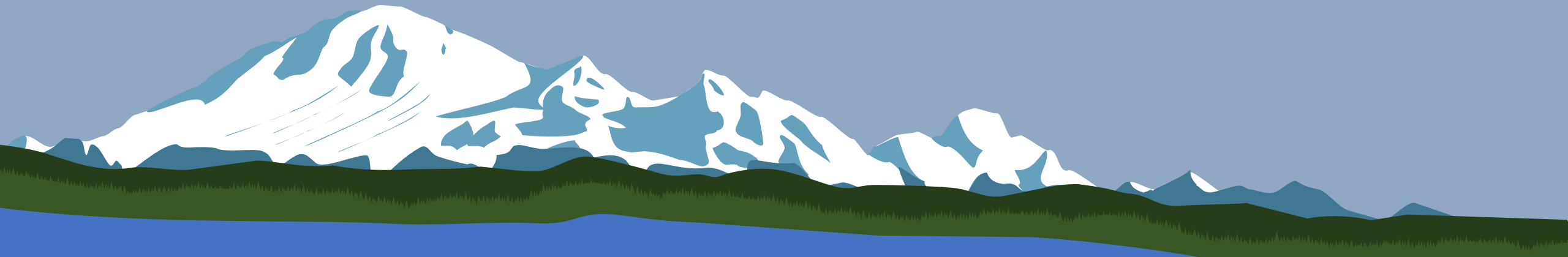
After completing requirement b for the road biking option, do ONE of the following:

- (1) Lay out on a road map a 50-mile trip.
Stay away from main highways.
Using your map, make this ride in eight hours.
- (2) Participate in an organized bike tour of at least 50 miles.
Make this ride in eight hours.
Afterward, use the tour's cue sheet to make a map of the ride.





Mountain Biking

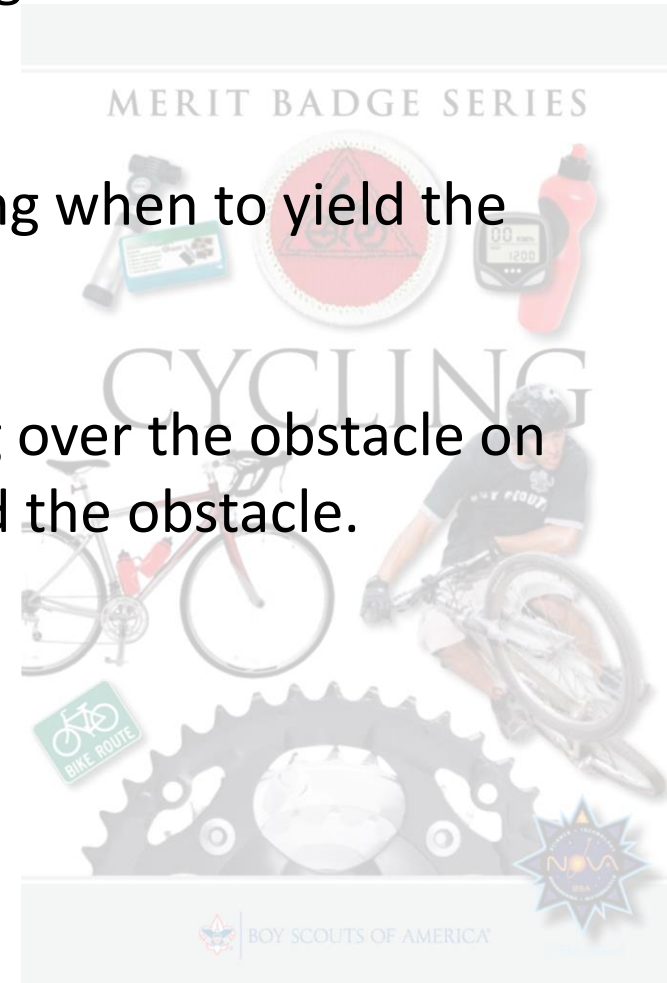


Mountain Biking

Requirement 7a Option B

Take a trail ride with your counselor and demonstrate the following:

- (1) Properly mount, pedal, and brake, including emergency stops.
- (2) Show shifting skills as applicable to climbs and obstacles.
- (3) Show proper trail etiquette to hikers and other cyclists, including when to yield the right-of-way.
- (4) Show proper technique for riding up and down hills.
- (5) Demonstrate how to correctly cross an obstacle by either going over the obstacle on your bike or dismounting your bike and crossing over or around the obstacle.
- (6) Cross rocks, gravel, and roots properly.



Mountain Biking

Requirement 7b Option B

Describe the rules of trail riding, including how to know when a trail is unsuitable for riding.



Mountain Biking

Requirement 7b Option B



www.youtube.com/watch?v=TzAsIHvMfr0

Mountain Biking

Requirement 7c Option B – Rides

On trails approved by your counselor, take

- two rides of 2 miles each
- two rides of 5 miles each
- two rides of 8 miles each

You must make a report of the rides taken.

List dates for the routes traveled, and interesting things seen.



Mountain Biking

Requirement 7d Option B - 22-Miler

After fulfilling the previous requirement, lay out on a trail map a 22-mile trip.

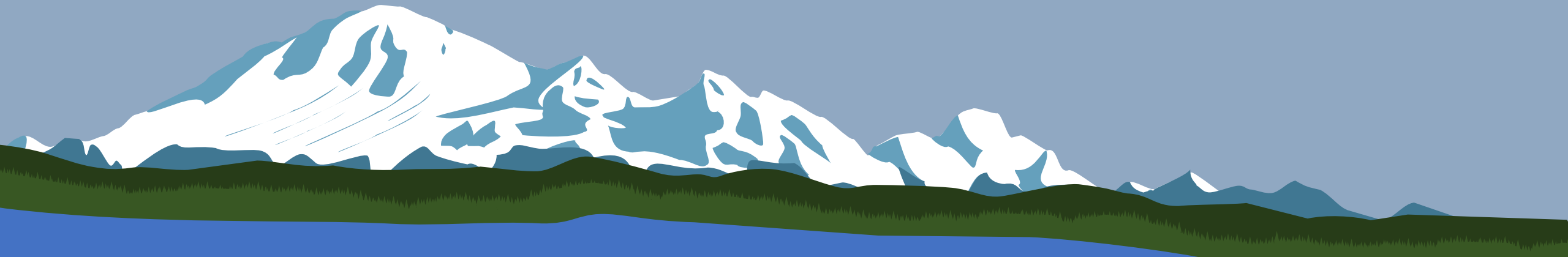
You may include multiple trail systems, if needed.

Stay away from main highways. Using your map, make this ride in six hours.





Final Thoughts



Final Thoughts

Merit Badge Requirement Checklist

- Show completion of work
Ideally - **Turn in complete [Workbook](#)**
- There are obviously requirements that must be done outdoors
Complete these can send confirmation of completion



If you are unable to fill out a [Workbook](#)
Please contact your councilor

Final Thoughts

Final Thoughts

Final Thoughts

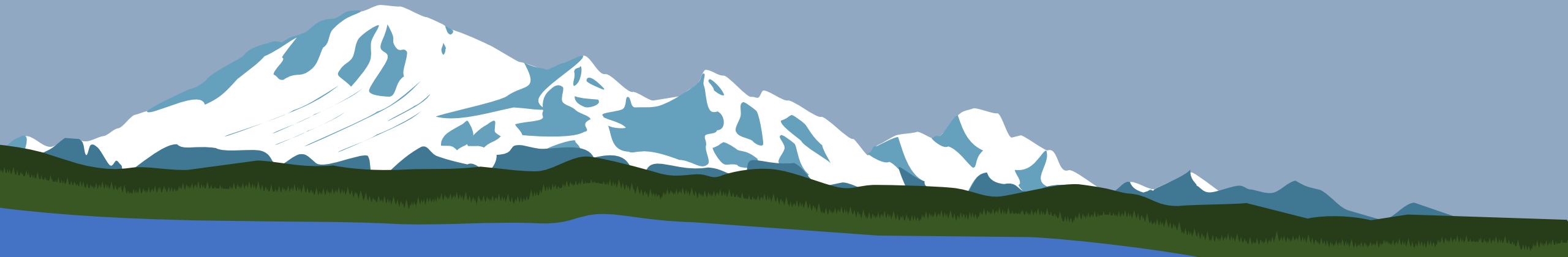
Looking for More?

- Merit Badge Pamphlet is a great resource





Resources



Resources

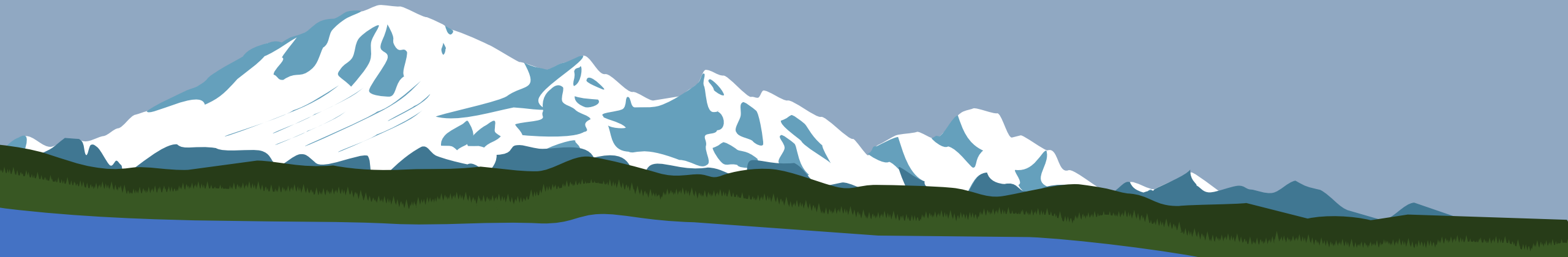
Looking for More?

- Merit Badge Pamphlet is a great resource





Instructor's Corner



Instructor's Corner

Instructor's Corner

- Thank you for teaching our scouts the Cycling Merit Badge.