



## London Play Briefing

August 2007

### Playing with fire

Away from camp sites that allow fires, opportunities for using fire as a medium for working with children are increasingly rare. However, barbecues are a common feature of holiday playschemes as a special treat. Think about whether you can go one step further and have a real fire. Below an experienced play worker and play service manager explores the details of working with children and fire.... (This was originally written for the Islington Play Association's *"Playschemes Toolkit"* in 2006)

#### Introduction

Children are usually fascinated by fire, and playing with fire is an important element in understanding the physical world.

Fire may be potentially dangerous, but is not so dangerous that children need to be separated from it. It is no use teaching children about fire from behind a line they are not allowed to cross; they must light it, touch it, poke it, carry it round and even put it out. Responsibility for a fire and for safeguarding other more vulnerable children from it can only be learnt from experience, so children should be responsible for all aspects of lighting, keeping, using and cooking with a fire.

Fire is useful, use it to keep warm and as focus for group activity such as story telling and singing, to clean food cans prior to recycling and to make hot drinks and cook things on. Don't use a fire to get rid of rubbish, unless it's only wood; it's better to recycle it.

#### Siting a fire

Light a fire on the ground, digging away turf to put back later if necessary, or covering with sand. A previously constructed fireplace serves to give an indication of the right size for a fire. Too small and it is in danger of going out, too big, you use all the firewood very quickly, and cannot get close enough to cook on it. When sitting round a fire, it needs to be big enough to warm all of the company without them pushing and shoving and excluding anyone. When someone moves, it is vital they go behind others, not in front of them, i.e. not between them and the fire. Fires in full or half oil drums are ok but tend to not warm the feet satisfactorily.

## **Lighting a fire**

Lighting a fire is the best part, and teaches patience and care. Use only natural materials, Dry silver birch bark from a fallen log is best, and very small, dry twigs and pieces of wood. If you cannot find a silver birch, use a small quantity of tightly balled up newspaper, with plenty of thin pieces of wood over it in a traditional 'wigwam' shape. Fire is a continuous process, a slow chain-reaction. Keep feeding a fire; too many newcomers light a fire, turn away to do something else, then are surprised when ten minutes later it has gone out.

## **The physics of fire**

In simple terms; things have to get hot to burn, there are separate stages to the process of burning within a fire, if you are not familiar, take your time to get used to it, and do not be impatient. Burning needs the oxygen in air, a blacksmith will pump air into a charcoal fire with a bellows to get it white hot, hot enough to melt iron. A strong wind will make fire burn too quickly, but fanning gently with a metal plate can 'bring on' a slow fire nicely. A new fire will take perhaps 20-30 minutes to get going well, as the heat needs to dry out and warm the ground under it before it can reach a good operating temperature.

## **Stages a fire goes through**

- Getting hot enough to catch light - a big lump of wood may take 10 minutes; it may give off thick smoke that is flammable but is not yet hot enough to burn. Initially only use small, thin sticks.
- Burning with a flame, the gases from the hot wood are burning as they leave the wood
- Glowing embers or charcoal, this is a separate process, lasting longer with heavier hardwood, when the most intense heat is given off, this is best for cooking.
- Ash is grey dust left when all flammable material has been burnt - **but** pieces of charcoal can smoulder slowly overnight when a blanket of ash stops air getting to it.

## **What kind of wood to burn?**

Green wood from a living tree will not burn; dried out old wood from fallen trees or branches will. Once wood has dried after initially being cut, it is known as seasoned; all wood used in building, and machined for making things will be seasoned (this may take between three months and a year, depending on type). As a general guide, green wood will bend, whereas dead seasoned wood snaps when bent. Use dry wood to start a fire. Once it is well alight, the heat from the fire will dry out wet, seasoned wood enough to burn it. Big lumps will burn better if they are warmed near the fire first, very big lumps are best split or used as seats. Plywood, old pallets and scrap wood is fine to use, but beware of sharp nails and staples. Do not use MDF, chipboard or painted or chemically treated rot-proofed wood for your fire (usually stained green or brown), as the smoke is likely to be toxic, either from preservatives or from old lead paint if from an old building.

## **Cooking with fire**

A good fire is hotter and quicker than cooking on a gas cooker, especially for large groups. Buy pots and pans with thick bottoms from charity shops as they will be too blackened and smelling of smoke for indoor use, but there is no need to clean the outside after use, apart from obvious traces of food. A big sturdy wire tray such a shelf from an old fridge or oven can be placed on bricks to put kettles, pans, burgers or toast on. Toast or roast food directly over hot red embers not flames, using a long toasting fork, or a long greenwood twig, as flames will make a black and smoky sausage or burger. Big lumps may need to be cut thinner or split up; plenty of thin bits make a hot, quick fire so get enough fuel ready before you start.

## **Safety advice on playing with fire**

Most injuries caused by fire are accidents. Prevent them by managing the boundaries of children's behaviour according to their age, ability and experience. It must be clearly understood that the fire is to be treated with respect, and any deliberately dangerous use or misuse may lead to its being put out. Fire is a good medium for allowing children to help each other, with older, more sensible ones being given responsibility for showing and helping younger children.

There can be no fixed rule about level of supervision better than the case law 'careful parent test'; you would not leave a three year old unattended by an open fire, but a sensible 10 year old can be expected to manage to heat a kettle on a grid firmly placed over the fire. Use your knowledge of the children, if you don't know them then supervise closely, and never leave them unsupervised. If you are in charge of the fire, don't leave it. Get children to do the things you think you need to do. Camping with children aged between five and 20 and cooking only on wood for the last 10 years suggests that on average (and remember that no one is average):

- Under fives need to have a sentry on guard duty next to the fire, in case they fall or stumble close to it
- Under eights may poke sticks in the fire under close supervision, but may wave them about dangerously
- Under 10s can make toast and melt marshmallows on sticks by themselves
- Under 12s can cook on a fire and supervise others

Learning about safety is learning about what you can't do for yourself, if you think the pan is too heavy, let the child try to lift it, but say to them, "See if you can do it, and I'll get one of the bigger children to do it if you can't". Don't just say "Leave it to me, it's dangerous".

When someone moves from a circle around a fire, it is vital they go behind others, not in front of them, i.e. not between them and the fire.

Do not leave a big pile of firewood close to a fire. It's best to base it some distance away, some children may be tempted to pile on lots of wood to see what will happen. A big campfire can burn a tent or the wooden parts of a building from quite a distance.

Do not deliberately breathe the wood smoke, it thought to be as dangerous to the lungs as the passive inhalation of cigarette smoke.

Never put any flammable liquids (paraffin, white spirits, meths, etc.) on a fire. Petrol and cellulose paint thinners (with the smell of pear drops) are not just flammable, they are explosive. If you can't light a fire without them, don't try, but learn from someone who can. Any pressurised container may explode when heated; this includes batteries, gas bottles and canisters, and unopened cans of food or drink. Aerosol cans are very dangerous, as some, especially paints and deodorants, are full of inflammable gases. Glass bottles may explode when heated unevenly. Certain kinds of gravel, flints and concrete can also explode unpredictably. Cardboard can be burnt, but beware that large cardboard cartons may smoke for a while, and then suddenly ignite in a ball of flame.

Children, especially teenaged boys, want to see explosions, but they may have little idea of their reality, based on unrealistic television portrayal. Explosions are nearly always harmful, as they may spread fire, shoot out burning gas, and shoot small particles of hot rubbish from a fire like bullets. It is best to satisfy this desire with chemical or compressed air pumped rockets, available in most toyshops for around £10. Fires and teenagers drinking alcohol do not mix; you would not let them take responsibility for a motor vehicle, so don't let them have a fire.

Wet oven gloves will not protect from heat; they become instant boiling steam gloves.

Light burns, where the skin is still intact, are best treated with immediate cooling to take away pain and minimise damage. Keep cool with cold water until the pain stops. Where the skin is broken, they must be kept cold, clean and covered and seek further trained first aid advice.

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