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|  | **Science Department Risk Assessment Record** |  |

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| **Operations/Work Activities covered by this assessment:** | Science department | | | | | | | |
| **Site Address/Location:** | <insert location> | | | **Department/Service/Team:** | | | <insert name of school/academy> | |
| **Assessment Date:** | Click or tap to enter a date. | | | **Lead Assessor:** | | | <insert name of assessor> | |
| **Authorised By:** | <insert name of authoriser> | | | | | | | |
| **Who Might Be Affected** | Employee | Contractor | Visitor | | Pupil | Client | | Member of Public/Third Party |
| **Note:** A person specific assessment must be carried out for young persons, pregnant employees and nursing employees | | | | | | | | |

| Hazards  Considered | How might they be Harmed | Current Control/Mitigation Measures: | Risk Rating | | | Action Required/ Action No. |
| --- | --- | --- | --- | --- | --- | --- |
| Likelihood | Severity | Risk Rating |
| Insufficient information, instruction and training of staff and pupils. | Physical injury or ill-health from inappropriate behaviour, lack of experience and knowledge of hazards / risk. | Safety rules are displayed within the workshop / classroom.  Safety information / instructions are provided at the start of each practical lesson e.g. safe use of hot/sharp materials, hazardous substances, equipment, behaviour expectations.  Instructions are in place regarding dress code e.g. no loose clothing, long hair tied back and suitable footwear.  Staff receive a full induction when joining the department which includes health and safety arrangements and emergency action. A record is maintained of the induction including name, content and date undertaken.  Teachers / Technicians have suitable and sufficient training, experience, and knowledge for their role and to ensure equipment / activities are conducted safely.  Training records are maintained and available to view within the department. Refresher training is managed and provided at specified intervals. |  |  |  |  |
| Insufficient supervision of staff and pupils. | Physical injury or ill-health from inadequate supervision of pupils or lone working. Staff experiencing stress, physical injury, or ill-health from managing large groups and / or working alone. | Arrangements are in place to ensure that pupils are always appropriately supervised.  Access to laboratories / storage areas / classrooms is restricted when not in use and when supervision is not available. Pupils are not authorised to access prep rooms.  Control measures are in place where supervision is inadequate e.g. practical activities not conducted when pupils are supervised by unqualified staff.  A risk assessment is undertaken to determine class sizes to ensure practical activities can be completed safely and with suitable support / supervision. Guidance is available from CLEAPSS at: [PS09 Science class, laboratory sizes and safety (cleapss.org.uk)](http://science.cleapss.org.uk/Resource/PS009-Science-class-sizes-laboratory-sizes-and-possible-effects-on-safety.pdf)  Lone working arrangements are in place to support staff who may be working without direct or close supervision. Avoid lone working wherever possible. |  |  |  |  |
| Unsuitable and poorly maintained environment. | Physical injury or ill-health due to hazards present within working environment. Injuries may include cuts, bruising, bumps, burns, and fractures. Risk of damage to property due to lack of maintenance and repairs. | Adequate lighting is available within the laboratories / classrooms and other working areas.  Adequate ventilation is available within the laboratories / classrooms and other working areas e.g. can windows be opened, and mechanical ventilation provided where appropriate.  The floor is kept free of slip / trip hazards e.g. worn / uneven floors, unsuitable polished floors, obstructions, and debris etc.  Housekeeping arrangements are in place to keep the room clean and tidy.  Storage is available for personal belongings.  Handwashing and drying facilities are provided.  Furniture is suitable for purpose and of sound condition e.g. stable and undamaged.  Arrangements are in place for the safe disposal of waste materials. |  |  |  |  |
| Poorly maintained floor surface and poor housekeeping increasing risk of slips, trips, and falls. | Physical injury e.g. cuts, bruising and fractures from a slip, trip or fall. | Floors are in a good condition and monitored regularly.  Class sizes are risk assessed.  Storage is available for personal belongings.  Good housekeeping is maintained.  Spillages on floors to be mopped up immediately. Cleaning regime is in place for classrooms.  Avoid using extension cables and prevent trailing cables. |  |  |  |  |
| Unsuitable, poorly maintained, and incorrect use of equipment. | Physical injury from contact with unsuitable, damaged, poorly maintained, or incorrect use of equipment. | Equipment suitable for the purpose and obtained from a reputable educational source.  Equipment to be inspected by a competent contractor and records of maintenance retained in accordance with the manufacturer’s instructions (where appropriate).  Operators to conduct a visual inspection of equipment prior to use and conduct in-house maintenance tasks e.g. cleaning.  There is a system in place for reporting defective equipment, e.g. removal from use or replacement.  The condition of equipment is checked routinely to ensure it is in a safe condition.  Long hair, loose clothing and all jewellery is removed (or tied back) to prevent entanglement.  Portable electrical appliances and the fixed electrical system is regularly tested and maintained.  Where the risk assessment has identified a requirement for PPE, suitable PPE is provided at the point of use and it is maintained / cleaned regularly.  Pupils provided with instructions regarding how to use equipment safely and what equipment must only be used under direct supervision from teaching staff. |  |  |  |  |
| Unsuitable, poorly maintained, and incorrect use of electrical equipment. | Physical injury from contact with electricity from damaged, poorly maintained, or incorrect use of electrical equipment. This may result in electrocution which can potentially result in death. | PAT testing undertaken for all portable electrical items or equipment at regular intervals by a competent person.  Visual inspections of all plugs, cables, and sockets before use.  Any damaged or defective equipment to be immediately taken out of use and reported to the Site Manager.  RCD sockets provided and tested regularly.  Sockets and electrical equipment located at a safe distance from sinks.  Equipment sited to avoid trailing cables. Avoid the use of extension leads. |  |  |  |  |
| Unsuitable, poorly maintained, and incorrect use of gas equipment and pipework. | Ill-health or asphyxiation from inhalation of fumes. Gas presents a fire / explosion risk which may cause burns, smoke inhalation, property damage and potentially fatality. | An isolating valve is provided, and signage is available. Employees aware how and when to isolate the gas.  The isolation valve is turned off and secured at the end of each lesson.  Gas pipework is clearly identified.  Gas pipework, controls and the isolating valve is inspected annually by a competent person. Records are maintained to evidence this.  Ready for use gas cylinders may be kept in the workshop and held securely, with the valves uppermost, either close to a wall, bench or in a cylinder trolley.  When not in use gas cylinders must be removed from the workplace to a suitably designed store, agreed with the local Fire Prevention Officer, away from any source of heat. While secure from unauthorised persons, easy access must always be assured in case of fire.  Spare cylinders, whether full or empty, must be kept in a secure, well-ventilated place, ideally outside.  Suitable notices indicating the presence of flammable gases under pressure should be displayed on the building where cylinders are used. It should be noted that most fire services now need to know when cylinders of oxygen and acetylene are used on school premises. |  |  |  |  |
| Unsuitable, poorly maintained, and incorrect use of fume cupboards and local exhaust ventilation (LEV). | Inhalation of fumes and / or dusts causing ill-health or asphyxiation. | Thorough examinations of fume cupboards and LEV systems are conducted by a competent person at least every 14 months (in accordance with COSHH regulations).  Operators to conduct a visual inspection of equipment and machinery prior to use and conduct in-house maintenance tasks e.g. cleaning.  Safety glazing is fitted to fume cupboard. |  |  |  |  |
| Unsuitable, poorly maintained, and incorrect use of pressure vessels. | Significant physical injuries in the event of an explosion. | Pressure equipment such as autoclaves, pressure cookers and steam engines must have a written scheme of examination which is approved for the equipment and specifies details of the examination.  Equipment is regularly examined by a competent person and records maintained to evidence this.  CLEAPSS guidance for the safe and appropriate use of pressure equipment is available at: [PS 80 How to use a model steam engine (cleapss.org.uk)](http://science.cleapss.org.uk/Resource/PS080-How-to-use-a-model-steam-engine.pdf) and [GL168 for pressure cookers and autoclaves (cleapss.org.uk)](http://science.cleapss.org.uk/Resource/GL168-Safe-use-and-maintenance-of-small-autoclaves-and-pressure-cookers.pdf)  Guidance regarding examination is available from CLEAPSS at: [G214b (cleapss.org.uk)](http://science.cleapss.org.uk/Resource/G214b-Examining-Autoclaves-Pressure-Cookers-and-Model-Steam-Engines-Written-schemes-of-examination-WSE.pdf)  Air compressors must be maintained in good working order. Where the pressure multiplied by the internal volume of the pressure exceeds 250 bar litres a written scheme will be implemented. Inspection must then be conducted in accordance with the written scheme by a competent person. Records must be maintained to evidence this. |  |  |  |  |
| Risk of fire and insufficient emergency procedures. | Fire / explosion risk which may cause severe physical injury, burns, smoke inhalation, property damage and potentially fatal consequences. | School fire risk assessment completed which outlines specific fire risk controls for the building.  School / departmental emergency action plan devised, communicated, and tested.  Fire safety awareness training completed by staff within the department.  Staff, pupils, and visitors aware of procedures to be taken in the event of discovering a fire / hearing the fire alarm.  Fire exits remain free from obstructions, are clearly marked and fire action notices are displayed.  Suitable firefighting equipment is provided, suitably positioned, and maintained e.g. fire blanket, fire extinguishers etc.  Fire protective measures e.g. emergency lighting, fire extinguishers, fire alarm etc. are maintained and inspected by competent persons. Records maintained within the fire logbook. |  |  |  |  |
| Inadequate or insufficient provision of first aid. | Injury or ill-health from inadequate first aid provision or incorrect first aid treatment. | Appointed and trained first aiders within the department.  Staff aware off emergency procedures and action to be taken whilst waiting for the first aider and method of contacting first aiders and emergency services. Notices displayed identifying contact details of first aiders.  First aid kits are kept fully stocked and a checked regularly by a responsible person.  Eye wash facilities are available, and staff have been trained to use them.  Procedures are in place to report accidents, incidents and near misses. |  |  |  |  |
| Insufficient / unsuitable plans and poor management of emergency situations. | Physical injury, ill-health with potentially fatal consequences if involved in an emergency. | School emergency / critical incident plan is in place which covers a variety of situations.  School emergency / critical incident plan is communicated to interested parties and tested with staff / pupils where appropriate.  Departmental arrangements are in place and procedures are in place to deal with emergency situations. |  |  |  |  |
| Incorrect, inappropriate, and unsupervised use of hand tools, knives, scalpels, cutting tools and sharps. | Physical injuries from inappropriate or unsupervised use of sharp and other tools / equipment. Injuries may include cuts, bruises, and puncture wounds. Involvement of equipment in violent situation could result in significant injury or fatality. | The use of hand tools, knives, scalpels, and cutting tools is controlled and instructions are provided for safe use.  Hand tools, knives, scalpels and cutting tools are counted in / out at the start and end of each lesson.  All hand tools, knives, scalpels and cutting tools are stored securely when not in use and access to storage is restricted.  Instructions are in place regarding the safe handling of glass equipment and dealing with breakages. A suitable container is readily available for the collection of broken glass. |  |  |  |  |
| Inappropriate manual handling techniques. | Physical injuries or ill-health from using incorrect lifting techniques and attempting to lift heavy / cumbersome loads. Such injuries may result in sprains, back injuries, fractures, and musculoskeletal disorders. | Manual handling awareness training completed by staff within the department.  Shared lifting practices to be adopted where appropriate.  Large or heavy items to be assessed before handling.  Lifting and handling aids to be provided where necessary.  Formal assessments of manual handling activities to be conducted for routine activities where there is a significant risk of manual handling which consider TILE (task, individual, load and environment). |  |  |  |  |
| Risk of falls or falling objects whilst working at height. | Physical injury from falls from height or falling objects. Injuries may include cuts, bruising, fractures. Injuries may be fatal. | Work at height awareness training completed by staff within the department.  Only light items to be stored at height and ins a sensible manner to ensure potential for falls is limited. Only staff to reach for items stored at height ensuring that no pupils are below.  Suitable access equipment is provided and maintained. A visual inspection is completed prior to use. Where equipment is found to be faulty or damaged it will be removed from use immediately and reported to Site Manager.  A formal record of routine inspection of ladders / stepladders is maintained.  Formal assessments for work at height to be conducted for routine activities where there is a significant risk.  All work at height activities are planned and consideration given to the task, duration, and environment.  Suitable footwear is worn.  Lone workers must avoid work at height. |  |  |  |  |
| Incorrect, unsupervised, and poor management of hazardous substances. | Ill-health or injury from contact, inhalation, absorption, or ingestion of hazardous substances. Potential for fire and explosion associated with hazardous substances which may have fatal consequences and result in significant property damage. | COSHH assessments are completed for all hazardous substances. Controls measures documented and implemented to minimise risk to employees and pupils.  COSHH assessments, control measures and safe working procedures are communicated to staff, users, and where appropriate pupils.  Material Safety Data Sheets (MSDS) are obtained for all hazardous products and a copy is held with the COSHH assessment.  Staff have received suitable and sufficient information, instruction, and training for the safe use, storage, and management of hazardous substances.  Procedures in place to control substances used and brought into school to ensure that controls are in place. Employees not to bring their own products into school without prior authorisation.  Care is taken to use the safest product for the task.  All hazardous substances are stored securely and safely which is not accessible to pupils. Items are labelled with appropriate warning symbols and arrangements are in place for stock rotation e.g. according to shelf life.  Employees wash hands before and after use of hazardous substances. There is a provision of hand washing facilities, including soap, hot water, and paper towels.  Where the risk assessment has identified a requirement for PPE, suitable PPE is provided at the point of use and it is maintained / cleaned regularly.  Arrangements are in place to deal with emergency situations, including first aid, fire, spillages etc.  Substances are segregated in accordance with CLEAPSS guidance and suitable and sufficient ventilation provided.  Pupils are instructed to wash hands before, during and after practical activities. There is a provision of hand washing facilities, including soap, hot water, and paper towels.  Substances are used in controlled condition with adequate ventilation. Spray booths are permanently vented outside.  Resources from CLEAPSS are available and used to ensure guidance and best practice is followed including relevant Hazcards.  Staff have received suitable and sufficient information, instruction, and training to deal with spillages and use of spill kit.  Arrangements / procedures are in place for the safe disposal of hazardous substances in accordance with CLEAPSS guidance and COSHH regulations. |  |  |  |  |
| Incorrect, unsupervised, and poor management of radioactive sources. | Exposure to radiation causing radiation related ill-health (dependant on level of exposure). | Employer has obtained a registration from the HSE to store/use sources of ionising radiations.  Arrangements and safe working procedures are in place to comply with the Ionising Radiation Regulations.  A Radiation Protection Supervisor (RPS) appointed on site who has received suitable and sufficient training for their role.  Teaching staff required to handle radioactive sources have received appropriate information, instruction, and training.  Local rules on site for the use, storage etc. of radioactive sources.  Monitoring equipment is readily available and in good working order. Regular, routine monitoring is undertaken, and a record maintained.  Radioactive sources are stored; in a secure steel store cabinet, in a lockable storeroom accessed by science staff only. The cabinet should be securely fixed to the fabric of the building (or bolted to a fixed bench), to minimise the risk of unauthorised removal.  The cabinet should be located at least 2m (ignoring walls, floors, and ceilings) from where anyone spends extended periods of time.  Access to support via Radiation Protection Advisor (RPA).  Guidance regarding radioactive sources is available from CLEAPSS at: [L93 Ionising Radiations and Radioactive Substances (cleapss.org.uk)](http://science.cleapss.org.uk/Resource/L093-Managing-Ionising-Radiations-and-Radioactive-Substances-in-Schools-and-Colleges.pdf)  Radioactive sources assessed as part of the fire risk assessment and fire service notified.  A specific risk assessment for the management of radioactive sources is completed. |  |  |  |  |
| Unsuitable, poorly maintained, and incorrect use / supply of Personal Protective Equipment (PPE). | Physical injury or ill-health from failure to assess the need for PPE, or failure to provide or maintain PPE. | Risk assessments completed to identify the requirement for PPE for specific activities, tasks, equipment, and hazardous substances.  Arrangements in place to ensure that appropriate PPE is available and worn e.g. eye protection, lab coats.  Instructions provided for when PPE should be worn, e.g. protection from impact, dusts, mists, vapours, etc.  There are suitable arrangements for the storage of PPE.  Pupils are supervised to ensure they are wearing PPE where appropriate.  Signage is displayed to indicate the requirement for PPE whilst using specific equipment.  PPE is checked regularly to ensure it is in good condition, damage free and clean. |  |  |  |  |
| Specific science learning activities and tasks. | Physical injury and ill-health from poorly managed activities, lack of competence, insufficient supervision, and unmaintained equipment. | A health and safety policy for the science department has been implemented and outlines key roles and responsibilities.  Additional guidance, advice and resources are available from professional organisations e.g. CLEAPSS.  Employees engage, participate, and are consulted in the risk assessment process for specific tasks / activities e.g. practical lessons.  CLEAPSS risk assessments are in place for all activities within the department.  The findings and control measures from the CLEAPSS risk assessments have been implemented and made specific for site.  Suitable and sufficient information, instruction and training provided to all those involved in the activity.  Equipment used for these activities is suitably maintained in accordance with the manufacturer’s instructions.  Any hazardous substances used during activities are COSHH assessed, suitable and sufficient control measures implemented and communicated to those involved.  Suitable and sufficient supervision is provided to ensure the activity can be conducted safely. |  |  |  |  |
| Additional Notes | | | | | | |
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| Control Improvements/Developments | | | | |
| Action No. | Recommended additional control measures | Responsibility | Target Date | Date Completed |
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| Signature of Assessor: | Date: |
| Signature of Person Authorising: | Date: |

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| Potential Severity of Harm | Major | **Medium** | **High** | **High** |
| Minor | **Low** | **Medium** | **High** |
| Negligible | **Low** | **Low** | **Medium** |
|  | | Rare | Possible | Almost Certain |
| Likelihood of Harm Occurring | | |

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| **Definitions** | |
| High | Take appropriate action within agreed period |
| Medium | Monitor Situation |
| Low | No Action Required |

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| Reviews – this assessment should be reviewed at intervals no greater than 12 months or if there are changes to the procedures, personnel, work environment or following an incident | | | | | | | | |
| Review Date | Comments/Amendments | Reviewed By | Signature |  | Review Date | Comments/Amendments | Reviewed By | Signature |
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| The following table should be used for all staff to sign and date to confirm that the risk assessment has been read. |

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