



**SCIENCE DEPARTMENT
HEALTH AND SAFETY POLICY**
Outwood Post 16 Centre

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Author (name & job title):	Katy Bradford, Chief Operating Officer		
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Science Department Health and Safety Policy

This policy sets out the academy’s arrangements for ensuring that practical work within the science departments is carried out safely and that safety control measures applied are pragmatic and proportionate so as not to inhibit good teaching. It is expected that all staff will follow the guidance provided in CLEAPSS ‘Supporting Practical Science, DT and Art’ GL 120.

The task of overseeing health and safety within the science department is that of the Head of Department.

This Policy should be read in conjunction with the academy's Health and Safety Policy.

Information

All staff are issued with a copy of this policy which they should keep in their personal health and safety portfolio.

Any new instructions, restrictions or rescinded (lifted) restrictions made by the academy are communicated to all staff in writing and by email.

Monitoring and checking

The academy requires the science department to monitor the implementation of this policy. Records of monitoring are kept by the Head of Department.

Training

Any non-science staff who have to supervise any class in a laboratory will receive brief training in laboratory rules.

Records of the training received by members of the science staff are kept on their personal file.

Risk Assessments

The academy follows the recommendation of the Health and Safety Executive to adopt 'model' or 'general' risk assessments adapted to the academy curriculum and facilities.

Whenever a new course is adopted or developed, all activities (including preparation and clearing-up work) are to be checked against the model risk assessments and significant findings incorporated into texts in daily use, i.e., the scheme of work, set of lesson plans, syllabus, technician notes.

If a model risk assessment for a particular operation involving hazards cannot be found in these texts, a special risk assessment is to be completed. In order to assess the risks adequately, the following information is collected.

- Details of the proposed activity.
- The age and ability of the persons likely to do it.
- Details of the room to be used, i.e., size, availability of services and whether or not the ventilation rate is good or poor.
- Any substance(s) possibly hazardous to health.
- The quantities of substances hazardous to health that are likely to be used, including the concentrations of any solutions.
- Class size.
- Any other relevant details, e.g., high voltages, heavy masses, etc.

CLEAPSS must be consulted on any practical lesson and Hazcards issued, this is the responsibility of the class teacher and technician.

Lesson plans have been checked against the model risk assessments, staff should deviate from it only if their proposed activities have been also checked with the models and where appropriate agreed with the Head of Department.

Where an activity must be restricted to those with special training, that restriction is included in a note on the text.

Fume Cupboards

The academy will arrange regular testing of fume cupboards at a maximum interval of 14 months but require teachers to perform a quick check before use. Records of the tests are kept on file.

All users have been trained to carry out a quick check that a fume cupboard is working before use.

Pressure Vessels

Pressure vessels used in the academy science departments include autoclaves and domestic pressure cookers (used as autoclaves).

Because of the high pressures at which they operate and the steam that is generated they are subject to the requirements of the *Pressure Systems Safety Regulations 2001*. The metal from which the pressure vessels are constructed may become corroded. Pressure vessels include some mechanism for regulating the pressure of steam that builds up internally; normally steam is released to maintain a constant working pressure. Severe corrosion and failure of pressure-regulating and other safety valves could lead to an explosion.

To ensure the safety of the pressure vessels used and to meet the requirements of the legislation the academy will:

- establish the safe operating limits of the equipment;
- provide adequate instructions to ensure the equipment is operated safely, and instructions for procedures to be followed in case of emergency;
- ensure that the equipment is properly maintained;
- have a suitable written scheme drawn up or certified by a competent person for the examination, at appropriate intervals, of the equipment;
- arrange to have examinations carried out by a competent person at the intervals set down in the scheme;
- keep adequate records of the most recent examination.

Autoclaves and pressure cookers need periodic inspection under the *Pressure Systems Safety Regulations*.

The examination normally takes place each year in May.

The examination is carried out by the inspector employed by the insurance company who uses a written scheme of examination provided by the company.

Records of examinations are kept in the Science Prep. Room.

Equipment Safety

All staff selecting equipment for purchase will check that it is safe and suitable for the intended purpose (to comply with the *Provision and Use of Work Equipment Regulations*). Equipment listed by specialist educational equipment suppliers is taken to meet these *Regulations* but all other equipment, especially gifts, is treated with caution and carefully assessed.

Any user who discovers a hazardous defect in an item of equipment must report it to the Head of Department or other nominated person.

Personal Protective Equipment

The academy accepts the duty to provide eye protection, gloves and laboratory coats for employees where the risk assessment requires them and safety spectacles for pupils. The condition of the eye protection is checked at the start of each term.

Chemicals

The safe storage and, where necessary, disposal of chemicals including highly-flammable liquids, will be arranged in accordance with the requirements of the *Dangerous Substances and Explosive Atmospheres Regulations (DSEAR)* in order to ensure that chemicals are stored securely, the risks of fire, explosion and spillage are minimised, labels are readable and that a spill kit is available and properly replenished.

Hazardous activities involving chemicals is restricted to those who have received special training and as identified in the texts in daily use as part of the risk assessment.

Waste disposal

Waste chemicals and equipment are disposed of in an environmentally-responsible manner in accordance with relevant legislation.

Safe disposal of Sharps

All sharps must be correctly and safely disposed in a leak-proof, puncture resistant, lockable container. The container should not be filled more than two thirds then sealed and disposed as per the academy procedure.

Security

Access to laboratories and preparation rooms will be controlled to prevent unauthorised access. All science rooms including store rooms are to be kept locked at all times except when in use. It is the task of the staff member leaving such a room to see that the room is empty and that the door is locked. All laboratories which are left open are cleared of all hazards, including shutting-off all services when supervision by a suitably-trained teacher or teaching assistant comes to an end. No class is allowed to be in a laboratory without adequate supervision.

All science areas are made safe for cleaners or contractors to work in before these persons are allowed to proceed.

Fire fighting equipment

Two 2 kg carbon-dioxide extinguishers and one fire blanket provided for fire fighting are the standard for Science classrooms.

When using flammable metals, it is better to have a bag of sand immediately available in case of fire. Dry powder extinguishers may cause permanent damage to computers and lead to such a mess that industrial cleaning will be required. A fire blanket can be used to smother fires, often causing less damage than a carbon dioxide extinguisher, which may blast apparatus across the bench.

Spills

Trivial spills are dealt with using damp cloths or paper towels. Spills of any amount which do not give rise to significant quantities of toxic or highly-flammable fumes ('minor spills') are dealt with by teachers using a 'spill kit' provided for this purpose.

Major spills are those involving the escape of toxic gases and vapours or of flammable gases and vapours in significant concentrations. (Small amounts can be 'major spills' if spilt in small rooms.) Staff are trained in the appropriate procedures which may involve calling the Fire Service. This training is supported by regular drills arranged by the Head of Department.

Radiation

Teaching about ionising radiation in academy helps pupils to develop a balanced attitude towards the subject, for many the study of ionising radiation at academy may be their only opportunity to achieve this.

Academy work involving ionising radiation is very safe because great care has been taken in the choice of sources, control measures and procedures. However, all radioactive substances can cause harm if misused.

To comply with legislation and to ensure the academy follows best practice the academy has appointed:

Angela Howat (NCC) as Radiation Protection Adviser (RPA)

and:

Mrs Irene Nickerson as Radiation Protection Supervisor (RPS).

The Local Rules for the use of ionising radiations have been adapted from the CLEAPSS model in consultation with the RPA and it is a function of the Teacher in Charge of Science to see that they are adhered to. Staff using ionising radiations have been issued with their own copies, as a part of their training.

The *Radioactive Sources History* (i.e., authority to purchase, record of delivery, details of events in the life of the source and eventual certificate showing method of disposal) is kept in the Science Prep. Room.

The *Use Log* (showing the times that any sources are removed from and returned to their store) is kept in the Science Prep. Room.

The *Monitoring Record* of tests for leakage of radioactive sources and contamination by radium sources is kept in the Science Prep. Room. Testing normally takes place each year September.

It is the responsibility of the Head of Science and nominated radiation supervisor to ensure these records are all kept up to date.