Fire Building

Objectives: Teach kids some of the fundamentals of fire… including what a fire needs to stay ablaze, why fire is useful, and how to *be safe* while tending a fire. Kids (of all ages) are encouraged to be a part of each step of the process, as long as the instructor feels that they are doing so safely.

Materials: Firewood, Grocery Bags, Dryer Lint, Ferro Rod (Flint and Steel),Stationary Wood Splitter, Hammer, Marshmallow Sticks. Marshmallows OR Hot dogs.

How to *teach* or *introduce* fire building.
Ask the Kids:

- *"What does a fire need?"*

Fire needs fuel, oxygen, and heat. We use two different kinds of fuel – paper and wood. Paper is much easier for the fire to use, and therefore catches and burns quickly compared to wood which catches and burns slower.

- *"What do we use fire for? Why is it useful to us?"*

Warmth, cooking, and lighting dark environments are the big three that are good to mention. But it's fun hearing from kids about other uses: Fire can be used for self defense against a wild animal, and it can be used as a signal for help.

- *"How can we be safe around a fire?"*

We can have water on hand if something catches. We can stand at a safe distance if we feel uncomfortable. We can be mindful of what we feed our fire.

Building the fire:

Step 1 – Guide kids in cutting firewood using a stationary wood splitter and hammer. Cut pieces of wood into small sticks roughly two or three fingers wide. Note that the wood splitter can only cut *along* the grain of the wood. For AYNC fires, we'll use 8 or 10 pieces of split firewood to build our "log cabin" structure.

Step 2 – Ask kids to tear up pieces of paper (roughly the size of the palm of their hand) and *lightly* crumple them.

Step 3 – Prepare a piece of dryer lint by unfurling it as best you can. If possible, try to use a piece that has the fewest folds or creases in it. They will make it more difficult for the dryer lint to catch sparks from our ferro rod.

Step 4 – Assemble the “log cabin” structure by placing firewood pieces in overlapping, alternating parallel pairs (I refer to them as train tracks). You are trying to make a pound sign shape (#). If you use 8 to 10 pieces of firewood, your “log cabin” will be 4 or 5 layers of wood high.

Add the crumpled pieces of paper to the center of your log cabin so that the paper fills up all the way to the top of your wood, but discourage kids from packing it in too tightly.

Place the piece of dryer lint on top of the paper scraps as flat as possible. After this, your structure is complete! And you are ready to move on to getting the fire going.

Step 5 – Demonstrate for kids the proper technique for striking the ferro rod. It uses friction to shoot off sparks. Explain to kids that they will have to strike the rod close to the dryer lint so that the sparks reach it in time. Go around the circle giving each child a chance to try. Multiple attempts are okay as long as there is time. Once the dryer lint catches a spark, it will spread to the paper and to the wood, and you will have your fire going!

Step 6 - Enjoy your fire and food. Ask questions such as ‘Who’s built a fire before - tell us about it.’ Has anyone ever been burned by a fire? Do you have a favorite memory from a camp fire? Imagine we were living years ago before we had heat in our homes, what time would you want to start a fire at night and in the morning to stay warm?

Step 7 – Once marshmallows or hot dogs have been roasted and the fire is on its way out, let it die out naturally. Don’t put water on the embers. If it gets too smokey, you can smother it with the cover of the fire pit.

Additional Notes for the Fire Building Process:

- The ferro rod striking is tricky for most kids. Try to be extra supportive of their attempts, even when they are struggling. It’s likely that younger kids will struggle most with this, so **have kids take turns from youngest to oldest** so that you maximize the chances for each kid having a turn at striking the ferro rod. I usually give each kid 4 or 5 tries before letting the next person try.
- Be prepared to tap the firewood closer together or add an extra piece of firewood or two on top to keep the fire growing as it spreads from dryer lint to paper.
- Additional things can be added to the fire, (such as leaves, paper, wood, even some fruits or veggies that kids want to roast) but make sure kids check in with a teacher before adding anything on their own.
- Sometimes it can be fun or even reassuring for the kids – who are feeling a little bit nervous – to use the ferro rod on the ground or on a piece of firewood. They’ll see that

sparks on their own aren't dangerous. Fire is one of our activities that can make kids feel a little bit scared or worried… and understandably so! It makes sense to have a *healthy* fear of fire. Try to be supportive and provide a sense of safety/security for the group. If the flames are too high, they can watch from a distance, while still being a part of the group.

- Try to have a low-key, group activity in your back pocket for when the fire is lit and the lesson is coming to an end. Fire building usually takes about 30 minutes, so you might have some extra time to fill before the group is ready to rotate to the next activity.

Magnet Fishing

Objectives: Spur up excitement and curiosity in young naturalists while fishing up something special from the water! Add a tinge of problem solving to the activity by encouraging kids to try different techniques or locations if they are after something in particular

Materials: Magnet(s) attached to rope(s). Additional magnetic object (optional).

Magnet fishing is mostly self explanatory. Kids can toss out a magnet attached to a rope into the water or at the shoreline in hopes of catching something magnetic! To help sell the excitement of the activity, it can be framed in a variety of ways:

- Bay clean up
    - Unfortunately, the sight of discarded cigarette butts, plastic wrappers, and all manners of other trash are far too common along the coastline. But if that all lines the shore, consider what may be plaguing the water itself. Let's take this opportunity to help clean up some of the metallic waste that might be trapped between two stones or in the mud underneath the waves.
- Treasure hunting
    - Below the murky surface of the water lies many untold mysteries. Perhaps a treasure chest filled with gold coins, or an ancient artifact lost to the tides?
    - The possibility of finding something unique is enough to keep children interested, usually.
- Magnet fishing game
    - Some teachers bring additional materials to supplement magnet fishing. Instead of fishing up mysteries, kids are challenged to catch a metal object thrown into the water using their magnet.
        - The metal object should be secured to a rope so that it can be reliably dragged back in.
- Seaweed Collecting
    - How many kinds of seaweed can we fish up? Can we start a seaweed museum to show off our catches?
- Anything else? Get creative!

Magnet fishing can be somewhat of a blank canvas… which can be a boon or a challenge. The activity as a whole requires some "selling" to the group. Remember, the goal of magnet fishing is to create some excitement and wonder, but it can be done in a number of ways. There is not one *right* way to go about it.

When casting the magnet out into the water, make sure that the other end of the rope is secured to some anchor, whether that means being tied to a nearby structure, or held on to by another child.