

Health and Safety Policy

This is the statement of general policy and arrangements for:

Overall and final responsibility for health and safety is that of:


Day-to-day responsibility for ensuring this policy is put into practice is delegated to:

KING ALFRED SCHOOL Blacksmith Forge

Head of Department / Estate Manager / Bursar

Blacksmith

Health and safety law poster is displayed in:	DESIGN TECHNOLOGY
First-aid box and accident book are located: Accidents and ill health at work reported under RIDDOR: (Reporting of Injuries, Diseases and Dangerous Occurrences Regulations) (see note 2 below)	MOBILE BLACKSMITHS FORGE SCHOOL VISITS

Signed: (Employer)	Miranda Socratous (HoD)	Date:	05/06/19	
Subject to review, monitoring and revision by:		Every:	School Visit	months or sooner if work activity changes, or if an incident requires an amendment

Note 1: <https://www.gov.uk/workplace-fire-safety-your-responsibilities>

Note 2: www.hse.gov.uk/riddor

Organisation name: King Alfred School “Heart Forge”

Area of Awareness	List	What are the hazards?	Who might be harmed and how?	What are you already doing?	Do you need to do anything else to manage this risk?	Action by whom?	Action by when?	Done
<u>User Awareness</u>	PPE General Procedures	Approaching Blacksmithing in an uninformed manner	Any user without knowledge of equipment	Blacksmith/informed staff member available to advise at all times	NO	Blacksmith		✓
<u>PPE (Personal Protective Equipment)</u>	Gloves Apron Goggles Masks Trouser Shoes	Inappropriate clothing and or footwear / long hair not tied back.	Baggy clothing may catch in fire. Healed open shoes can cause tripping allow burning to feet. Hair may get caught / burn in forge on hot work.	No Baggy clothing. Apron, gloves and goggles provided and worn at all times. Flat closed footwear only. Hair tied back. All users told to wear thick cotton or denim.	Assess steel “over shoes” for general use by all users.	Blacksmith DT Staff		✓
<u>PPE Maintenance</u>	Gloves Apron Goggles	Holes in gloves and aprons. Goggles scratched.	Equipment damaged / worn and not fit for purpose.	Blacksmith checks all equipment after use and replace as required.	Ongoing assessment.	Blacksmith		✓
	Face shields	Reviewed and rejected	Can get hammer caught, breathing causes condensation, impairs communication and glare.	Rejected	Rejected	Blacksmith		✓
	Gum shields	Reviewed and rejected	Impairs communication and breathing	Rejected	Rejected	Blacksmith		✓
	Noise Cancelling ear defenders	Reviewed and Rejected	Stops all noise, apart from voice, cannot hear the fire (Blocked air flow) or sound of the hammer (much information gained from hammer is sound)freedom of movement	Rejected	Rejected	Blacksmith		✓
<u>Environment & Housekeeping</u>	Floor Gazebo	STEEL / TOOLS / CABLES / WATER QUENCHING BUCKET on floor. Awareness of the gazebo structure (the uprights)and	Users may trip on tools/cables/bucket or steel. Steel may still be hot. Teachers/kids using the space	All tools / steel kept to immediate areas around the anvils to minimise risk, good housekeeping encouraged. ALL STEEL/TOOLS ON FLOOR ASSUMED TO BE HOT; ALL USERS WARNED THAT BLACK	Advise as working progresses; constantly remind users that steel stays hot for long periods depending on bar thickness. Ongoing assessment	Blacksmith		✓

Area of Awareness	List	What are the hazards?	Who might be harmed and how?	What are you already doing?	Do you need to do anything else to manage this risk?	Action by whom?	Action by when?	Done
		space around anvils/forge		STEEL CAN STILL BE HOT ENOUGH TO BURN.				
<u>Environment & Housekeeping</u>	Unknown school playground environment	To be assessed on arrival (best place to put the forge and gazebos)	Children NOT using the forge	Keeping area clear, path covered in bark chippings.	Ongoing assessment	Blacksmith DT Staff		
	Around Forge	Forge Fire.	Fire may spit coal.	All persons entering the forge MUST wear safety goggles, leather apron and leather gloves.	Advise and remind as required.	Blacksmith		✓
<u>Environment & Housekeeping</u>	Outside Forge	Onlookers unaware of all the possible dangers	Accidental burn	Clearly marking the area where people will be watching from	Advise and remind as required.	Blacksmith		✓
	Quenching buckets	Hot metal cooling inside	Users accidentally burning or tripping over	Informing users.	Advise and remind as required.	Blacksmith		✓
	Forge Gazebos	Burn a hole in canvas/ structure not set up properly danger of collapse	Users may be underneath canvas/structure when falling	Check structure beforehand... make sure the gazebo is at the correct height above the forge	Assess on the day	Blacksmith		✓
<u>Terminology</u>	Tue Iron Flatter Clinker etc.;	User not understanding what object blacksmith is referring to in an emergency.	User does not understand what a "Tue Iron" is, may be advised against doing something with risk and there is a communication breakdown.	Verbal Introduction to equipment is given to all users, remind users what equipment is called throughout class, equipment has name written in chalk for first time users.	Provide Introduction hand out as reminder.	Blacksmith		✓
<u>First Aid</u>	First aid procedures and contacts.	In an emergency help required.	Untimely response to an accident exasperates injury.	Detailed explanation of emergency procedure before the session begins	Question school staff as to where the best places to gather/exit are	Miranda to action		
	Ice Packs and Gel Packs	Burns and bruising	Users of forge burned by steel, bruised by equipment	Full Burns Kit in forge and in DT department	Make users aware of where all kit is stored	Blacksmith		✓

Area of Awareness	List	What are the hazards?	Who might be harmed and how?	What are you already doing?	Do you need to do anything else to manage this risk?	Action by whom?	Action by when?	Done
<u>Fire Drill</u>	Who is the fire marshal/s, where to go in an emergency?	Not knowing what to do.	Users not accounted for.	Fire marshal informs where to go in case of fire.	Blacksmith updated as required.	Blacksmith		
<u>Forge Usage</u>	Forge Fire.	Wet spitting fire.	Wet coals pushed into fire will spit out of fire.	All users advised to push in coals from immediately around the fire, and not the darker coal at the edges.	Advise and remind as required.	Blacksmith		✓
<u>Forge Usage</u>	Forge Fire.	Fire too hot.	Fire burns too hot and starts to destroy forge and melt work.	Each user is advised to acknowledge if the fire is too high with coal / too much air moving through. Users to drag away excess coal from fire. Alert Blacksmith if airflow is too strong BLACKSMITH ONLY TO ADJUST.		Blacksmith		✓
	Forge Fire.	Coal moves away from Tue iron blowing hot coals out.	Users advised to keep fire covered in dry coal.	Each user is made responsible for the fore at all times, discussions on going with student about the importance of fire management.	Advise and remind as required.	Blacksmith		✓
	Wet Coal on Fire	New bag of coal put in forge, although stored in a dry area will have moisture. Introduce new coal around the outside of Forge Hearth. With fire running gradually bring in towards fire for burning.	Spitting fire.	Slowly introducing wet coal, let students know of risk during fire management talk.	Advise as required.	Blacksmith		✓
	Tools in Forge.	Forge Tools.	End of poker and shovel may be hot.	All users informed to keep the end of tools away from fire.	Advise and remind as required.	Blacksmith		✓

Area of Awareness	List	What are the hazards?	Who might be harmed and how?	What are you already doing?	Do you need to do anything else to manage this risk?	Action by whom?	Action by when?	Done
<u>Anvil Use</u>	Safe setup.	Anvil too high / low. Anvil not big enough for job	May cause injury to back. Anvil too small for steel.	Advising users which anvil to use, anvil height should be level with user knuckles.	Advise and remind as required.	Blacksmith		✓
	Hitting Anvil directly.	Student misses work and hits the anvil. Cold steel to cold steel causes bounce back.	May cause injury to student.	Reaffirm this as a risk, throughout lessons	Unavoidable risk, reaffirm as part of normal lesson.	Blacksmith		✓
	Too many users.	Burns or other injuries.	Burned or user injured.	No more than 3 people to an anvil	MANDATORY DO NOT CHANGE	Blacksmith		✓
<u>Tongs</u>	Correct use.	Work not secure.	Users dropping work or catapult off whilst working.	Several different types of tongs available to secure types of work, if more specialised tongs required Blacksmith will make a pair or adjust existing set.	As required.	Blacksmith		✓
<u>Hammer</u>	Correct sizing.	Appropriate for user's size and age. Encourage students to have a usual hammer.	Hammer too heavy for user, may cause injury.	Students find the "right" hammer, which is an appropriate size. Students arrive to class and say where is "MY" hammer, always encouraged at the start of the lesson.	Constant review.	Blacksmith		✓
<u>Tools</u>	Correct use.	Wrong tool for job.	May cause injury.	Blacksmith available to advise at all times.	Advise and remind as required.	Blacksmith		✓
<u>Working hazards</u>	General practice.	Moving around with hot steel to anvil.	Users burned.	All steel MUST be moved around HOT END POINTING TO THE FLOOR.	Advise and remind as required.	Blacksmith		✓
		Moving around forge with large work.	Knocking over and burning users.	Priority to larger work being moved around the forge, all other users advised verbally as required.	Advise and remind as required.	Blacksmith		✓
		Work overheats.	Work heats to a "sparking" or welding heat, when hit	Appropriate PPE worn at all times. Advise user on	Advise and remind as required.	Blacksmith		✓

Area of Awareness	List	What are the hazards?	Who might be harmed and how?	What are you already doing?	Do you need to do anything else to manage this risk?	Action by whom?	Action by when?	Done
			sparks will fly at random and injure users.	staged of heating work, from black to white.				
<u>Working hazards</u>	Environmental change.	Summer heat.	Users overheating / dehydrating.	Providing water and having drink breaks every 30 minutes.	Advise and remind as required.	Blacksmith		✓
	Blacksmith never leaves students in forge unattended.	Area requires trained operative and first aider in area when forge is in use.	Any user with tools or fire.	Remove users from area, either put chain on or take students to different area.	Advise and remind as required.	Blacksmith		✓
	Student "time outs"	Due to the amount of tools and the fact there is always a fire. Regular breaks away from the forge area are required. This can be a quick stop to congratulate students and reaffirm H&S.	All users due to lack of concentration.	Regular stops, discussions. Send for toilet and water breaks. Have a break for toast. Stop class early if users look tired.	Advise and remind as required.	Blacksmith		✓
		Short /smaller pieces of metal get too hot to handle.	User burned.	Tongs provided for handling, localised quenching of hot bar ends.	Advise as required.	Blacksmith		✓
		Work not secured when being worked on if static working required.	Work not secured, user slips or drops work causing injury or burn.	Advice given on whether assistance is appropriate or use of a vice is required.		Blacksmith		✓
	General practice.	Sharp edges on work.	Users cut themselves.	Provide correct files / rasps for smoothing edges.	Sharpe edges on work.	Blacksmith		✓
		Short /smaller pieces of metal get too hot to handle.	User burned.	Tongs provided for handling, localised quenching of hot bar ends.	Advise as required.	Blacksmith		✓
		Work not secured when static working required.	Work not secured slip / drop and burn.	Advice given on whether assistance is appropriate or use of a vice is required.		Blacksmith		✓
<u>Tool Maintenance</u>	Hammers.	Loose heads, chipped faces, split handles.	Injury by dislodged hammer head being struck with force, steel chips from	All hammers checked at the end of each class. Wedges checked in end of hammer,	Advise users on correct hammer for job.	Blacksmith		✓

Area of Awareness	List	What are the hazards?	Who might be harmed and how?	What are you already doing?	Do you need to do anything else to manage this risk?	Action by whom?	Action by when?	Done
			hammer heads injure user, handle causing splinters or catching hand.	faces redressed (sanded and smoothed) as necessary, handles replaces as required.				
	Chisels.	Ends chipped, using a "Hot" chisel and "Cold" Chisel in the wrong instance.	Steel chips from chisel ends and points injure user, tool chips from use in wrong instance.	All chisels checked at end of each class and sharpened as necessary. Hammer ends filed down when required. Users advised on choice of chisel to mitigate risk.	Advise users on correct chisel for job.	Blacksmith		✓
<u>Blacksmith Behaviour</u>	Technique.	Blacksmith does not hammer right over the anvil as much as possible as is the traditional technique.	Risk of bounce back.	Standing more upright when working, users will copy. Users advised throughout lessons on best working practices.	Advise as required.	Blacksmith		✓
	Demonstrations to fit user.	Demonstrate using tools user should use.	Poor practise could cause injury.	Show, how and where is the best place to be working each time. Every time.	Advise as required.	Blacksmith		✓
	Maximum Blacksmith to user ratio of 3:1 or 7:2.	Too many students moving around with hot steel and tools.	Any user	All aware that this is the maximum. If more arrive politely turn away.	THIS IS MANDATORY AND WILL NOT CHANGE UNLESS THE SIZE OF THE FORGE AND NUMBER OF BLACKSMITHS CHANGE.	Blacksmith		✓