Embracing Fire as a Loose Part

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Podcast: Loose Parts Nature Play
FB Group: Loose Parts Play, Loose Parts Learning in K-3 Classrooms
Books: Loose Parts Learning in K-3 Classrooms, Living Loose Parts: Creatures of Curiosity (2024)

Fire as a loose part? "Yes" according to Nicholson's theory on loose parts. Explore the properties of fire and answer the question for yourself. Four things are needed for fire: oxygen, heat, fuel, and the chemical reaction of fire. A few ways fire can be explored through dramatic play, candles, charcoal mark making and art, mini fires, magnifying glass fires, a fire pit, and cooking over a fire.



Tin Can or Pie Tin Fire

petroleum jelly, cotton balls, tinder, kindling, matches, fire starters, flint/steel

Instructables: Tin Can Fire

Charcoal Exploration

class made charcoal sticks, charcoal powder, charcoal art sticks, variety of papers, charcoal artwork, facial tissues, art erasers, stumps, chamois cloth, charcoal tutorial

Charcoal Drawings from The Met

Drawing with Charcoal from The Met: Materials and Techniques

Charcoal Tutorial

Candle Exploration

candles, matches, cardboard or tin base, candle snuffers

Candle Wax: States of Matter

Candle Science Experiment

Magnifying Glass Exploration

magnifying glasses, cardboard/paperboard/paper, wood, pictures

Go Science Girls: How to Start a Fire with a Magnifying Glass?

Campfire Dramatic Play

logs**,** scarves, sticks, forest putty, pots, pans, grates

Tinkergarten Build a Fire

Safety Considerations

bucket of water, bucket of sand, fire gloves, fire blanket

Other

metal tongs, metal pot for refuse, clean up cloths, hand cleaning materials

Safety is essential! Please have a plan for safety, including having a first aid kit handy, as well as materials for putting out a fire. Have a fire safety circle. Be sure to investigate and create a benefit risk assessment, specific for your needs. Here are some examples.

The Ace Centre Fire Benefit Risk Analysis

Tim Gill's Fire Benefit Risk Assessment (ages 10-12)

Into The Woods outdoor nursery Use of Fires Risk Assessment

New Quay Forest School Benefit Risk Assessment

Chelsea Forest School

Additional Resources

Playing with Fire Loose Parts Nature Play Podcast Episode

Claire Warden, "Charcoal: Fascination of Fire"

Nick Neddo, The Organic Artist

John Hopkins article: Playing with Fire

Times Article on Playing with Fire

Types of Risky Play

Fire Triangle

Fire Engineers *(excerpt from Living Loose Parts: Creatures of Curiosity, Fall 2024)*

While many are concerned with the concept of "playing" with fire (as we should be), when we consider fire making as fire engineers, we may find that experimenting with the variables of fire making builds engineering and safety skills: heat, fuel, and air. Fire is a living loose part and has been part of our history as a species, often selecting for those who could survive (hunting, gathering, fire, etc.). Still, today, many children around the world use fire as a tool, making their own fire to cook food, stay warm, etc. While we are concerned with the safety of children, they also sometimes need to feel the warmth/heat of a fire to understand how it works and the cautions that should be employed around it. We learn to make fire by actually doing it, not watching videos of it. By "playing around" with the elements of fire, children understand the power and capacity of this basic element. It takes experimentation and exploration to light and keep a fire going. We learn to be appropriate around fire by being around fire, not by eliminating

it from our lives. Carla prefers allowing children to understand fire at a younger age by feeling the heat of a burning matchstick close to their fingers rather than waiting to introduce this element until they are teenagers and haven't benefited from years of small, incremental exposures to the element. Fire making can build persistence, problem solving, confidence, and a sense of joy in mastering new skills–all aspects of engineering.

Direct personal experiences with fire making help children develop a healthy respect for fire and its potential destruction and opportunities. Here are suggested ages for fire making activities, though children with more supervised exposure to fire may have capacity to explore fire more in depth at a younger age. Individual characteristics may need additional support, guidance and accommodations for inclusion in fire making activities. While children may not have had this exposure early on, they can start these earlier activities at any time and move on from there.

Age 2: putting out a candle with a candle snuffer, feeling the heat of a fire, pretend fire making with sticks/logs, scarf flames, and a rock fire safety circle, dramatic play cooking over pretend campfire
Ages 3: sitting around a campfire, potentially cooking over the fire, putting out a candle with a candle snuffer, using crayons on fire heated rocks, mark making with cooled charcoal
Age 4: striking a match, lighting a candle, preparing wood for charcoal making, making a spark with flint and steel, using charcoal for art, expanding cooking options
Ages 5+: making small, personal fires, creating charcoal ink
Ages 8+: making an ember bowl, creating the group fire
Ages 10+: creating their own fire making kit, exploring additional traditional fire making options, experimenting with fire add ons, such as orange peels and sugar, trail cooking, using lightweight camp stoves

Of course, there should be safety considerations, such as having one staff member supervising firemaking or interaction at all times. Permission and supervision are key components of safety. As adults, we also need to understand firemaking and the potential of this. The more experience we can gain in this area, the better we can support the children in our care.

- Pull long hair and loose clothing back to avoid contact with the fire.
- Create a benefit risk analysis of fire making

Umbrella House, a family childcare provider in Lansing, Michigan, uses fire with her program with infants through school age children. She has the following policy in place:

Campfire Procedures and Rules

We will use fire for heating and cooking in our outdoor fire pit. Following are the rules we will follow for everyone's safety.

- A current burn permit, issued by the township, will be on file.
- We will always call the fire department, prior to starting a fire, to see if it is safe to burn
- We will discuss reasons why it might not be safe to have a fire.
- The fire pit will be inside the fence with the gate latched.
- We will have buckets of water, a fire blanket, and fire gloves available before we start any fire.
- The area surrounding our fire pit will be kept clear of items that could be a tripping hazard.
- We will talk with the children, often, about fire safety.
- We will also talk about respecting the fire and why we use the fire for warmth and cooking.
- Shoes are always required near the fire pit.
- The children will be allowed to help build the fire.
- Once the fire is built, the gate will be latched and children will not be allowed inside the fence.

- Only adults will be allowed to light the fire.
- Children will be allowed to cook over the fire from outside of the fence.
- Children will always be supervised with an adult while a child is burning.
- The fire will always be extinguished thoroughly after we are done.

Carla shares her approach to helping children 5 plus make small, individual fires:
I have hosted several groups of both boys and girls, ages 5 to 13, light their own mini fires. I gave the children time, a safe space, materials, encouragement, and an example for building their fire; along with a healthy dose of safety parameters along the way.

For containers, I use a smooth edge can opener to take the top off of tin cans and then a bottle opener to make holes near the bottom of the cleaned out cans. These vents allow air to get to the fire. We work on the driveway, parking lot, or bare earth, clearing away flammable debris. Each child has plenty of space. The children collect their own tinder—they often find pine needles, dry leaves, tiny twigs, and bark that easily lights. I show them a trick of using a cotton ball dipped in petroleum jelly. The children also collect lots of kindling, small sticks to feed the fire.

Each child gets a small box of matches. Many children have never lit a match; however, once one child "got it," he or she often helps others. The children make a small arrangement of sticks in their tin cans, leaving space for air to circulate. Tinder (including the cotton ball with petroleum jelly) is tucked in so the kindling will catch fire as the tinder burns. The children try to light the fire, with emphasis on "try." This took many, many attempts at first. Eventually the children each start a small fire going, realizing the fire's needs—oxygen, heat, and fuel. They put their fires out with water, dirt, or sand, focusing on safety. The cans do get extremely hot, so tongs and potholders are available. Some celebrated by roasting a marshmallow over their own personal fire.

What a sense of satisfaction and accomplishment! It's great to see the children's intrigue and confidence grow as they build fire making skills. Fire starting and safety is learned by hands-on opportunities doing it. Children benefit from these opportunities to understand the power of fire.

"All children love to interact with variables, such as materials and shapes; smells and other physical phenomena, such as electricity, magnetism and gravity; media such as **gases** and fluids; sounds, music, motion; **chemical interactions**, **cooking and fire**; and other humans, and animals, plants, words, concepts and ideas. With all these things all children love to **play, experiment discover and invent and have fun**.

All these things have one thing in common, which is variables or 'loose parts'."
(Nicholson, 1971)