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The Hatchet Survival Guide

Chapter 18

Recommendations: For students in Grades 6-9. Activity can be done inside or outside. Adult supervision recommended.

Purpose: Accompany reading a novel with learning some real survival skills

Materials:

- The Hatchet by Gary Paulsen
  - Free online pdf *(contains minor typos)* https://scotland.k12.mo.us/view/637.pdf
  - Audio: https://www.youtube.com/watch?v=yBTugJIZQj0
- Activity Materials will be included with instructions for the specific activities below

Chapter Summary: Building a raft, swimming it out, and working on the plane to retrieve the emergency supplies while not thinking about the deceased pilot is hard work and leaves Brian exhausted.

Survival Skill 19 –Build a Raft

Ever seen Cast Away starring Tom Hanks? Well, now it's your turn...but rather than face the ocean we'll start off bathtub style.

Purpose: Learn buoyancy, surface area, and water displacement to build your own survival raft.

Materials:

- 4 sticks of equal length (*~1ft)*
- A dozen smaller sticks
- String or thin rope
- Bathtub or sink for testing if it floats
- Additional weights such as pebbles

How It Works:

Context:

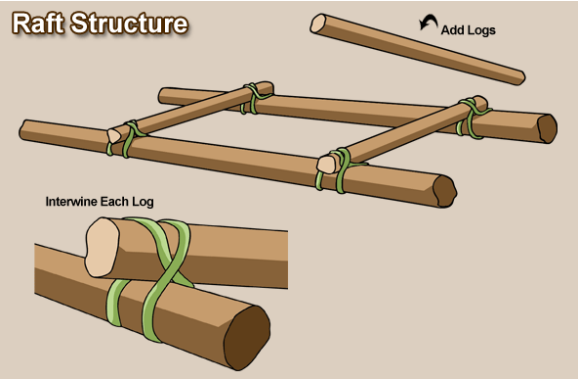
Surface Area: the measured amount of space that an object occupies.

Buoyancy: when an object contacts water, the water is displaced by the object's surface area. The displacement of water causes an upward force to act on the object.

Gravity: a downward force that increases with the density and weight of an object (i.*e. heavier objects will fall faster).*

Therefore, if the object has a large enough surface area to displace enough water to create a buoyancy force greater than the gravitational force acting on the object's weight, that object will float.

Step 1: Lay two of the equal length sticks parallel to each other. Place the other two equal length sticks on top to form a square. The square should not be end to end but should allow a portion of the first to sticks to extend as pontoons.



Step 2: Lash the frame together with rope to make it secure

Step 3: Add the remaining sticks across in same direction as the second set of equal length sticks. You can also lash these to the frame to make it more secure.

Step 4: Test your raft by filling a tub, sink, or large container with a bit of water. Does it float? If yes, add a passenger (*pebble*) and see how much weight the raft can hold until gravity overcomes buoyancy. If it doesn't float, what can you do to increase the surface area of the raft which displaces more water to increase the buoyancy?

Extended Activity:

If you have the space and resources, make a life-sized raft out of dead tree branches and bring an adult to watch you test it on a nearby pond!

Also, see "Cardboard Boats" coming to the Gould Lake Website soon for more floating fun.

See "The Hatchet Chapters 19 & Epilogue" on the Gould Lake website for final content!