



Design and technology

Risk assessment

Cautionary note:

Please check your school policies for health and safety rules and regulations, plus any existing risk assessments before reviewing and amending this document. Consult the designated subject lead or safeguarding co-ordinator for advice on completing such documents if in doubt.

First, read and review this document and check the hazards it covers.

Then, use the guidance on page 3, accompanied by the blank pages/proformas on pages 12 and 13, to include additional hazards which are not listed in this document.

N.B. If any pupils are likely to cause injury to themselves or others, review and risk assess the pupils on an individual basis, using the proforma on page 14.

**Cooking and
nutrition**

Mechanisms

Structures

Textiles

Electrical systems

Summary of hazards the page presents

Ref.	Identified hazard(s):	Who might be harmed?	Preventative measures and controls:	Level of risk:
A referenced number that can be used to link to the risk assessment entry in other documents and records.	An activity or piece of equipment which carries an element of risk to health and safety.	The group or individual that are at risk of injury.	Strict guidance or expected rules and regulations to follow in order to remove or decrease the risk of the identified hazard(s).	Estimated potential level of danger presented by the identified risk, refer to the risk matrix below.
Example entry:				
7	Kitchen classroom: Electric blenders and liquidisers.	Pupils, staff	Staff only must assemble or disassemble electric blenders and liquidisers Staff only must wash the blades from an electric blender and liquidiser Electrical equipment must be appropriately monitored and maintained regularly; PAT tested annually	Medium

Risk matrix

This risk matrix is used to identify the level of risk when presented with identified hazards.

Likelihood of harm	1 - Unlikely - rare, though possible
	2 - Possible, could occur occasionally
	3 - Probable - injury likely to occur

Potential consequence of harm

1 - Minor injury Hazard can cause an illness, injury or equipment damage, but the results would not be expected to be serious.	2 - Significant injury Hazard can result in serious injury and, or illness, over 3 day absence.	3 - Major injury Hazard capable of causing death or Serious and life threatening injuries.
Low	Low	Medium
Low	Medium	High
Medium	High	Extreme

Design and technology risk assessment

General: Provision; General: Equipment advice; General: Equipment storage

Ref.	Identified hazard(s):	Who might be harmed?	Preventative measures and controls:	Level of risk:
1	General: Provision and supervision	Pupils, staff	<p>Class and group sizes should be appropriate to:</p> <p>Room size, class size, staff: pupil ratio, the nature of the activity, pupil age, pupil ability.</p> <p>Health and safety rules and responsibilities should form part of a whole-school set of expectations and should be expressed before each activity that involves an element of risk.</p> <p>Staff and pupils are advised to wear aprons to protect clothing.</p> <p>Staff and pupils are advised to wear appropriate footwear for safe grip and foot protection.</p> <p>Staff and pupils are advised to wear goggles when carrying out activities that use chemicals or generate small fine, loose particles to protect their eyes.</p> <p>Share and warn pupils and staff of the risks involved before and after the activity.</p> <p>Expectations and rules visible in the classroom or working environment.</p>	Low
2	General: Equipment	Pupils, staff	<p>All equipment must be maintained and monitored before and after each use for wear and damage.</p> <p>All equipment must be recorded in quantity when handing out and returning to storage.</p> <p>Ensure staff understand how to use the equipment in the correct and safe manner, and are aware of any risks.</p> <p>Staff are trained on basic hygiene, health and safety awareness and know the location and/or contact for the school first-aiders.</p>	Low
3	General: Equipment storage	Pupils, staff	<p>Equipment and substances stored appropriately so they do not present a trip, slip or fall hazard.</p> <p>Heavy equipment stored at an appropriate level.</p> <p>Rags, cotton waste, polyurethane foam or similar materials should not be allowed to accumulate or be stored near naked flames, hot objects or immediately against electrical equipment.</p>	Low

General: Substances and COSHH; General: Kitchen classroom*				
Ref.	Identified hazard(s):	Who might be harmed?	Preventative measures and controls:	Level of risk:
4	General: Substances and COSHH (i.e. ink, glue, fixatives)	Pupils, staff	<p>All highly flammable substances (i.e. fixatives) should be stored in suitably labelled, lockable metal storage containers or cupboards.</p> <p>Inventory of chemicals used within the subject that identifies the quantity stored, includes material safety data sheets, identifies the level of risk from them and if there is a requirement to undertake a specific COSHH risk assessment.</p> <p>Refer to COSHH (Control of Substances Hazardous to Health) for further advice.</p> <p>Communicate known risks from chemicals to the relevant people who may be exposed to any risk, including teaching, cleaning staff and pupils.</p> <p>Only low hazard paints and inks used where possible.</p> <p>Food should not be consumed or brought into work areas where chemicals are used.</p>	Low
5	General: Kitchen classroom* (*or, other area in which you teach and prepare food with the pupils)	Pupils, staff	<p>Staff and pupils will be instructed and trained how to be safe in the kitchen classroom (i.e. no running, no walking around with sharp equipment).</p> <p>Staff and pupils will be instructed and trained on good food hygiene in the kitchen classroom (i.e. washing hands thoroughly before and after each activity, cross-contamination).</p> <p>Pupils bags and equipment kept away from working areas in the kitchen.</p> <p>Staff supervision of pupils.</p> <p>Staffing ratios are appropriate to the size of class and age of pupils.</p> <p>Spillages are immediately mopped/cleaned up and the area returned to a dry, safe condition.</p> <p>General surrounding and immediate area kept clear of obstacles and in a tidy organised state.</p> <p>Electrical equipment will be monitored and maintained regularly; PAT tested annually.</p> <p>Equipment will be used correctly to prevent cross-contamination (i.e. coloured chopping boards for different foods such as raw meats).</p> <p>Long-hair must be tied back and put into a bun if longer than shoulder-length.</p>	Low

Kitchen classrooms*				
Ref.	Identified hazard(s):	Who might be harmed?	Preventative measures and controls:	Level of risk:
6	Kitchen classroom*: Sharp implements (i.e. knives, peelers)	Pupils, staff	<p>Staff must store sharp implements in a locked cupboard or room.</p> <p>Staff must monitor the quantity of sharp implements handed out and returned before and after each activity.</p> <p>Staff and pupils must be able to remove and replace sharp implements safely, with their blade and handle clearly visible, in and out of their container.</p> <p>Pupils must be taught the correct techniques for using sharp implements under strict supervision by staff.</p> <p>Pupils must be instructed not to leave sharp implements in the sink when washing up.</p>	Medium
7	Kitchen classroom*: Electric blenders and liquidisers	Pupils, staff	<p>Staff must assemble or disassemble electric blenders and liquidisers.</p> <p>Staff must wash the blades from an electric blender and liquidiser.</p> <p>Electrical equipment must be appropriately monitored and maintained regularly; PAT tested annually.</p>	Medium
8	Kitchen classroom*: Oven and cooker hobs	Pupils, staff	<p>Staff and pupils to be clear about the safe and appropriate use of an oven and the hob, including the risks they present.</p> <p>Staff to consider pupils ability, height and age before allowing them to use an oven and/or the hob.</p> <p>Oven gloves must be used to place food in the oven/grill and when removing it, under strict staff supervision.</p> <p>Oven doors must be kept closed unless food is being placed in or taken out.</p>	High
9	Kitchen classroom*: Food storage and advice	Pupils, staff, parent(s) /carer(s)	<p>Hot food should be cooled quickly and stored in the fridge within 1-2 hours.</p> <p>Pupils and parents will be advised of the appropriate reheating methods and possible allergens if taking home.</p> <p>Finished dishes must be stored appropriately until they are ready for the pupils to consume or take home.</p> <p>Completed dishes not collected after 48 hours, or 24 hours for rice dishes, will be disposed of.</p> <p>Ingredients must be stored and labelled appropriately.</p>	Low

Slips, trips and falls; Allergies; Use of glue, fixatives and adhesives^{**}; Burns due to glue guns and hot components; General hygiene- balloons

Ref.	Identified hazard(s):	Who might be harmed?	Preventative measures and controls:	Level of risk:
10	Slips, trips, and falls	Pupils, staff	<p>Staff supervision of pupils .</p> <p>Staffing ratios are appropriate to the size of class and age of pupils.</p> <p>Spillages are immediately mopped/cleaned up and the area returned to a dry, safe condition.</p> <p>General surrounding and immediate area kept clear of obstacles and in a tidy organised state.</p> <p>Pupils bags and equipment kept away from working areas in the classroom.</p>	Low
11	Allergies to chemicals, materials, and ingredients	Pupils, staff	<p>Staff are aware of the school first aiders.</p> <p>Staff watch for adverse and undiagnosed reactions.</p> <p>Staff are aware of any pupils or staff with diagnosed allergies and plan accordingly.</p>	Medium
12	Use of glue, fixatives, and adhesives ^{**} (**including but not limited to, all points made in reference number 4)	Pupils, staff	<p>Staff supervision of pupils.</p> <p>Pupils instructed and understand to use appropriate amounts of glue.</p> <p>Water-based, non-toxic formulation only – No solvent-based.</p> <p>Approved products for children only.</p> <p>No super-glue or wallpaper paste containing fungicides.</p> <p>Spray adhesives used by staff only, highly flammable, and toxic.</p> <p>Must be used in well-ventilated areas away from children.</p> <p>Heavy vapour adhesives used by staff only.</p> <p>Behaviour expectations are expressed before activities proceed.</p>	Low
13	Burns, due to glue guns and hot components	Pupils, staff	<p>Low-melt glue guns are considered safer than their hot-melt alternatives.</p> <p>If hot-melt glue guns are to be used, these should only be used by older children under close supervision.</p> <p>Behaviour expectations expressed before activities proceed.</p>	Medium
14	General hygiene - balloons	Pupils, staff	<p>When using balloons, staff should ensure hygienic procedures are followed.</p> <p>Do not share mouthpieces.</p> <p>A hand pump should be used if available for inflating balloons.</p> <p>Behaviour expectations expressed before activities proceed.</p>	Low

Cuts, punctures, lacerations and pinches from cutting and shaping implements; Sewing, needlework and fabric choices

Ref.	Identified hazard(s):	Who might be harmed?	Preventative measures and controls:	Level of risk:
15	Cuts, punctures, lacerations, and pinches from cutting and shaping implements (i.e. scissors, pliers)	Pupils, staff	<p>Staff supervision of pupils.</p> <p>Round-ended school scissors only, staff-use only for fabric and point-ended scissors.</p> <p>Cutting and shaping implements must not be left unattended, and should be counted in and out of storage.</p> <p>It is recommended to store cutting and shaping implements in a safe, secure place.</p> <p>Damaged or faulty cutting and shaping implements to be immediately discarded in a safe and sensible manner.</p> <p>When punching holes through materials, pupils should use a pointed pencil to press into a soft, pliable material such as soft tack or a large rubber.</p> <p>Screwdrivers and/or bradawls are not recommended for punching holes in materials.</p> <p>Where possible, use a hole punch or hand paper drill for creating holes.</p> <p>Where applicable, cutting boards or mats should be used.</p> <p>Pupils to be taught how to carry scissor blades closed and held in a gripped palm, never carried with blades pointing outwards.</p> <p>Left-handed tools should be offered to left handed pupils; right-handed tools should be offered to right-handed pupils.</p> <p>Behaviour expectations expressed before activities proceed.</p>	Low
16	Sewing, needlework and fabric choices	Pupils, staff	<p>Staff supervision of pupils.</p> <p>Pupils are taught how to use a needle and thread in the correct and safe manner.</p> <p>Cotton and other threads must be cut using scissors, never teeth and set by example.</p> <p>Material choices must be considered carefully, thick and dense materials can lead to excessive pressure being applied to the needle and thread which can result in puncture injuries.</p> <p>Choose single layer, looser materials such as felt, cotton and Aida cloths for guided cross-stitch.</p> <p>If denser materials are to be used, thimbles/thimblettes can protect pupils' fingers from injury.</p> <p>Behaviour expectations expressed before activities proceed.</p>	Low

Use of tenon saws (with bench hooks) and/or coping saws (with vices)

Ref.	Identified hazard(s):	Who might be harmed?	Preventative measures and controls:	Level of risk:
17	Use of tenon saws (with bench hooks) and/or coping saws (with vices) to cut wood	Pupils, staff	<p>Staff strict supervision of pupils.</p> <p>All pupils must be taught how to use the saws and holds in the correct and safe manner.</p> <p>Pupils must be set up with adequate space between stations for sawing, right-handed pupils will need more space to the left and left-handed to the right.</p> <p>Fine dust and wood particles may enter the air when sawing wood, if possible, provide pupils with goggles to protect their eyes.</p> <p>The area must be well ventilated, and the pupils must understand not to blow loose particles after sawing.</p> <p>Ensure that pupils are able to secure the wood properly on bench hooks before proceeding to cut.</p> <p>G-clamps to secure the bench hook to the desk or corner bench hooks, which prevent sideways movement, can help with this.</p> <p>All tenon saws (with bench hooks) and/or coping saws (with vices) must be accounted for when handed-out and returned, and stored in a safe, secure location away from children.</p> <p>Behaviour expectations expressed before activities proceed.</p>	High
18	Hand drills and drill bits; and other portable power tools	Pupils, staff	<p>Staff strict one-to-one supervision of pupils.</p> <p>Staff must change the drill bit, ensuring that it is secure and square before proceeding.</p> <p>All pupils must be taught how to use the hand drill in a correct and safe manner; without applying too much pressure to the drill, with the work-piece secured appropriately.</p> <p>Pupils must be set up with adequate space between stations for drilling, right-handed pupils will need more space to the left and left-handed to the right.</p> <p>Fine dust and wood particles may enter the air when drilling into wood, if possible, provide pupils with goggles to protect their eyes.</p> <p>The area must be well ventilated, and the pupils must understand not to blow loose particles after sawing.</p> <p>Hand drills must be set to the lowest speed to reduce vibration and prevent loss of control.</p> <p>Hand drills must be monitored and well-maintained, they must be accounted for when handed-out or returned, and stored in a safe, secure location away from children.</p> <p>Behaviour expectations expressed before activities proceed.</p>	High

Use of tenon saws (with bench hooks) and/or coping saws (with vices); clay; paint				
Ref.	Identified hazard(s):	Who might be harmed?	Preventative measures and controls:	Level of risk:
18	Hand drills and drill bits; and other portable power tools continued .	Pupils, staff	<p>To prevent entanglement, over-garments must be removed and long sleeved shirts rolled up - aprons are preferable to protect clothing from swarf/dust, but to also hold back any loose elements on clothing. Long-hair must be tied back and put into a bun if longer than shoulder-length.</p> <p>Ensure that pupils are able to secure the wood properly on bench hooks before proceeding to drill.</p> <p>G-clamps to secure the bench hook to the desk or corner bench hooks, which prevent sideways movement, can help with this.</p> <p>Behaviour expectations expressed before activities proceed.</p>	High
19	Clay	Pupils, staff	<p>Pupils must thoroughly wash their hands before and after using clay.</p> <p>Staff supervision of pupils.</p> <p>Staffing ratios should be appropriate to the size of class and age of pupils.</p> <p>Spillages are immediately mopped/cleaned up and the area returned to a dry, safe condition.</p> <p>General surrounding and immediate area kept clear of obstacles and in a tidy, and organised state.</p> <p>Any cutting and shaping tools used to work the clay must be appropriate for the age group and with no sharp edges.</p> <p>Consider all points made in reference 8 'Allergies to chemicals, materials and ingredients'.</p> <p>Consider all points made in reference 12 'Cuts, punctures, lacerations, and pinches from cutting and shaping implements'.</p>	Low
20	Paint	Pupils, staff	<p>Staff are aware of the school first aiders.</p> <p>Staff watch for adverse and undiagnosed reactions.</p> <p>Staff are aware of any pupils or staff with diagnosed allergies and plan accordingly.</p> <p>Pupils must thoroughly wash their hands before and after using paint.</p> <p>Staff supervision of pupils.</p> <p>Staffing ratios are appropriate to the size of class and age of pupils.</p> <p>Spillages are immediately mopped/cleaned up and the area returned to a dry, safe condition.</p> <p>General surrounding and immediate area kept clear of obstacles and in a tidy, and organised state.</p> <p>Water-based paints recommended.</p>	Low

Use of batteries as part of an electrical system, loose batteries; general circuitry and electrical components; plug sockets				
Ref.	Identified hazard(s):	Who might be harmed?	Preventative measures and controls:	Level of risk:
21	Crocodile clip pinches	Pupils, staff	<p>Staff supervision of pupils.</p> <p>Instruction the pupils on appropriate and acceptable behaviour when working with crocodile clips</p> <p>All pupils must be taught how to use the crocodile clips in a correct and safe manner.</p>	Low
22	Plug sockets (mains electricity)	Pupils, staff	<p>Staff supervision of pupils.</p> <p>Staff are aware of the school first aiders.</p> <p>All electrical equipment should be PAT tested to ensure that they are safe to use.</p> <p>If there are visible defects with the equipment, do not continue to use it, this includes the cables and plug socket as well as damage to the device itself.</p> <p>Pupils are made aware of the risks of putting objects and wet hands near/into electrical sockets</p> <p>Ensure that pupils know the dangers of mains electricity</p>	High
23	Batteries (cell, button, coin etc.)	Pupils, staff	<p>All staff and pupils must be taught the dangers of misusing batteries; including the knowledge that empty or 'dead' batteries still present the level of risk.</p> <p>Assess batteries before use for any deterioration and leakages, if present dispose of immediately and appropriately</p> <p>Remove batteries from any electrical circuits and systems after use</p> <p>Store all batteries in a locked and labelled safe location away from pupils</p> <p>Count all batteries out to the pupils and back in after use</p> <p>Keep new, unused batteries in their original packaging</p> <p>If you suspect that a pupil has swallowed a battery, they must attend the nearest Accident and Emergency immediately.</p>	High

Ref.	Identified hazard(s):	Who might be harmed?	Preventative measures and controls:	Level of risk:

Ref.	Identified hazard(s):	Who might be harmed?	Preventative measures and controls:	Level of risk:

Name:

Ref.	Identified hazard(s) or concern(s) raised:	Who might be harmed?	Preventative measures and controls; actions to reduce the likelihood of risk to the pupil or others:	Level of risk:
1				
2				
3				
4				
5				
6				
7				
8				