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California Cadet Corps
Curriculum on Military Knowledge

"Rock the Bivouac!"

M10/A: Bivouac

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Agenda

A1. Introduction to/Planning Bivouacs

A2. Knots

A3. Knife Safety and Operation

A4. Food Planning and Menus

A5. Field Cooking

A6. Fire

A7. Tent Shelters

A8. Hygiene

A9. Map Reading / Direction Finding

A10. Bivouac Safety

A11. Guard Duty / Fire Watch

A12. Packing Lists

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INTRODUCTION TO BIVOUACS

A1. Leadership develops goals (in compliance with district guidelines), staff assignments, mission statement, risk assessment, logistical needs, OPORDER (CR 3-14, Appendix C), AAR, and training schedule.

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Bivouac

OBJECTIVES

Unit conducts one bivouac per year that meets the parameters of the Annual General Inspection (AGI) to achieve a Superior rating and Cadets earn a bivouac ribbon.

Plan of Action

1. Leadership develops goals (in compliance with district guidelines), staff assignments, mission statement, risk assessment, logistical needs, OPORDER (CR 3-14, Appendix C), AAR, and training schedule.

Essential Question: What are the responsibilities of the Brigade Advisor, Commandant, Cadet Commander, and Cadet staff in planning and preparing for a bivouac?

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Introduction to Bivouacs

biv•ou•ac

('bɪv u˛æk, 'bɪv wæk)

n., *v.* **-acked, -ack•ing.** *n.*
1. a military encampment made with tents.
2. the place used for such an encampment.
v.i.
3. to assemble in a bivouac.
[1700–10; < French < Swiss German *bīwacht* auxiliary patrol =*bī-* by- + *wacht* patrol, watch]
(Dictionary, 2010)

Introduction to Bivouacs

- Bivouac → it's like a camping trip but with a military theme
- Opportunity to:
  - Go to the field overnight
  - Learn basic field skills
  - Practice leadership
- CACC Regulation CR3-2, Chapter 2 gives guidelines

Introduction to Bivouacs

Some activities that could be at a bivouac:

- Map reading
- Compass use
- Orienteering
- First Aid
- Cardiopulmonary Resuscitation (CPR)
- Marksmanship
- Hunter safety

- Disaster preparedness
- Mountaineering
- Leadership Reaction Courses
- Survival
- Guard duty
- Field hygiene and sanitation
- Team building

Planning Bivouacs

- Commandants & Brigade Advisors roles
  - Ensure safety of Cadets in attendance at field training
  - Work with senior Cadet leaders to plan field training
  - Allow Cadet leaders to be responsible for *command and staff operations*

Planning Bivouacs

Command & Staff Operations include:

1. Command and Control
2. Accountability and Risk Assessment
3. Morale activities
4. Personnel management
5. Formations and foot movement of personnel
6. Supply & Logistics management
7. Radio Communications
8. Public relations
9. Lesson planning
10. Supervision of Cadet instruction
11. Development of Training Schedules and Operations Orders/Plans

Planning Bivouacs

- Additional Commandant Responsibilities
  - Ensure instruction during field training is high quality
  - Ensure any Cadet-delivered instruction is by knowledgeable Cadets

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Planning Bivouacs

- Cadet Commanders role
  - Develop mission statements
  - Establish goals that support the mission
  - Develop measurable objectives
  - Develop assessment systems to evaluate the success of the mission

Planning Bivouacs

- Cadet Staff Members roles
  - Develop an OPORDER (see CR 3-14) in response to Cadet Commander's stated mission
  - Implement the OPORDER with support from subordinate Cadets
  - Assist Cadet Commander in evaluating the success or failure of the mission, goals, & objectives

Check on Learning

1. When planning a bivouac, whose responsibility is it to:

   a. Ensure the safety of Cadets while in the field?
   b. Develop the mission statement?
   c. Work with senior Cadet leaders to plan field training?
   d. Develop the OPORDER?

2. TRUE or FALSE:
Cadets who are not leaders have no role in planning a bivouac

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Rock the Bivouac!

Practicum

Your Mission: Plan & Do a Bivouac

The following need to be done: Leadership develops goals (in compliance with district guidelines), staff assignments, mission statement, risk assessment, logistical needs, OPORDER (CR 3-14, Appendix C), AAR, and training schedule.

When? After you have studied all the lessons in this section that you will need for a successful bivouac.

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KNOTS

A2. Demonstrate the ability to tie each of the eight knots listed and give the purpose each knot is used for.

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Suggested Supplies for this Lesson:

12” lengths of rope for knot tying practice

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Knots

Objectives

Unit conducts one bivouac per year that meets the parameters of the Annual General Inspection (AGI) to achieve a Superior rating and Cadets earn a bivouac ribbon.

2. Demonstrate the ability to tie each of the eight knots listed and give the purpose each knot is used for.

Essential Question:

What is the purpose of each of the eight knots described?

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Knot-Related Vocabulary*

Loop: forming a circle in the rope. When the ends cross, it's called a crossing turn.

Noose: Any sliding loop in which the loop tightens when pulled.

Overhand loop: formed when a loop is made so that the running end of the rope is on top of the standing part.

Round Turn: passing the rope around an object twice to create 1½ circles.

Running End: the end of the rope that is used to tie the knot.

Setting: the process of tightening a knot.

Slipped Knot: a knot that is easily untied by pulling the tail.

Standing End: the inactive part of a rope while tying a knot.

Stopper Knot: a knot tied at the end of a rope used to prevent the rope from slipping through pulleys or holes. Can also be used to temporarily stop the rope from fraying until it can be whipped.

Strands: each individual length of fibers in a braided or twisted rope.

Take a turn: to wrap a rope around a spar or stake so it continues off in the same direction.

Tail: short end of the rope, or the part of rope that carries no pressure.

Underhand loop: formed when the running end of the rope is placed under the standing part.

Whipping: a binding knot round the end of a rope to prevent the rope from unraveling.

Working End: the active end of a rope while tying a knot.

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The Square Knot

Square Knot's purpose:

- Tie bandages (in first aid)
- For building shelters
- To tie boot laces to keep boots from becoming untied and pulled off by mud
- Tie two ends of rope together (but not with nylon rope)

The Square Knot is also known as the Reef Knot

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The Square Knot

Do *Not* Use if:

- One of the ends of the rope is to be pulled
- Load needs to be secured

If tied incorrectly, it's even less secure and could be dangerous

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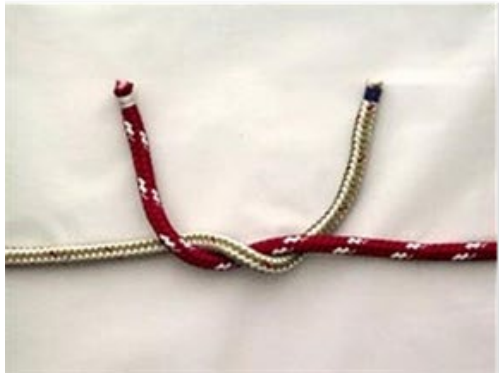
The Square Knot

To tie a Square Knot:

1. Loop right end over left, and under;
2. Then left end over right, and under,
3. And pull



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The Bowline

Bowline's purpose:

- Forming a loop
- Handles (because they never slip)
- Rescue – it's a secure loop to grab, step in, or put arms through

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The Bowline

To tie a Bowline:

1. Create a loop by passing the working end of the line over the top of its body
2. Pull it tight at your desired loop size

Remember the knot by this story:

"The rabbit comes out of the hole, runs around the back of the tree, then jumps back down."

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Figure Eight

Figure Eight's purpose:

- 'Stopper knot' at the end of a line
- Tie a rope onto a carabiner
- Used in climbing

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Figure Eight

To tie a Figure Eight:

1. In the rope end, form a loop by twisting a bight of the rope
2. Then pass the rope end round the rope
   - Take the longest journey, not the shortest
3. And through the loop




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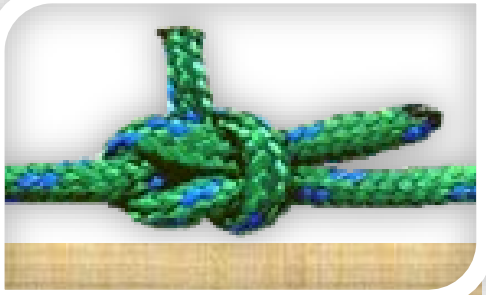
Sheet Bend



Sheet Bend's purpose:

- Tie two ropes together
  - Especially if ropes are of different types/sizes

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Sheet Bend

To tie a Sheet Bend:

1. Form a loop in the thicker rope and hold it in one hand;
2. Pass thinner piece of rope through the loop,
3. Then around the loop

   Go around the short end first, then the long end*
4. Tuck smaller rope back under itself to finish

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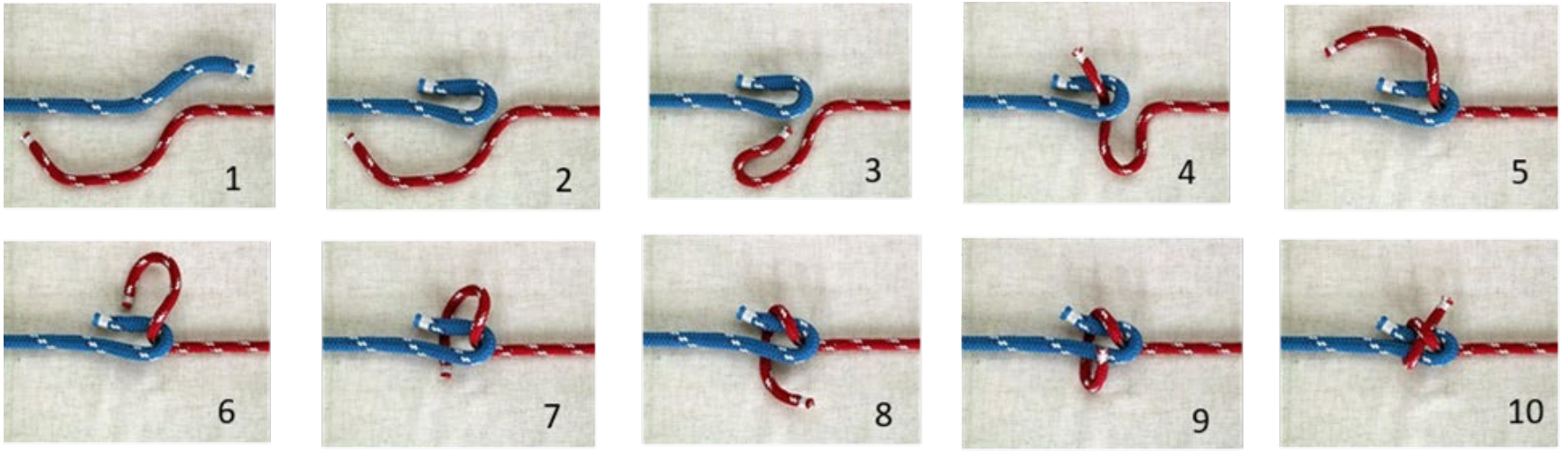
Sheet Bend

To tie a Sheet Bend:



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Clove Hitch

Clove Hitch's purpose:

- Secures a line to a tree or post quickly
  - Must be used with other knots as backup to prevent slippage

Two Different Methods:

- Normal Clove Hitch – works for all situations
- Quick Clove Hitch – for open ended poles when rope is under pressure

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Normal Clove Hitch

To tie a Normal Clove Hitch:

1. Throw the rope over the pole
2. Pass it back over the pole, crossing the working end over the standing end
3. Tuck working end through underneath itself so it is parallel to the standing point, pointing away from each other
4. Pull the standing end and working end in opposite directions until knot is tight

MacWelch, T. (2017, July 31). *Essential Knots: How to Tie the 20 Knots You Need to Know*.

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Quick Clove Hitch

To tie a Quick Clove Hitch:

1. Create a crossing turn by passing the working end underneath the standing end
2. Make a second crossing turn by passing the working end underneath itself.
3. Slide the right loop on top of the left loop.
4. Slide both loops over a pole and pull each end in opposite directions

MacWelch, T. (2017, July 31). *Essential Knots: How to Tie the 20 Knots You Need to Know*.

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Rolling Hitch

Rolling Hitch's purpose:

- Secures a line to a tree or post more securely (in one direction) than the Clove Hitch

The Rolling Hitch is a Clove Hitch with a half hitch added

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Rolling Hitch

To tie a Rolling Hitch:

1. Make a round turn around the object you want to attach your line to, crossing the working end over top of the standing end
2. Create another round turn next to the previous one, again crossing the working end over top of the standing end
3. Create a Half Hitch by making a third turn, but tuck the working end through the turn itself so the working end lays on the bottom
4. Make this half hitch without crossing over the standing end
5. Pull the standing end and the working end in opposite directions

MacWelch, T. (2017, July 31). *Essential Knots: How to Tie the 20 Knots You Need to Know*.

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Tautline Hitch

<u>Tautline Hitch's purpose</u>:

1. A that can be loosened or tightened
2. Attach tent stakes to a tent

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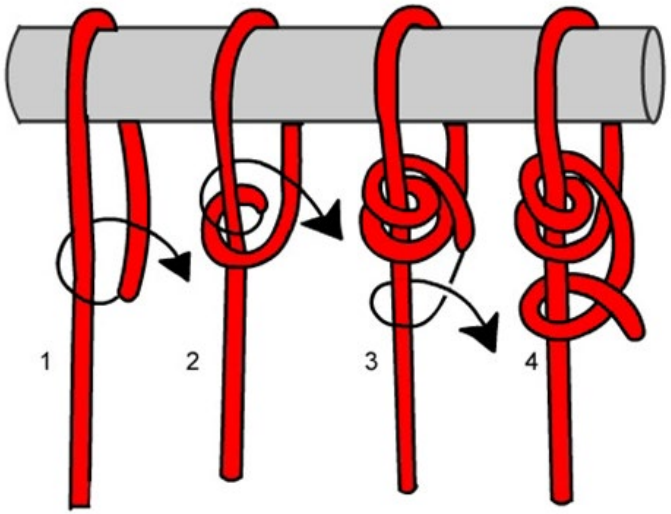
Tautline Hitch



To tie a Tautline Hitch:

1. Create a loop by wrapping the rope around something like a tree or tent stake
2. With the free end of the rope, wrap towards the stake twice
3. Then wrap the free end of the rope over everything, towards you one time around the rope, and cinch these wraps down tight
4. Pull on the standing line and the tautline hitch should grip the loaded line.

MacWelch, T. (2017, July 31). *Essential Knots: How to Tie the 20 Knots You Need to Know8*

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Double Half Hitch

Double Half Hitch's purpose:

1. Secures a line to trees or poles
2. Secures a line to itself in the case of the Trucker's Hitch

The Double Half Hitch may also be called Two Half Hitches

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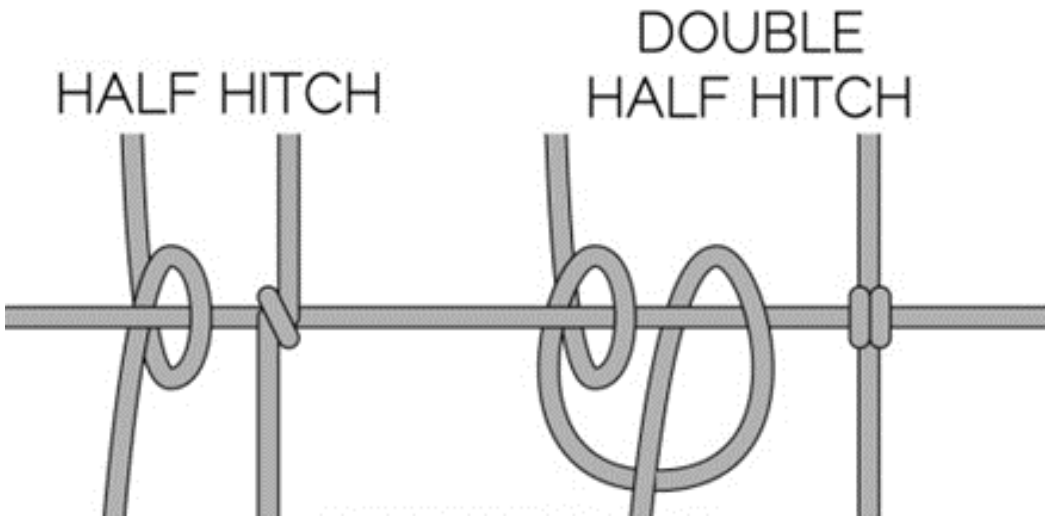
Double Half Hitch



To tie a Double Half Hitch:

1. Make a Half Hitch on the standing end
2. Then wrap around the line in the same direction again to make the second Half Hitch
3. Pull it tight

****If you want a little insurance, you can tie an Overhand loop in the free end of the line to keep the Two Half Hitches from slipping****

MacWelch, T. (2017, July 31). *Essential Knots: How to Tie the 20 Knots You Need to Know*

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Check on Learning

Practicum

Each Cadet demonstrates the ability to tie at least two of the eight knots listed and give the purpose for using each knot.

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KNIFE SAFETY AND OPERATION

A3. Demonstrate safe ways to use a knife in a field environment, and identify the rules associated with knife safety.

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Suggested Supplies for this Lesson:

“Knife” props (i.e., pens and pencils)

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Knife Safety and Operation

Objectives

Unit conducts one bivouac per year that meets the parameters of the Annual General Inspection (AGI) to achieve a Superior rating and Cadets earn a bivouac ribbon.

3. Demonstrate safe ways to use a knife in a field environment, and identify the rules associated with knife safety.

Essential Question:

What is the proper way to use a knife?

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Knife Safety and Operation

Knife Safety (video is 1m, 23s)

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Knife Safety and Operation*

- Work with the knife moving away from you, not toward you (*push it, don't pull it!*)
- Don't point a knife blade or tip toward yourself or anyone else
- Use your knife directly in front of you when possible
- No running with an open knife!
- Be aware of your surroundings, especially within the arc of the knife
- Don't try to catch your knife if it drops
- Don't play with your knife – it's a tool, not a toy!

*Life, S. (2018). *Top Ten Uses for a Survival Knife*. Retrieved from Survival Life: https://survivallife.com/uses-for-survival-knife/

Knife Safety and Operation

Take proper care of your knife!

- Store your knife safely
- Properly hold your knife
- Know how to sharpen your knife – and keep it sharp!

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Knife Safety and Operation

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The Top Ten Uses for a Survival Knife

1. Warmth

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The Top Ten Uses for a Survival Knife

2. Bow Drill Fire Starter

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The Top Ten Uses for a Survival Knife

3. Shelter

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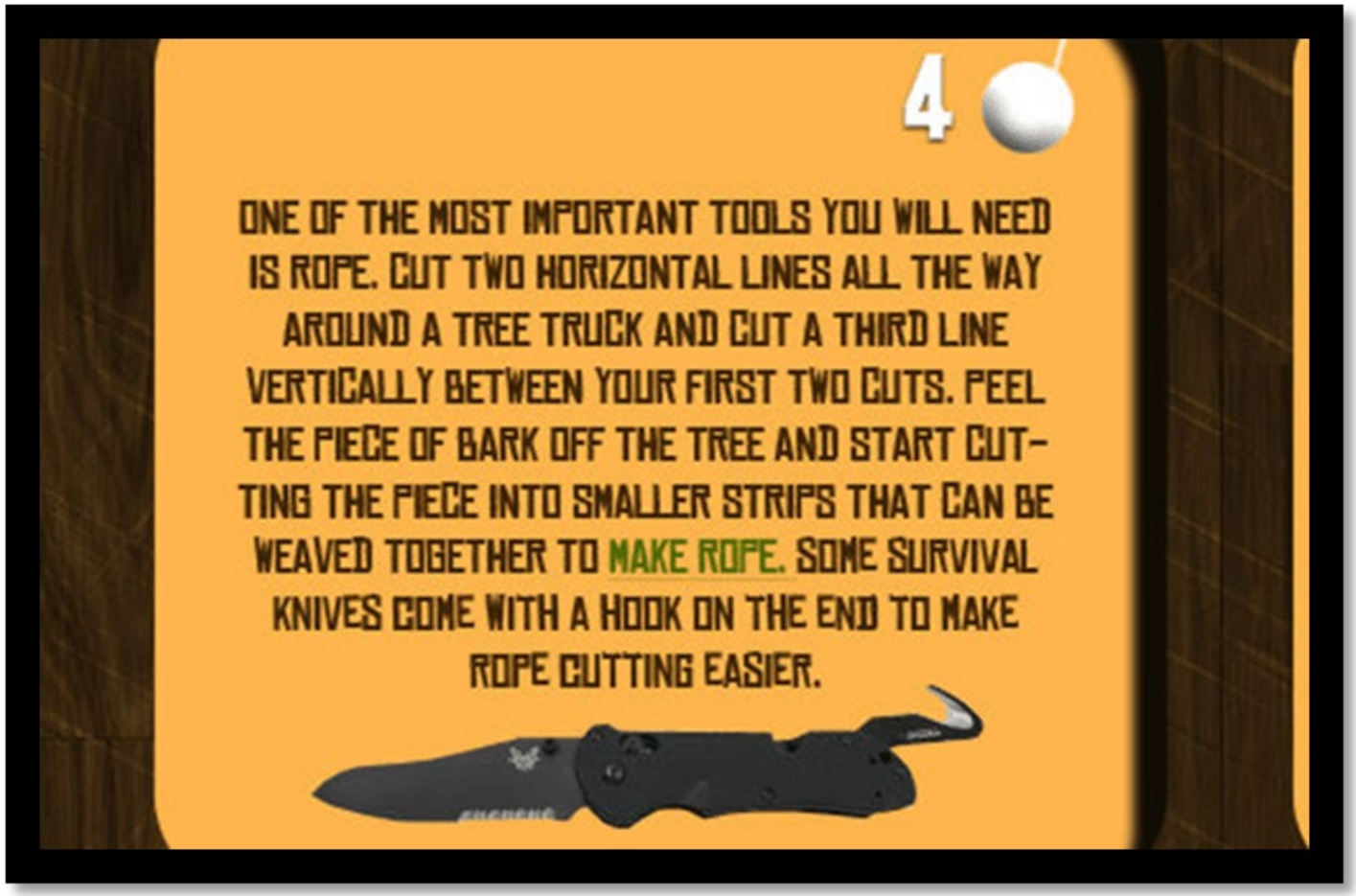
The Top Ten Uses for a Survival Knife

4. Rope Making



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The Top Ten Uses for a Survival Knife

5. Carving Tools

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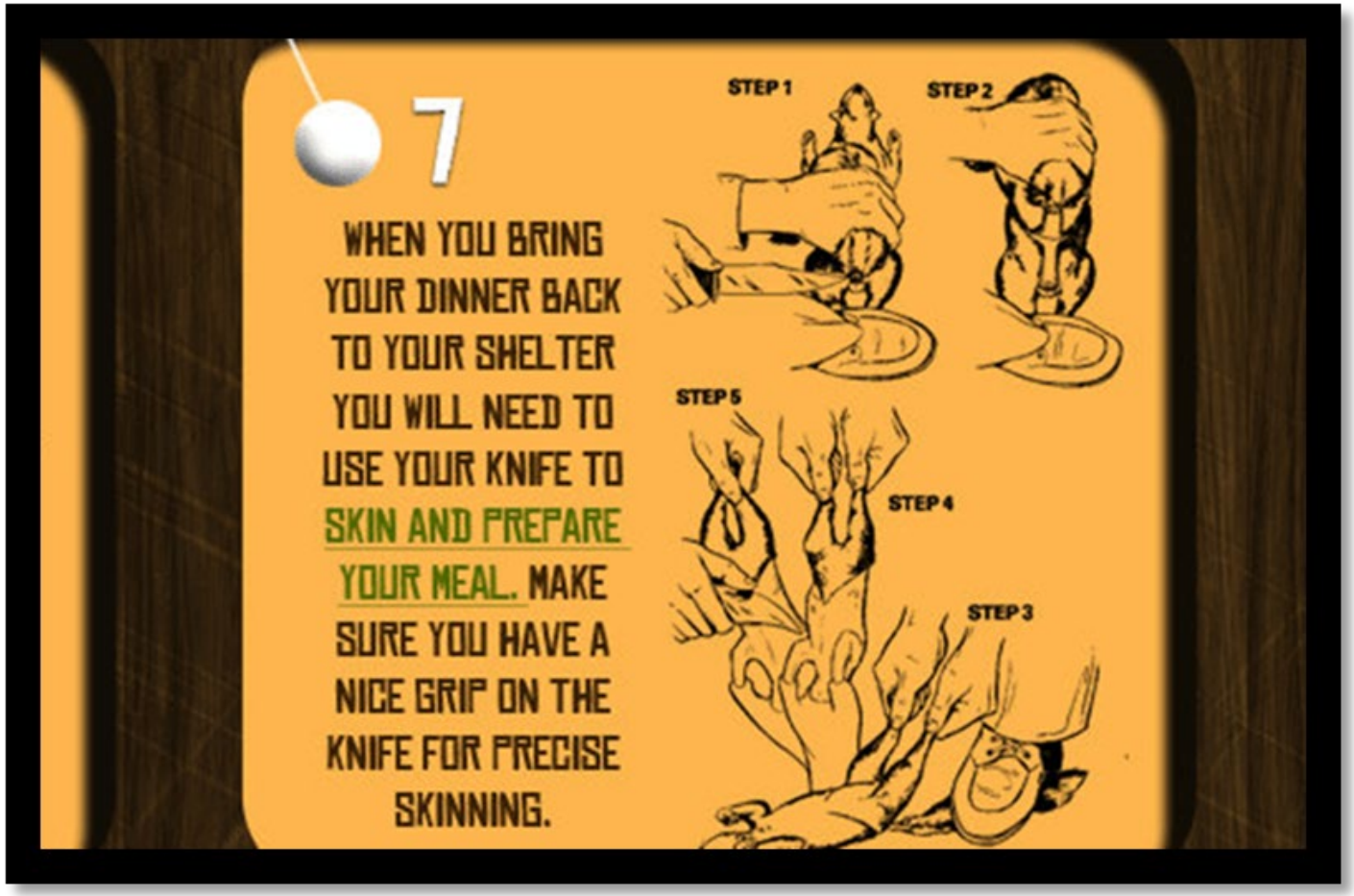
The Top Ten Uses for a Survival Knife

7. Cleaning Game



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The Top Ten Uses for a Survival Knife

8. Defense

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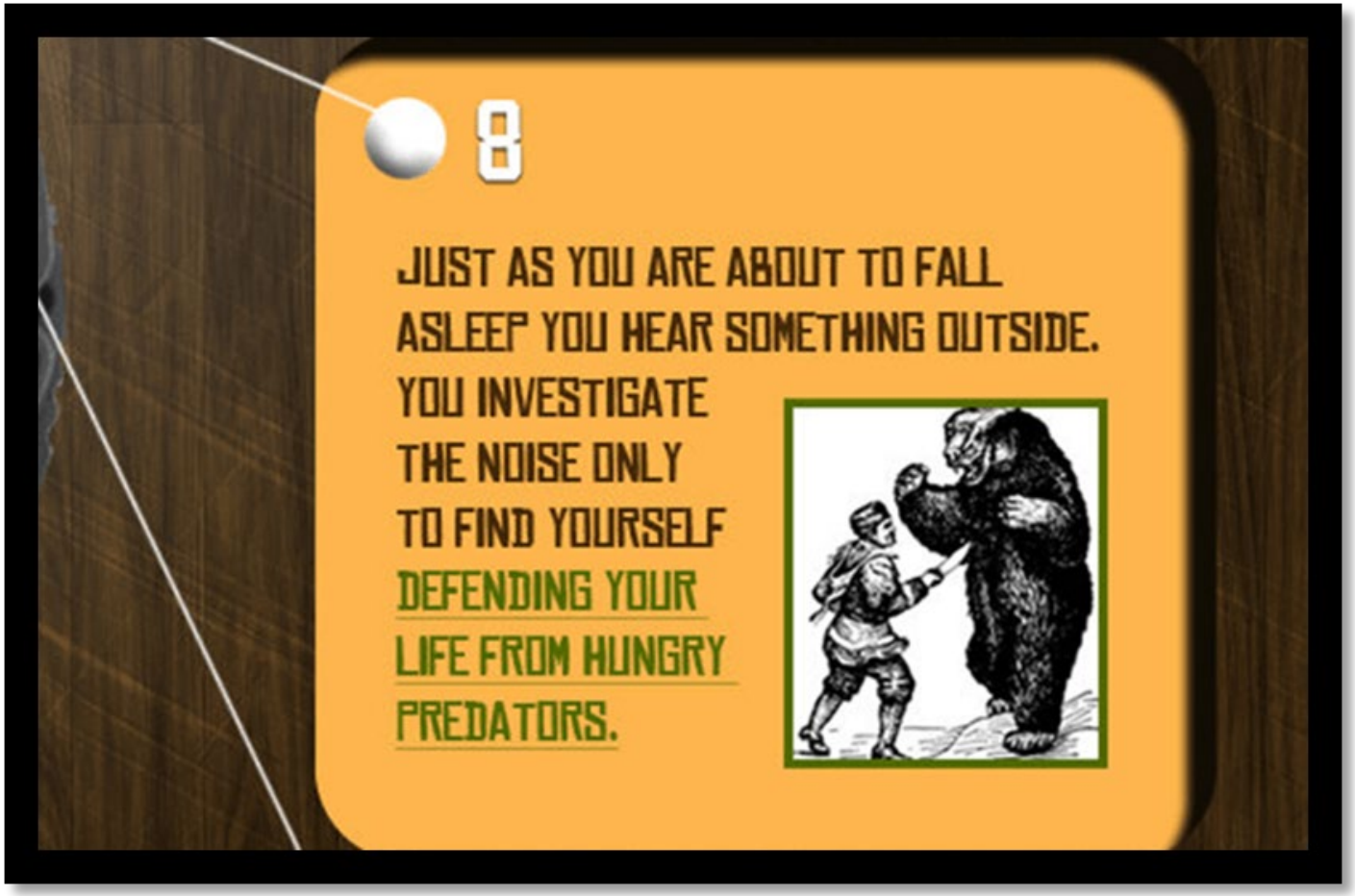
The Top Ten Uses for a Survival Knife

9. Preparedness



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The Top Ten Uses for a Survival Knife

10. SOS

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Check on Learning

1. Name at least five rules for properly using a knife.

2. What are the three things to do to properly care for a knife?

Practicum

<u>If a knife cannot be used, use a pencil or pen as a “knife” prop</u>:

Each Cadet demonstrates how to safely hold and use a knife whose blade is extended/“open”

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FOOD PLANNING AND MENUS & FIELD COOKING

A4. Discuss the options for individual Cadet meals and snacks at a bivouac.
A5. Identify equipment needed to cook in the field.

Food Planning and Menus

Objectives

Unit conducts one bivouac per year that meets the parameters of the Annual General Inspection (AGI) to achieve a Superior rating and Cadets earn a bivouac ribbon.

4. Discuss the options for individual Cadet meals and snacks at a bivouac.
5. Identify equipment needed to cook in the field.

Essential Question:

What kind of food should be planned for a bivouac?

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Food Planning and Menus

What to eat on a bivouac depends on:

- the location
- the rules of the location
- the weather
- the length of the bivouac
- the equipment available

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Food Planning and Menus

- Need a mix of proteins, carbohydrates, fats, and fiber
- Don’t forget the water
- If packing it with you, keep it lightweight and compact
- Find foods that don’t take extra effort to prepare
- Freeze dried, canned or pre-packaged meals are an option

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Breakfast

- Oatmeal
  - Dried fruit, nuts, and seeds can be added
  - Powdered milk can be added to make creamier
- Powdered eggs
  - Not the most delicious, but packing fresh eggs isn't a good option
- Bagels

  - Peanut butter can add protein

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Lunch

- Beef jerky and beef sticks
- Salami
- Packaged tuna and chicken
- Cheese
- Peanut Butter

- Bread replacement (since bread doesn't pack well):
  - Tortillas
  - Bagels

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Dinner

- Packaged noodles, instant rice, couscous, or instant potatoes
- Dried vegetables
- Same proteins as lunch (beef jerky, tuna, chicken, salami)

Don't forget the hot sauce and/or catsup!

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Snacks

- Dried fruit, nuts, and seeds
- Granola bars
- Beef jerky
- Crackers
- Chocolate (if the weather isn't so hot it melts)

Try to keep snacks pretty healthy!

Food Planning and Menus

Sample Weekend Bivouac Food Packing List:

- Small camp stove (or Sterno-type folding stove & small pot or metal canteen cup)
- Packets of hot chocolate mix
- Packets of oatmeal mix
- Crackers
- Cheese
- Peanut butter
- Tuna/Chicken lunch meal kits
- Beef Jerky
- Packaged seasoned rice
- Dried Fruit & Nuts
- Granola bars

Food Planning and Menus

- If doing a bivouac at a campground, you may have more options:
  - BBQ grill available?
  - Can you bring ice chests and camping stoves?
- Cooking for large groups is a lot tougher, but not impossible. Need:
  - Stoves and/or grills
  - Pots and utensils
  - Ice chests
  - Simple menu
    - For example: hot dogs, hamburgers, cans of pork & beans, tubs of potato or macaroni salad)

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Check on Learning

1. Name at least three breakfast foods that would be good for a bivouac held on your school campus.
2. Name at least five lunch foods that would be good for a bivouac held on your school campus.
3. What are at least five good snack foods that are on the healthier side?
4. T / F: If there are no cooking facilities, prepackaged foods can be a good way to plan as meals

Field Cooking

Objectives

Unit conducts one bivouac per year that meets the parameters of the Annual General Inspection (AGI) to achieve a Superior rating and Cadets earn a bivouac ribbon.

4. Discuss the options for individual Cadet meals and snacks at a bivouac.

5. Identify equipment needed to cook in the field.

Essential Question:

What cooking equipment is always needed for a bivouac?

Field Cooking

- If going to a campground, you can usually bring a lot of cooking-related equipment
  - Camp stove
  - Pots and pans
  - Ice chest
  - Water container
  - Dishes and utensils

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Field Cooking

- Always needed:
  - Something to heat water in
  - Something to cook in
    - You may be able to get away with only one container to do both
  - Dishes and utensils
  - Source of cooking heat & fuel
    - Camp stove
    - Individual meal heater (such as a Sterno folding stove)
    - Sterno fuel
    - Open fire

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Check on Learning

What cooking-related items are always needed for a bivouac?

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FIRE

A6. Name the three types of material needed to start a fire; identify advantages to each of the named methods of building a fire.

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Suggested Supplies for this Lesson:

"Wood" props (dowel rods, pieces of wood/bamboo, etc.) to demonstrate fire building

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Fire

Objectives

Unit conducts one bivouac per year that meets the parameters of the Annual General Inspection (AGI) to achieve a Superior rating and Cadets earn a bivouac ribbon.

6. Name the three types of material needed to start a fire; identify advantages to each of the named methods of building a fire.

Essential Questions:

1. What materials are needed to start a fire?
2. What are the advantages of each of the methods of fires that can be built?

Fire

- Cadets may need to build a fire
  - Campfire
  - Small cooking fire

- Safety!
  - If at a campground ➡ follow their rules for fires (i.e., designated firepits)
  - If in wooded or brush-covered area ➡ ensure fires are allowed
    - **Clear a circle at least 1 meter in diameter around the fire**

Fire Material

3 types of materials required to start a fire:

1. **Tinder**
   - Dry material that ignites the fire
   - Must be absolutely dry
2. **Kindling**
   - Readily combustible
   - Added to burning tinder
   - Must be absolutely dry
3. **Fuel**
   - Less combustible than kindling
   - Burns slowly and steadily

(Video is 7min, 17sec)

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Tinder	Kindling	Fuel
• Birch bark • Shredded inner bark from cedar, chestnut, red elm trees • Fine wood shavings • Dead grass, ferns, moss, fungi • Straw • Sawdust • Very fine pitchwood scrapings • Dead evergreen needles • Punk (the completely rotted portions of dead logs or trees) • Evergreen tree knots • Bird down (fine feathers) • Down seed heads (milkweed, dry cattails, bulrush, or thistle) • Fine, dried vegetable fibers • Spongy threads of dead puffball • Dead palm leaves • Skinlike membrane lining bamboo • Lint from pocket and seams • Charred cloth • Waxed paper • Outer bamboo shavings • Gunpowder • Cotton • Lint	• Small twigs • Small strips of wood • Split wood • Heavy cardboard • Pieces of wood removed from the inside of larger pieces • Wood that has been doused with highly flammable materials, such as gasoline, oil, or wax	• Dry, standing wood and dry, dead branches • Dry inside (heart) of fallen tree trunks and large branches • Green wood that is finely split • Dry grasses twisted into bunches • Peat dry enough to burn (this may be found at the top of undercut banks) • Dried animal dung • Animal fats • Coal, oil shale, or oil lying on the surface

Fire Building Material

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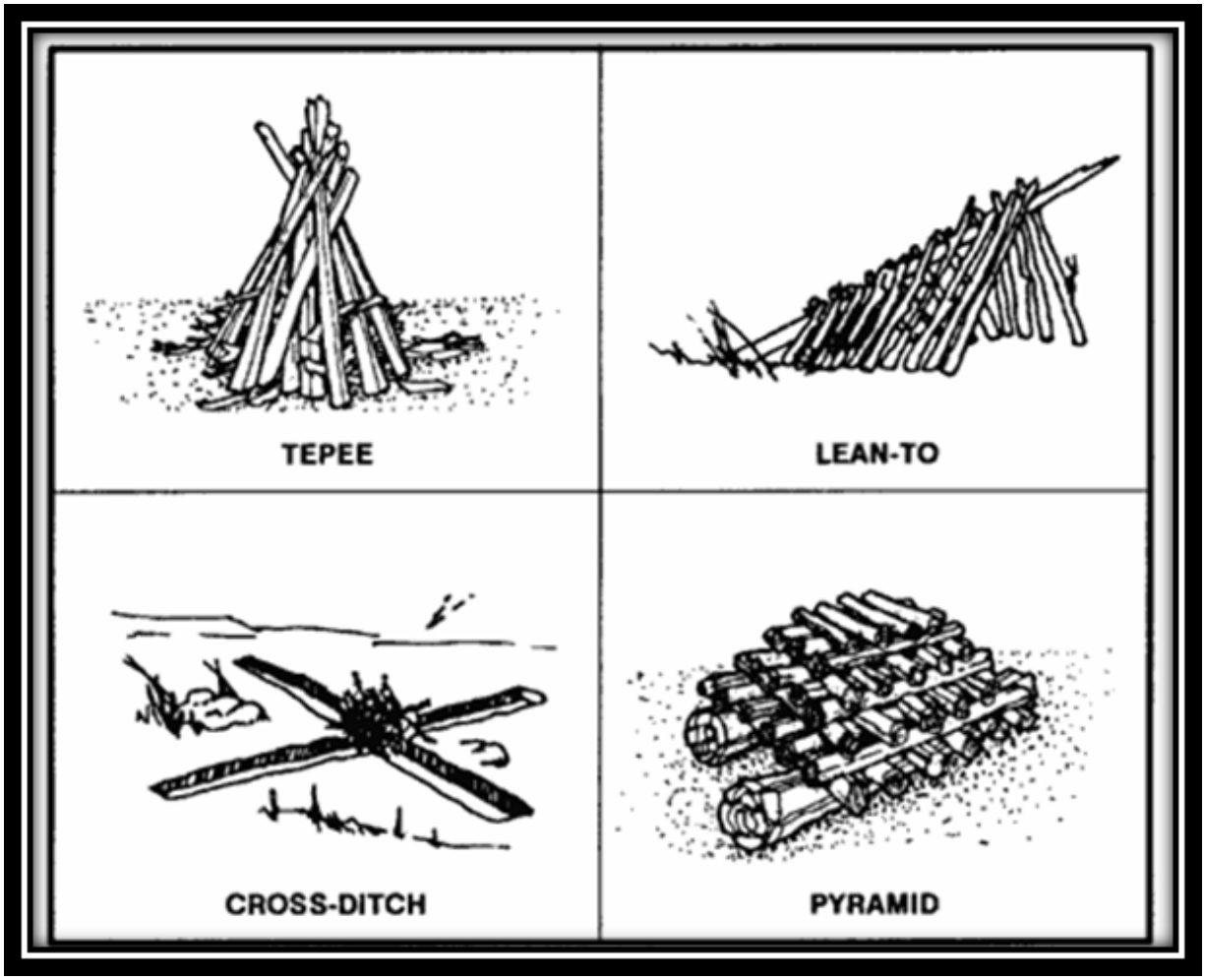
Fire Building Methods



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Tepee Method

- Arrange tinder & a few sticks of kindling in the shape of a tepee or cone
- Make a larger tepee structure around this using fuel wood
- Light the center
- As tepee burns, outside logs fall inward → feeds the fire

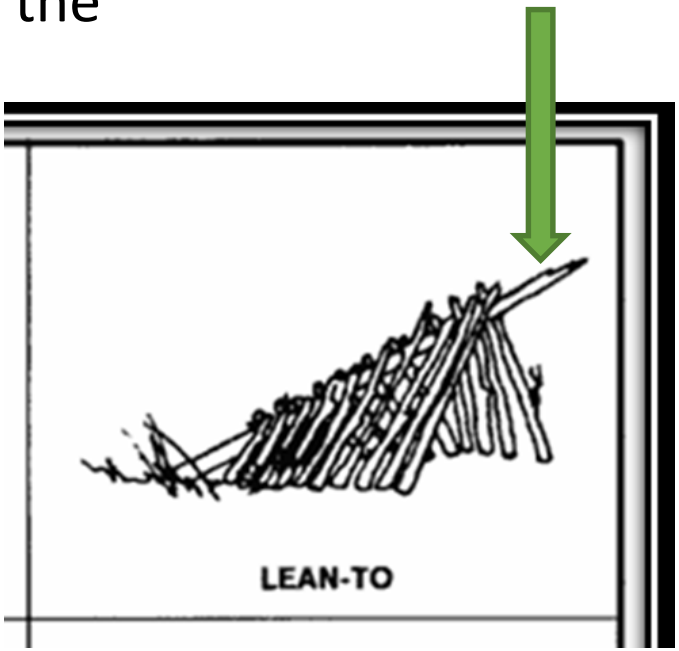
Burns well even with wet wood

Lean-To Method

Green wood

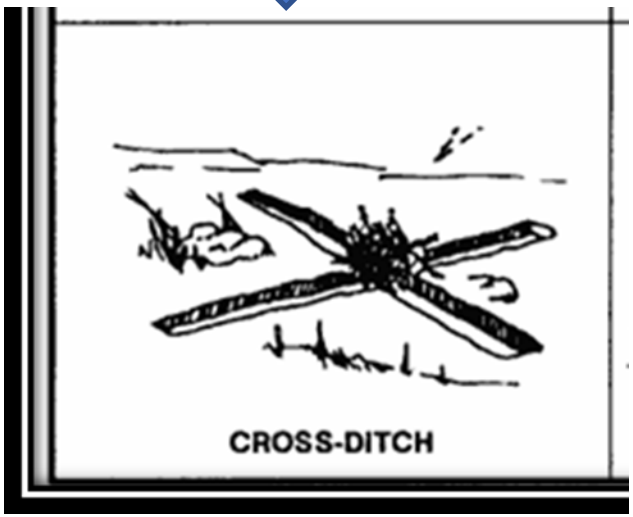
Recently cut down
Has not dried out yet

- Push a green wood stick into the ground at a 30° angle
  - Point end of stick in the direction of the wind
- Place some tinder deep under the stick
- Lean pieces of kindling against the stick
- Light the tinder
- As kindling catches fire, add more kindling



Advantages in high winds because the green stick/log acts as a windbreak

Cross-Ditch Method



- Scratch in the ground a cross approximately 30cm/12”
- Dig the cross 7.5cm/3” deep
- Put a large wad of tinder in the middle of the cross
- Build a kindling pyramid above the tinder
- The shallow ditch allows air under the tinder to provide a draft

Useful in open areas and/or in areas where very little breeze is blowing

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Pyramid Method

- Place 2 small logs or branches parallel on the ground
- Place a solid layer of small logs across the parallel logs
- Add 3 or 4 more layers of logs/branches
  - Each layer is smaller than & at a right angle to the layer below it
- Make a starter fire on top of the pyramid
  - Will ignite the logs below it

Fire burns downward, requiring no attention during the night

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Lighting a Fire

- ALWAYS light a fire from the upwind side!
- Two methods of igniting a fire
  1. Modern methods
     - Matches and lighters
     - Convex lens/Fresnel lens (only for bright, sunny days)
     - Metal match
     - Battery
  2. Primitive methods
     - Usually friction based
     - Difficult to learn
     - Require large output of calories
     - Covered in Advanced Survival curriculum

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Check on Learning

What are the three types of materials needed to start a fire?

Practicum

1. As a class or divided into smaller groups, demonstrate the method of building each of the fires discussed in this lesson: Tepee, Lean-To, Cross-Ditch, and Pyramid.
    - Use props if available OR
    - Draw a picture

2. Tell the advantage of each method of fire building.

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TENT SHELTERS

A7. Discuss where to put your tent or shelter, hazards to look for and avoid, and how to avoid having rainwater pool in your shelter.

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Tent Shelters

Objectives

Unit conducts one bivouac per year that meets the parameters of the Annual General Inspection (AGI) to achieve a Superior rating and Cadets earn a bivouac ribbon.

7. Discuss where to put your tent or shelter, hazards to look for and avoid, and how to avoid having rainwater pool in your shelter.

Essential Question:

What things need to be considered when choosing a tent location?

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Tent Shelters

Bivouacs usually involve sleeping in a tent

(or may sleep “under the stars” with no tent)

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Tent Shelters

- Sometimes there is a need to create a shelter, especially in a survival situation
  - Camping without a tent & encounter poor weather
  - Can make a shelter with a tarp/blanket/poncho and rope
  - Natural shelters
    - Caves (**Caution!** critters may already live there!)
    - Space next to a large rock
    - Underneath overhanging trees or limbs

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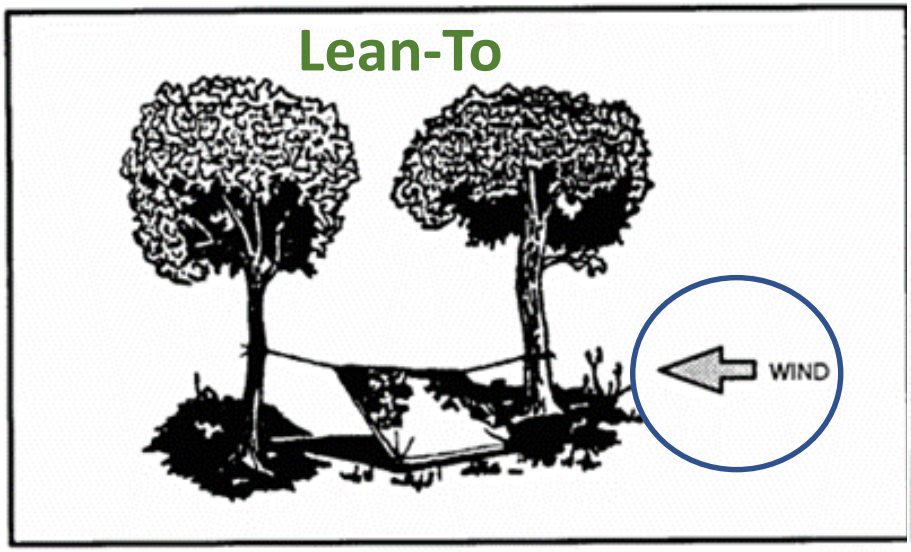
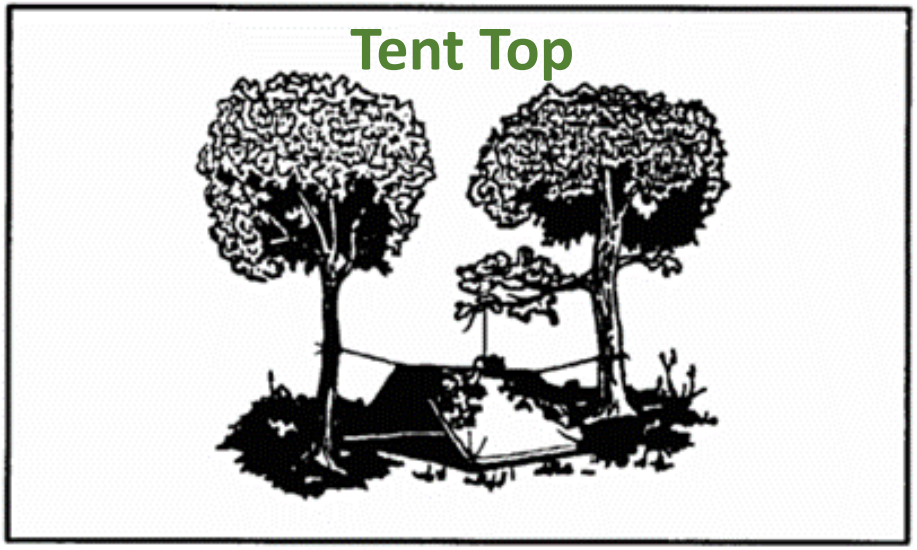
Tarp/Blanket/Poncho Shelter

- Use rope-typing skills from Lesson A1
  - Tie off to trees or poles or something convenient
- One-sided ‘lean-to’ or a ‘tent top’





Shelter Location Cautions

- Avoid low ground (ravines, narrow valleys, or creek beds)
  - Lower ground is colder than surrounding high ground
  - Possible flash floods
- Check for snakes, ticks, mites, scorpions, and stinging ants
- Look for loose rocks, dead limbs, or natural growth that could fall on you/your shelter

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Tent Location

- If rain expected, channel water away from your tent:
  - Dig a shallow trench all the way around the tent
  - Trench should lead off downhill if possible
- If windy, stake down your tent!

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Check on Learning

1. True or False?: Low ground is better than high ground for a tent location because it's warmer there.

2. Name some things that should be avoided when choosing a tent/shelter location.

3. What should you do to prevent rainwater from gathering in a tent/shelter?

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HYGIENE

A8. Describe how you can keep clean while in the field in a bivouac.

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Hygiene

Objectives

Unit conducts one bivouac per year that meets the parameters of the Annual General Inspection (AGI) to achieve a Superior rating and Cadets earn a bivouac ribbon.

8. Describe how to keep clean while on a bivouac, what to do for a blister, and how to remove a tick.

Essential Questions

1. What are the essentials of hygiene while in the field?
2. What first aid should be done for a blister?
3. How do I correctly remove a tick?

Bivouac Hygiene

Prevent Infection and Disease

- Wash at least 1x a day
  - Washcloth, soap, & water
  - Baby wipes work, too!
- Change T-shirt, underwear, & socks daily
- Keep hands and feet clean
  - Soap & water, hand sanitizer, or baby wipes
- Brush your teeth!
- Keep your hair clean
- Break in new shoes ***before*** a bivouac or Cadet activity

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Blisters

- Do not put moleskin padding directly over a blister *(it will tear the blister when removed)*!
- If shoes or socks rub, put moleskin or a band aid on the "hot spot" area *before* a blister forms
  - This should prevent a blister
- Quick first aid for a blister:
  - Put band aid over the blister, then moleskin over the band aid

Small Blisters

Do not open a small blister

- Apply padding material around it to relieve pressure & reduce friction
- If blister bursts, treat it as an open wound
  - Clean & dress it daily, and
  - Pad around it

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Large Blisters

To avoid a larger blister bursting or tearing:

- Obtain a sewing-type needle and a clean or sterilized thread
- Run the needle and thread through the blister after cleaning the blister
- Detach the needle and leave both ends of the thread hanging out of the blister.
  - The thread will absorb the liquid inside.
  - This reduces the size of the hole and ensures that the hole does not close up
- Pad around the blister

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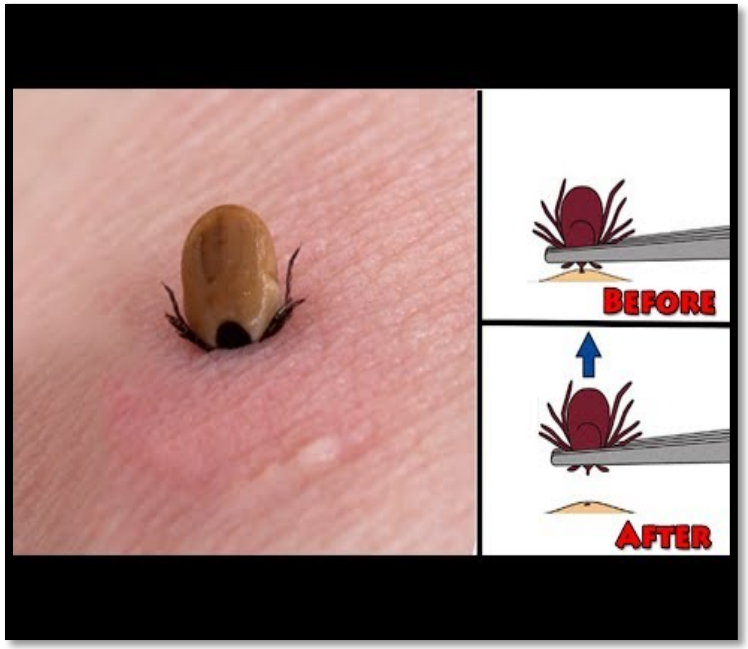
Tick Removal



Video 5 How to Remove a Tick (video is 2m, 8s)

- Use a pair of tweezers
- Grasp the tick near its head
- Gently, slowly pull straight out without twisting
- If tweezers not available:
  - grasp tick with your fingers
  - try not to squeeze it
  - pull it straight out

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Tick Prevention

- Keep pants tucked into boots
- Tuck in your shirt

- Check for ticks everywhere on your body
  - especially after moving through brush or lying down
  - Often found in hard-to-find areas of your body
- Use the buddy system to check each other
  - Especially in the hair and on the back

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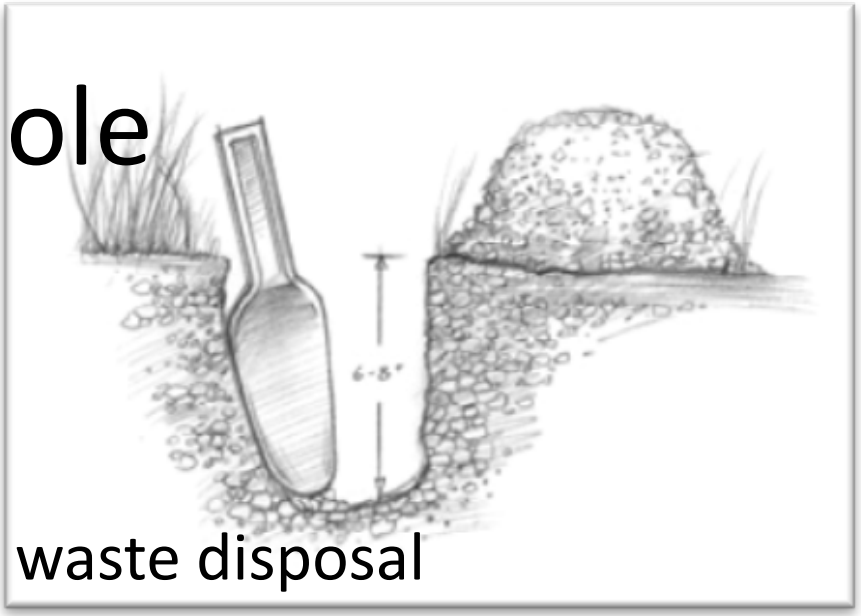
Cat Hole



- For wilderness settings
- Preferred method of human waste disposal
- 6” to 8” hole dug in the ground
- If in an area more than one night, holes should be widely dispersed
  - aids in hygiene, smell, and decomposition
- Fill in hole with original dirt & re-cover with native materials
- Mark with an “X” with two small sticks

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Latrine/Trench

- Dig one long trench
- Each person uses one end of the trench, then buries it
  - Campers do not use the trench at the same time!
- Downside: concentrates area of human waste
  - Speed decomposition/maintain hygiene by tossing in a handful of dirt after each use

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Check on Learning

1. Which of these is not an essential of field hygiene?
    a. Wash at least once a day
    b. Change T-shirt, underwear, & socks daily
    c. Break open small blisters
    d. Keep hands and feet clean
    e. Brush your teeth
2. Why should moleskin not be put directly on a blister?
3. Describe what to do to avoid having a large blister burst or tear.
4. Describe how to correctly remove a tick that has attached itself to your body.

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MAP READING / DIRECTION FINDING

A9. Use a compass to determine magnetic direction and how to proceed along a given azimuth in a compass course, plus establish the individual's pace count.

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Suggested Supplies for this Lesson:

- Compasses (Silva and/or Lensatic)
- Refer to the M10/A "*Constructing the Course*" supplemental document online for the supplies needed for the Practicum at the end of this section.

Map Reading/Direction Finding

Objectives

Unit conducts one bivouac per year that meets the parameters of the Annual General Inspection (AGI) to achieve a Superior rating and Cadets earn a bivouac ribbon.

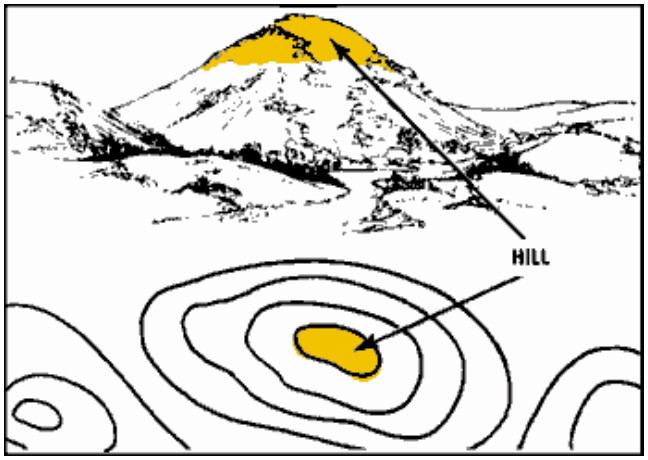
9. Use a compass to determine magnetic direction and how to proceed along a given azimuth in a compass course, plus establish the individual's pace count.

Essential Questions

1. How is magnetic direction determined using a compass?
2. How is an azimuth used in a compass course?
3. How is pace count determined?

Maps

- the Legend
  - Determines the symbols used on the map
  - Identifies major features on the ground:
    - Hills
    - Roads
    - Buildings
    - Rivers/streams
    - Campsites



- Orient map to see current location & direction of other places on the map

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Direction

Direction – a course along which someone or something moves

- Usually expressed as a **degree** or **azimuth**
- From any point on a plane (a surface) there are 360 degrees leading out from it in a circle
- In most coordinate systems, north is portrayed at 0 degrees

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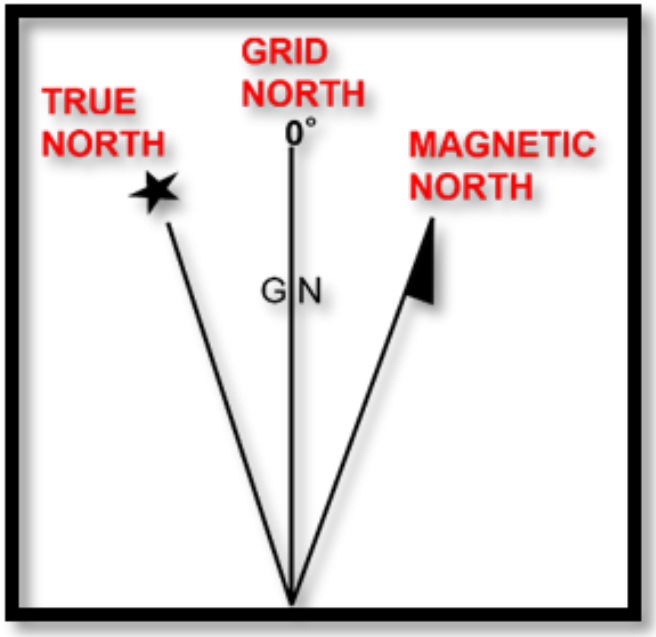
Map Reading/Direction Finding



- **True North -** a line from any point on the earth's surface to the North Pole
  - All lines of longitude are True North lines
  - usually symbolized in marginal information with a **star**
- **Magnetic North -** shown by the compass needle
  - points to the north magnetic pole (not the same as the geographic North Pole)
  - shown in marginal information as a **half-arrow**
- **Grid North** - what mapmakers put on a map
  - based on the map projection used
  - shown in the marginal information by the letters **GN** on a vertical line

Compass

*<u>All</u> compasses point to ***Magnetic North****

Cadet Corps generally uses two types:

- Lensatic compass
- Silva compass

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Lensatic Compass

- Used by the military in field operations
- Includes:
  - a Sight
  - Sighting wire
  - Lens
  - Thumb ring
  - Straight edge for measuring distance
- No “direction-of-travel-arrow”
- Folds up
- Movable bezel ring to preset an azimuth

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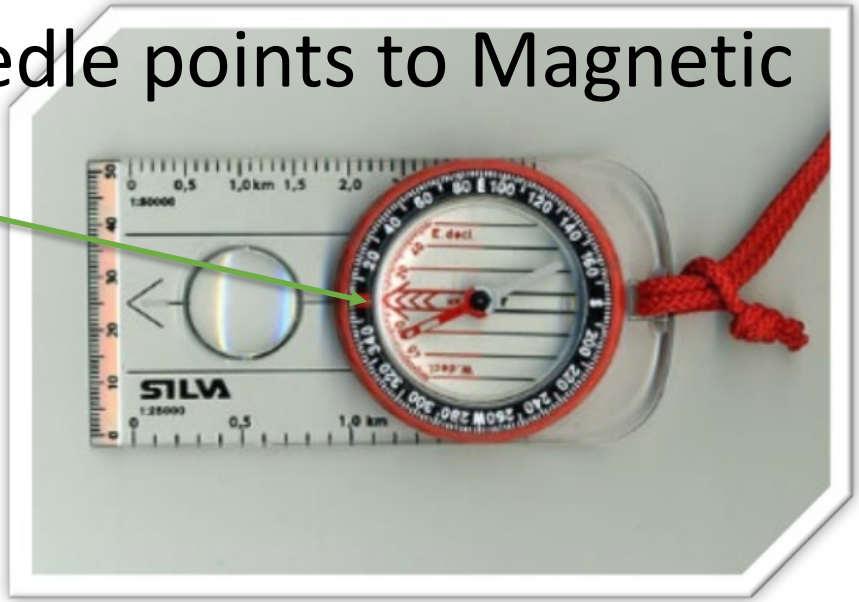
Silva Compass

- Used for map reading & orienteering
- Direction lines
  - Help align the compass on the map
  - Assists in pointing along the route
- The **red** part of the needle points to Magnetic North



Using a Silva Compass

Compass Housing/Bezel Ring - the dial on the compass that turns

- Usually a scale from 0 to 360 degrees is on the edge of the housing/ring ⟹ these are the ***azimuth***
  - Decide where you want to go
  - Turn the housing so that the direction you want to go on the housing (for example, “Northwest”) comes exactly where the large direction-of-travel arrow meets the housing
  - Hold the compass really flat in your hand
  - Then turn your body, hand, or the compass until the compass needle is aligned with the lines inside the housing
    - DO NOT TURN THE COMPASS HOUSING!
  - Walk in the direction that the direction-of-travel arrow is pointing.

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Using a Compass

** Important!**

- The **red** part of the needle must point to North (N) on the housing
- Do not have anything magnetic near the compass – it can disturb the arrow
  - Even a staple in a map can disturb the needle

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Using a Compass

How to “shoot an azimuth”:

1. Turn the dial of the compass to the given azimuth
2. Keep the compass flat in front of you with the “Direction of Travel Arrow” pointing straight ahead
3. Turn your body so the red (north pointing) needle of the compass lines up inside the red housing (pointing toward North) on the base of the compass

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Using a Lensatic Compass

- Turn the bezel ring to the desired azimuth
- Compass needs to be fully open
- Use the straight edge of the compass as your direction of travel,
  - keep the red compass needle lined up with 0 degrees

<u>Another method</u>:

- Sight the compass at the desired direction (i.e. 65-degrees)
- Select an object you can see that falls in that line (i.e. a tree, significant rock, etc.)
- Proceed to that object
  - Repeat your sighting from that object to another observable object, and proceed, keeping your pace count

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Using a Lensatic Compass

“How to Shoot an Azimuth with Your Lensatic Compass” (3 min., 1 sec.)

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Map Declination

Magnetic Declination – “Magnetic declination, sometimes called magnetic variation, is the angle between magnetic north and true north. Declination is positive east of true north and negative when west. Magnetic declination changes over time and with location. As the compass points with local magnetic fields, declination value is needed to obtain true north.”*

**NOAA National Centers for Environmental Information*. (n.d.). Retrieved from National Oceanic and Atmospheric Administration: https://www.ngdc.noaa.gov/geomag/declination.shtml

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Map Declination

- Silva compass let's you adjust for declination
- Move the bezel ring to North Arrow points at the adjusted declination direction
- Put Silva compass on the map and orient the map

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Example

- If the declination diagram says the declination in your area is 19 degrees West, adjust the ring 19-degrees counterclockwise
- Align the compass so the North Arrow points to 0-degrees (This takes the declination into account)
- Lay your compass along the North-South grid lines on your map and get accurate direction readings or quickly orient your map to your surroundings

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Pace Count

- Best way to somewhat accurately estimate distance on the ground (e.g., during a Compass Course)
- A Pace Count is the # of paces you naturally take walking for a set distance
  - Set distance = Usually 100 meters
  - 1 pace = 2 steps (i.e., each time your left foot strikes the ground)
- Different pace count for different people

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How to Do a Pace Count

- Walk naturally along a flat surface for 100 meters
  - Count every left step
- Do this 2x
  - If count is different, average them
- Write down your pace count—or record it in your cell phone
- When pacing off a long distance, consider recording every 100 meters:
  - Entry in a notebook
  - Small pebbles in a pocket
  - Moving ‘ranger beads’ on a string

Check on Learning

1. Match each description on the right with it's "North" on the left:

1. True North

2. Grid North

3. Magnetic North

a. Shown by the compass needle
   - Shown in marginal information as a half-arrow

b. What mapmakers put on a map based on the map projection used

c. A line from any point on the earth's surface to the North Pole
   - Usually symbolized in marginal information with a star

2. What is the purpose of a legend on a map?

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Practicum

Do a Compass Course:

- Each Cadet determines his/her own pace count
- Each Cadet uses a compass to determine magnetic direction
- As a team, proceed along a given azimuth

****Use the four supplemental documents in the M10/A online curriculum to do this practicum: *Constructing the Course, Land Nav Work Sheet, Order of Events, & Practicum Map*****

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BIVOUAC SAFETY

A10. Discuss the contingency plans a unit must have for medical care, Cadet safety (Rule of Three), and bivouac hazards..

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Bivouac Safety

Objectives

Unit conducts one bivouac per year that meets the parameters of the Annual General Inspection (AGI) to achieve a Superior rating and Cadets earn a bivouac ribbon.

10. Discuss the contingency plans a unit must have for medical care, Cadet safety (Rule of Three), and bivouac hazards.

Essential Questions

1. What requirements for medical care must be in place for a bivouac?
2. What is The Rule of Three?
3. What needs to be done prior to a bivouac to plan for hazards?

Bivouac Safety

- IAW CR 2-1, a risk management worksheet must be completed prior to all field training
- Purpose of the Risk Assessment:
  - ⇨ Identify hazards so the ***risk*** is low

> ***Risk***: the likelihood of something happening versus the severity of the hazard when it happens

- Accidents do happen, but we want to limit the hazard to a low-level incident

Plans for Medical Care

- **Emergency Medical Services Contact Information and Transport**
  - Person in charge must have contact info & location of Emergency Medical Service providers closest to bivouac site
    - Including location of nearest trauma center
  - Adequate plan required for transporting injured Cadets to medical facilities
    - Including access of vehicles to remote areas, if applicable

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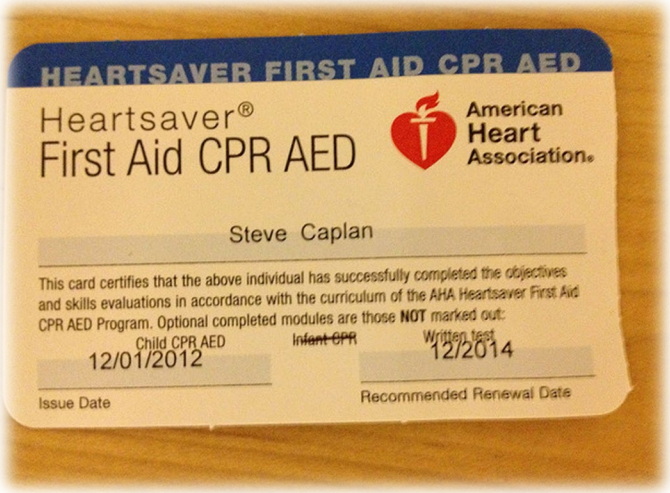
Plans for Medical Care



- **Medical Personnel**
  - Qualified medical service provider must accompany Cadets on field training during entire encampment
    - Provider mush have First Aid & CPR certification (from American Heart Association or American Red Cross)

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Plans for Medical Care

EMT
Emergency Medical Technician

- **Medical Personnel (continued)**
  - 100-250 Cadets in attendance:
    - Provider must have skillset = Emergency Medical Technician (EMT-1) or Military Field Medic
  - 250-600 Cadets:
    - Paramedic (EMT-P) or similarly skilled individual
  - 600+ Cadets:
    - 2 or more Paramedic-level health care providers

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Plans for Medical Care

- **Medical Equipment**
  - *First aid supplies* & *basic life support equipment* must be on hand

- **Medical Histories**
  - Cadets must have on file with Commandant a current medical history form *(CACC Form 203)*
  - Form 203 used by medical personnel in event of injury or illness requiring medical treatment beyond first aid (see CR 2-1)

Communications Equipment

- 2 forms of communication must be available at all field training
- Forms of communication must be able to summon emergency assistance
- Examples:
  - Cell phone & radio ***or***
  - 2 separate cell phones from 2 different cell phone companies/carriers
    - ***Cell coverage/service availability must be confirmed prior to field event!***

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Supervision

- Individual school district regulations dictate the ratio of required adults to Cadets at overnight events
  - However, a ratio greater than 20 Cadets per adult is not permitted
- Distribution of chaperones should also reflect the gender ratio

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Nighttime Supervision

- Adequate adult supervision is critical
- If guard duty conducted, adults must also supervise Cadet guard duty

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Separation by Gender

- Separate camping areas for male & female Cadets
- No inappropriate contact with individuals of opposite gender

All Cadets must know and follow the rules

Adult Sleeping Arrangements

- Must be positioned to properly supervise Cadets
- Adults must not sleep in areas alone with a single Cadet of either gender

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The Rule of Three

The Rule of Three

Ensures that if something happens to a Cadet, the second Cadet can stay with them while the third Cadet goes for help.

Also ensures the safety of all Cadets from each other by providing a witness.

Two Cadets of opposite gender will not be alone in a building/room/tent/enclosed space.

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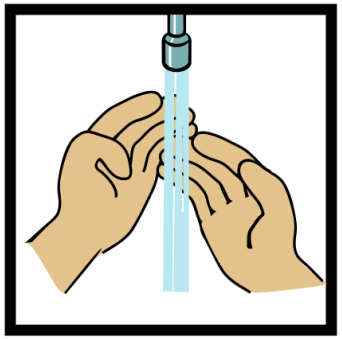
Personal Hygiene



- Adequate facilities for hand washing & restroom required
- Adequate time for personal hygiene before & after meals
- If hand washing & latrine facilities are not available, leaders will focus on field sanitation & hygiene practices in a severe/harsh environment
  - Cat holes or trenches (for latrines)
    - Must have enough shovels available to ensure these are constructed and used

- Have hand sanitizer and baby wipes on hand

Risk Assessment & Hazard Mitigation

- Leaders must do assessment prior to each field training event
- CR 2-1 (Risk Management) provides an excellent guide

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Risk Assessment & Hazard Mitigation

Some Hazards to Consider:

1. Insects (bees, wasps, hornets), snakes, and similar animals
2. Wild animals
3. Unsafe terrain
4. Vehicle traffic
5. Dead tree limbs
6. Electrical wires
7. Glass and sharp objects
8. Flooding
9. Winds
11. Camp fires
12. Forest fires
13. Unsafe tent placement (i.e., near power poles or under branches that are precarious)
14. Safe storage and use of propane
15. Safe latrine placement
16. Safe locations to prepare and store food
17. Locations to perform personal hygiene

Evacuation Plan

- Need a plan:
  - To safely get all Cadets & adults out of the field &
  - Into a safe zone

→ within a reasonable amount of time

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Evacuation Plan

Considerations for the evacuation plan include:

1. Transportation of Cadets and equipment
2. Communication with parents
3. Pick up of Cadets by parents
4. Emergency food, water, and shelter
5. Protection from fire, flood, and other natural disaster

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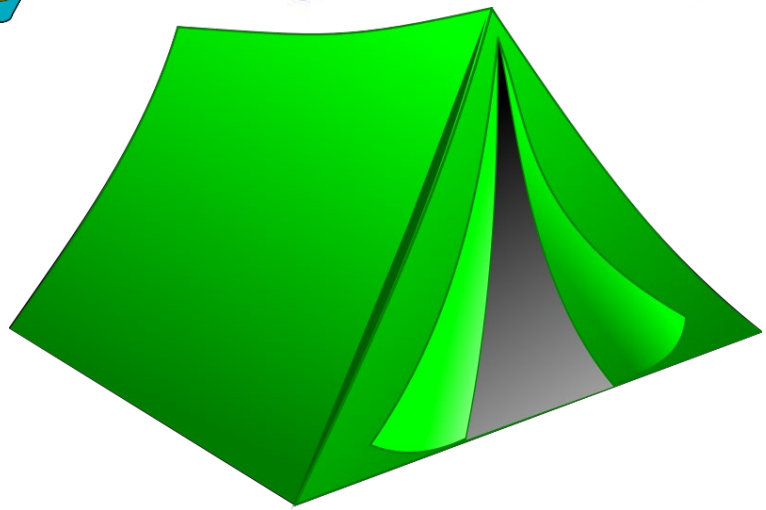
Weather Extremes

- Protection from weather extremes should be planned
- Consider bringing:
  - Sunscreen
  - Lip balm
  - Hats
  - Ponchos
  - Warm clothes
  - Blankets
  - Sleeping bags
  - Tents



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Check on Learning

1. What medical personnel are required on a bivouac when there are…
   a. 100-250 Cadets in attendance?
   b. 250-600 Cadets in attendance?
   c. More than 600 Cadets in attendance?
2. What is The Rule of Three?
3. What is the purpose of The Rule of Three?
4. What is the purpose of a Risk Assessment prior to a field training event?

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GUARD DUTY / FIRE WATCH

A11. Explain why a unit might have Cadets pull guard duty/fire watch during a bivouac and generally how it works.

Guard Duty/Fire Watch

Objectives

Unit conducts one bivouac per year that meets the parameters of the Annual General Inspection (AGI) to achieve a Superior rating and Cadets earn a bivouac ribbon.

11. Explain why a unit might have Cadets pull guard duty/fire watch during a bivouac and generally how it works

Essential Question

1. What is the purpose of guard duty?

Guard Duty/Fire Watch

- Some CACC units practice Guard Duty during bivouacs
- Used to protect equipment and areas requiring protection and care
- Two types: Exterior and Interior
- Exterior is used during a bivouac
- Commandant & Cadet commander decide:
  - if guard duty is needed or
  - if they want the Cadets to experience it

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Guard Duty/Fire Watch

- Guards are assigned to a specific post or shift
- The shift is a maximum of 2 hours
- Starts when day training is done
- Continues through the night
- If a concern about valuable equipment, it might be a 24-hour operation
- Work in teams of at least 3 Cadets
- Cadets follow the Three General Orders

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Three General Orders

First General Order:

I will guard everything within the limits of my post and quit my post only when properly relieved

Second General Order:

I will obey my special orders and perform all my duties in a military manner

Third General Order:

I will report all emergencies, violations of my special orders, and anything not covered in my instructions to the Commander of the Relief.

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Duties of a Guard

- Never leave your post until you are relieved.
- The guard is responsible for everything within the limits of the post.
- The guard must stop persons who have no authority to be in the area. These individuals are reported to the Commander of the Relief.
- The guard on duty has full control. A higher-ranking Cadet not assigned to guard duty has no authority to give orders to a guard.
- If a guard becomes sick, a relief must be assigned by the Commander of the Relief.
- Guards will pass on their instructions to the Cadets who relieve them.

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Duties of a Guard

- During overnight guard duty, or if given instructions to do so, the guard must challenge all people entering their assigned limits. If the guard does not recognize an individual, the guard should ask the individual to identify him/herself. If the individual is not authorized in the area, the intruder is reported to the Commander of the Relief.
- A guard must report all violations or emergencies to the Commander of the Relief.
- Guards should work in teams, and not allow each other to fall asleep. They should patrol the area looking for unsafe situations.
- Guards should be careful not to disturb their unit unnecessarily. Guard duty is not the time for conversations that might wake up sleeping Cadets!

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Check on Learning

1. What type of guard duty would be used at a bivouac: Exterior or Interior?
2. What is the maximum period of time for a guard duty shift?
3. True or False: Guard duty teams consist of at least 2 Cadets
4. What is the purpose of guard duty?

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PACKING LISTS

A12. Develop a packing list for a bivouac

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Packing Lists

Objectives

Unit conducts one bivouac per year that meets the parameters of the Annual General Inspection (AGI) to achieve a Superior rating and Cadets earn a bivouac ribbon.

12. Develop a packing list for a bivouac.

Essential Question

1. What are the essential items to pack for a bivouac?

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Packing Lists

- Make a bivouac packing list
  - Ensures you will bring needed items
  - Don't overload yourself with unnecessary things
- Be thorough, but weigh the likelihood of the use of the item
- Try to keep the lists fairly simple

Cadets need to think on their own & determine what they'll need, BUT if they don't have experience in a similar activity, then more detailed information and guidance needs to be provided

Packing Lists

What will happen if a Cadet shows up at bivouac without…

- food?
- jacket?
- sleeping bag?

If it's important to have,
then definitely list it!

Example Personal Packing List

(extracted from the CACC summer encampment list)

Complete P.T. Uniform

- ❑ Black P.T. Crew Neck
- ❑ Black P.T. Shorts
- ❑ Over the ankle white P.T. Socks
- ❑ Tennis Shoes/Running Shoes
- ❑ Headgear
- ❑ Undergarments
- ❑ Long Socks
- ❑ Undergarments
- ❑ White Crew Neck Undershirts

Hygiene

- ❑ Shampoo/Conditioner
- ❑ Soap (Bar)
- ❑ Deodorant
- ❑ Razor and Shaving Cream (as needed)
- ❑ Nail Clipper (Optional)
- ❑ Female Hygiene Products
- ❑ Towel

Miscellaneous

- ❑ Sleeping Bag
- ❑ Pillow
- ❑ Boot Bands/ Rubber Bands
- ❑ Laundry Detergent (Optional)
- ❑ Trash Bags
- ❑ Notebook
- ❑ Black Pen (2 Recommended)
- ❑ Mechanical Pencil (2 recommended)
- ❑ Mole Skin (Recommended)
- ❑ Backpack (Recommended)

DO NOT BRING:

- ❑ Weapons of any kind (knives, guns, etc.)
- ❑ Drugs, alcohol, tobacco products (including e-cigarettes)
- ❑ Anything that would not be allowed on a school field trip or campus

CALIFORNIA CADET CORPS

Practical Exercise

On your own, or in small groups, develop a list of items needed for one of the following bivouac events. This is just the start of your overall list, so list everything!

- 6-mile Hike
- Compass Course
- Dinner (at your bivouac, Cadets bring all their own food)