

**CODE OF PRACTICE FOR HEALTH & SAFETY  
IN  
SECONDARY SCIENCE**

**THE BUCKINGHAM SCHOOL**



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<b>ATTACHED COMMITTEE:</b>	<b>CURRICULUM</b>
<b>REVIEWED:</b>	<b>OCTOBER 2020</b>
<b>REVIEW CYCLE:</b>	<b>1 YEAR</b>
<b>NEXT REVIEW DATE:</b>	<b>OCTOBER 2021</b>

<b>Health and Safety Advice and Guidance Chain</b>		
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<b>CLEAPSS</b>		<b>01895 251496</b> <a href="http://www.cleapss.org.uk">www.cleapss.org.uk</a>

**In an emergency, advice can be obtained by contacting the appropriate person on the chain above.**

**This information sheet should be reviewed annually to ensure key information and contacts are up to date.**

# **Code of Practice for Health and Safety in Secondary Science in Buckinghamshire**

## **Outline**

We are eager that all children in our school have the best and safest opportunity to carry out real hands-on science. However, in order to do this in a safe and manageable way it is essential that all staff supporting science are aware of their health and safety responsibilities and in the unlikely event of an incident, what appropriate actions to take to minimise injury.

This revised Code of Practice is intended to support the Science teams in schools across Buckinghamshire Local Authority and become the key reference point to enable safe and exciting practical science.

### **1. Intended audience for this Code of Practice**

The Code of Practice is concerned with health and safety in the science department, where science is taught by specialist staff in specialist laboratory accommodation. However, the Code still applies even if, exceptionally, science is taught in ordinary classrooms and/or by non-specialist staff. The Code applies not only to science teachers but also to others who work within the science department, including technicians, teaching assistants and other support staff and trainees.

### **2. Scope of this Code of Practice**

This Code of Practice should be read in conjunction with the Buckinghamshire Council Health and Safety Policy, and also the school's own Health and Safety Statement and any other relevant Codes of Practice that the authority may issue from time to time; e.g.; the Educational Visits Policy document.

For the current school year, guidance from the Government and CLEAPSS relating to the COVID-19 pandemic should also be read and followed.

This Code of Practice is not concerned with the teaching of health and safety, although that is a requirement of the National Curriculum.

### 3. Advice on Health and Safety matters

The Director of Children's Service's designated representatives for giving advice on health and safety in teaching science in secondary schools are those named in the H&S chain detailed above.

The local authority also maintains a subscription to CLEAPSS who provide Health & Safety advice and guidance on all aspects of science education including model (general) and special risk assessments under the COSHH Regulations and the Management of Health and Safety at Work Regulations, and general advice on health & safety matters in science and, indeed, practical science generally.

Contact:

CLEAPSS

Brunel University

Brunel Science Park

Kingston Lane

Uxbridge UB8 3PQ

Tel: 01895 251496

Fax: 01895 814372

E-mail: [science@cleapss.org.uk](mailto:science@cleapss.org.uk)

Web site: [www.cleapss.org.uk](http://www.cleapss.org.uk)

At the start of each term the Science Adviser will circulate the CLEAPSS Bulletins to secondary (and relevant middle and special) schools. If you are not receiving the Bulletin regularly contact CLEAPSS.

#### **4. Suitable national health & safety publications**

The Buckinghamshire Council primary source for all health and safety advice and guidance for science is that provided by CLEAPSS. CLEAPSS guidance and additional information can be obtained from:

- CLEAPSS publications generally; ([www.cleapss.org.uk](http://www.cleapss.org.uk))
- CLEAPSS Science Publications CD-ROM (latest edition); (circulated to schools annually)
- Hazcards, CLEAPSS (latest edition);
- Laboratory Handbook, CLEAPSS (latest edition);
- Recipe Cards, CLEAPSS (latest edition);
- L93 Managing Ionising Radiations and Radioactive Substances, CLEAPSS (latest edition);
- Safeguards in the School Laboratory, ASE, 11th edition, 2006 ([link](#));
- Topics in Safety, ASE, 3rd edition, 2001 ([link](#));
- Safety Reprints, ASE, 2005 edition ([link](#));
- Safe and exciting Science (ASE) 2009 ([link](#)).

#### **CLEAPSS SCIENCE PUBLICATIONS**

CLEAPSS Science Publications are now obtainable through the CLEAPSS website which requires a password, reset annually. All members of staff need to be aware of the website and how to login. Login details can be obtained from the CLEAPSS help desk or the termly publications.

All schools should have at least one copy of the non-CLEAPSS publications listed above. These need to be stored in a secure way to avoid distribution beyond the school. Schools with several prep rooms, will need several copies of some of them. They should be kept in a readily-accessible place so that teachers may easily use them in planning their science activities and technicians can consult them.

All teachers and technicians must be made aware of the existence of the CLEAPSS website and login details and reminded of them from time to time. We recommend on an annual basis particularly with new staff in the department.

Where relevant guidance cannot be found in these publications, staff should consult a relevant member of the health and safety chain outlined above.

## **5. Science Department Health and Safety Policy**

This authority regards a Head of Science (or equivalent) as the local manager for health and safety within the science department and hereby delegates a range of health & safety functions to that person. For maintained schools Buckinghamshire Council requires that every science department should have its own Science Department Health & Safety Policy. This should state clearly:

- The organisation of, and procedures for, health and safety within the department (including emergencies)
- Define the roles of various post-holders
- Should state where health & safety documents are located
- How the department deals with risk assessment (see below)
- There should be laboratory rules for students and guidance for staff.
- The policy should outline procedures for the induction of new staff (teaching and technical)
- Certain regular health & safety checks are required (see below) and the timetable and procedures for these should be stated.

## 6. Risk Assessment

Buckinghamshire Council acknowledges that good science teaching involves a significant amount of practical work. It recognises the excellent health and safety record of school science and is determined that spurious concerns about health and safety should not be allowed to inhibit good teaching.

Under the Control of Substances Hazardous to Health (COSHH) Regulations, the employer must carry out a risk assessment before harmful microorganisms are used or hazardous chemicals are used or made. Under the Management of Health and Safety at Work Regulations, the employer must carry out a risk assessment before any hazardous activities are undertaken.

Following guidance in the Management Regulations Approved Code of Practice, Buckinghamshire Council has adopted the publications listed in Section 4 as containing model risk assessments for the activities normally undertaken in teaching science in secondary schools.

If the proposed activities, chemicals, living organisms, equipment, etc are not covered by any of these publications, an appropriate risk assessment must be produced and followed. Advice and guidance on producing a Special Risk Assessment must be obtained by contacting CLEAPSS.

When drawing up schemes of work and/or planning lessons, science departments should review the advice given in the above model risk assessments and consider whether it needs to be modified to meet the needs of their situation, either for the department as a whole or for a particular class or room. Warnings about any hazards and guidance on control measures to reduce the risks from them, together with any other relevant health and safety information, should then be included in the scheme of work and/or written into teachers'/technicians' guides, lesson plans, pupil worksheets, etc., following the detailed guidance in the CLEAPSS guide.

There are no specifically-banned chemicals or procedures in this authority, other than the very few which it would be illegal to use nationally (e.g., benzene). However, schools must follow the guidance in the publications listed in Section 4, including the use of any control measures.

Risk assessment must also cover the activities carried out, for example, by technicians, such as lifting and carrying, handling chemicals and living organisms, clearing up, lone working, working at height (step ladders), etc. Departments should base such risk assessments on guidance in the CLEAPSS leaflet, PS25, Model Risk Assessments for Laboratory Technician Activities, suitably customised. These should then be formally adopted as part of the Science Department Health & Safety Policy.

## **7. Emergency procedures**

If an accident happens in a laboratory, particularly if chemicals are involved, it may be necessary to take Immediate Remedial Measures to prevent injury while waiting for the arrival of a qualified first aider. Guidance on suitable measures is given in the CLEAPSS Laboratory Handbook Section 5 (on the CLEAPSS website) and in other publications listed above. This should be copied to individual teachers and technicians and/or posted in prominent places in laboratories and prep rooms. In-house training in these measures should be provided through discussion at departmental meetings. Similarly, procedures should be in place for dealing with fires and chemical spills, including the provision and use of chemical spill kits (see the CLEAPSS Laboratory Handbook Section 7). Guidance should be given in the Science Department Health & Safety Policy.

## **8. Security of, and access to, laboratories, prep rooms, etc.**

This local authority considers that, under the Management of Health and Safety at Work Regulations, science laboratories, prep rooms, etc., must be regarded as 'danger areas' to which access must be restricted to those with appropriate training. This means that pupils must not be permitted in a laboratory or prep room without proper supervision (see Section 9) and that laboratories and prep rooms must be kept locked when not occupied. If circumstances in a particular school do not permit this (e.g., because a fire-exit route is through a laboratory), then the Science Department Health and Safety Policy should state what steps are taken to reduce the risk arising from this situation (e.g., by giving priority to technicians in clearing away chemicals from this laboratory first). Pupils, however senior, should not be allowed to work unsupervised in laboratories, although in the case of students carrying out project work as part of A-level GCE or equivalent courses, it may be sufficient to have a teacher or, if appropriate, a technician, within earshot in an adjoining room. Before permitting this, a risk assessment should be carried out.



## 9. Supervision of pupils/students in laboratories and prep rooms

Normally, only qualified science teachers should teach (practical) science and only qualified science teachers and technicians should work in science laboratories. For the purpose of this Code of Practice, a qualified science teacher is a person with Qualified Teacher Status and a teacher's certificate, degree or equivalent qualification in which a science or sciences formed an appreciable part of the course, normally as a main subject.

If a non-science subject has to be taught or a form has to be based in a laboratory, or if a non-specialist has to cover a science class in a laboratory, then:

- The staff concerned must be given brief in-house training about laboratory rules;
- The head of department must be aware of what is going on and accept a general supervisory role;
- A qualified science teacher should be within earshot, e.g., in an adjacent laboratory;
- Standards of behaviour must be no less than those expected in a science lesson and science laboratory rules must apply;
- No practical work should be allowed to take place (unless special training has been given, see below); and
- Where possible, hazardous chemicals/equipment should be inaccessible and mains services switched off.

In the case of students on initial teacher training, the graduate training programme, 'Teach First' or similar initiatives, health and safety must form an integral part of the training provided by the school and trainees must work under the direct supervision of a qualified science teacher. In the case of trainees on teaching practice, if the teacher judges that s/he need not be in the laboratory at the same time as the trainee, taking into account the nature of the class, the activity to be undertaken and the skills of the trainee, then the trainee may work on his/her own but the teacher must still be nearby, available to take over the class at any time, should the need arise.

In the case of instructors, or non-science staff who may be teaching some science, then the school must arrange adequate health and safety training. This can be provided in-house but will usually require regularly-timetabled opportunities for discussion of potential problems, trying out practical activities, etc. Notes of the training should be recorded and made available on request, e.g., to the officers of the local authority, inspectors from the Health and Safety Executive, etc.

Pupils/students should not normally be allowed into prep rooms. If, however, there are good reasons to permit access, pupils/students must be closely supervised all the time that they are in the prep room.

## **10. Training for staff**

The Management Regulations require that adequate health & safety training must be given to staff when first taken on by an employer and when their jobs change (e.g., when new work practices or new equipment are introduced). Such training must be repeated periodically. (From time to time, this local authority will organise training courses for heads of science and for technicians - mostly CLEAPSS courses). Heads of science (or their representatives) are expected to attend such courses or similar ones and to pass on relevant parts of their training to colleagues through departmental meetings, etc. A Science Department Health and Safety Policy must outline what procedures are in place for the induction of new staff (teachers and technicians) and any particularly-hazardous procedures for which school-based training is given before a member of staff can carry them out. Brief training or a set of rules must be given to non-science staff and/or supply teachers who have to teach or supervise in laboratories. Technicians should be fully involved in training. Suitable training should be provided for any other auxiliary staff who work in the science department, e.g., teaching assistants, bilingual support staff, etc.

Science departments must use CLEAPSS guides G234, Induction and Training of Science Technicians and G238, Health & Safety Induction and Training of Science Teachers to develop induction and training programmes for new staff.

## 11. Purchasing, storing and disposing of resources

When purchasing equipment or materials, and especially mains-powered electrical equipment, schools must ensure that it is safe and appropriate for use by children of the relevant age.

Equipment purchased from recognised educational suppliers should be safe for school use, but that from other sources might not be. CLEAPSS (see Section 3) produces a number of guides to particular types of equipment. Guides that are in print change frequently, but those currently available appear on the annually updated Science Publications CD-ROM or, if new, on the members' part of the CLEAPSS web site, [www.cleapss.org.uk](http://www.cleapss.org.uk). CLEAPSS staff members are very willing to discuss other equipment, not at present covered by guides. Schools should always consult the relevant guide if they are considering the purchase of hazardous equipment, and especially mains-operated electrical equipment, from suppliers that do not normally deal with the educational market.

Similar considerations apply when equipment is given to schools, e.g., by parents, local companies, etc., or brought in from home. It may not be sufficiently safe for school use. Schools must check before accepting such donations and are generally advised to refuse them. Any mains-powered electrical equipment donated or borrowed from home must undergo a portable-appliance test before being used.

Equipment and materials must be stored safely. Hazardous chemicals and any other hazardous items must be locked away from children. Toxic, corrosive and other chemicals liable to be stolen must not be stored on open shelves in the prep room, in fume cupboards, etc. Schools should follow guidance in the CLEAPSS Laboratory Handbook, Section 7.

Disposal of chemicals, other materials and equipment may not only raise health & safety issues but also those of environmental protection. Legislation has changed in recent years. Science departments should follow the guidance given in the publications listed in Section 4.

## 12. Living Organisms

Schools will often need to keep animals, plants and microorganisms in the department. All uses of living organisms in classrooms raise issues about the health and safety of pupils and teachers (which are dealt with in the model risk assessments listed above) and, in the case of animals, about their welfare. Schools should seek advice from CLEAPSS publications, including relevant guides. The science department must have a policy on its use of living organisms.

## 13. Safety checks

All equipment, including personal protective equipment must be properly maintained. Regular checks are required in a number of situations (see below), some of which may be carried out by school staff, others by outside contractors. The outcomes of such checks should always be recorded and the records kept in a departmental Safety Check File or equivalent, which should be kept available for inspection by officers of the local authority and inspectors from the Health and Safety Executive.

## 14. Radioactive materials

Schools wishing to use radioactive materials must comply with CLEAPSS guide L93 Managing Ionising Radiations and Radioactive Substances, revised September 2008.

Technical queries about radioactive sources and the teaching of radioactivity should go to CLEAPSS (see Section 3).

Each school using radioactive materials must appoint a Teacher in Charge of Radioactive Sources (Radiation Protection Supervisor, RPS), usually the most-senior physicist. The Teacher in Charge must check that:

- One copy of the record of radioactive sources is held in the school office or with the school health and safety officer and another copy is held in the science department;
- There is a set of Standard Operating Procedures (Local Rules) for the use of radioactive materials, a copy of which has been agreed with the RPO (these may be based on the model rules in CLEAPSS guide L93, Ionising Radiations and Radioactive Substances, but may need modification to meet local circumstances);
- The Standard Operating Procedures (Local Rules) are observed by all users;
- A record is kept every time a source is removed from, and returned to, the store;

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- All sources are inspected after use;
- Radium sources are tested for leakage at approximately annual intervals in accordance with the procedures given in CLEAPSS guide L93 and the outcomes are recorded in the Safety Check File (see Section 13, above).

This local authority will organise training through CLEAPSS for teachers in charge of radioactive sources and expects them to provide appropriate in-school training for those handling sources.

### **15. Pressure vessels Under the Pressure Systems Safety Regulations**

Regular checks must be made on all pressure vessels, including autoclaves, pressure cookers and model steam engines, using a written scheme of examination (WSE). It is the policy of Buckinghamshire Council to follow advice in CLEAPSS Guides L214a, b, c, d (available on the Science Publications CD-ROM); to use the WSEs provided in those Guides, to accept that Heads of Science (with appropriate training) are competent persons to certify the WSEs and that technicians (with appropriate training) are competent persons to carry out the examination using the guidance provided. A record of the examinations must be kept in the Safety Check File (see Section 13, above).

### **16. Fume Cupboards**

Under the COSHH Regulations, there must be a check on the efficiency of every fume cupboard at least every 14 months. It is the policy of Buckinghamshire Council that these checks are carried out by a competent outside contractor, the Local Authority Health and Safety Adviser can recommend appropriate contractors. The record of the check on each fume cupboard must be kept in the departmental Safety Check File (see Section 13 above). This record needs to be kept for at least 5 years.

## **17. Portable Electrical Appliances**

Under the Electricity at Work Regulations, the employer is responsible for the safety of all electrical appliances. It is the policy of Buckinghamshire Council that appliances powered by the mains are checked regularly and that these checks are carried out by a trained competent person. The Local Authority Health and Safety Adviser can recommend appropriate contractors or persons. The record of the check on each appliance must be kept in the departmental Safety Check File (see Section 13 above). It is recommended that these records are kept for 5 years.

## **18. Monitoring Implementation**

Heads of science are expected to monitor that this Code of Practice is being implemented in their departments (see for example the CLEAPSS leaflet PS30), Monitoring the Implementation of Science Safety Policies (on the CLEAPSS Science Publications CD-ROM). Suitable records of any monitoring should be kept (e.g., in the minutes of departmental meetings or in the records of any lesson observations or the use of check lists). In the event of any problems, heads of science/departments should discuss them with their line managers.

The local authority, as the employer, has a responsibility to monitor that its health & safety policies are being implemented.

From time to time, there will be a more formal health and safety audit carried out by Local Authority advisers and a formal report and action plan will be submitted to the Headteacher and Governing Body of the school.

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**A SPECIALIST SPORTS COLLEGE**



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**DATE APPROVED:                   OCTOBER 2020**

**REVIEW CYCLE:                   1 YEAR**

**NEXT REVIEW DATE:           OCTOBER 2021**

Mr Matthew Watkins  
Chairman - Governing Body

A handwritten signature in black ink, appearing to read 'M. Watkins', with a horizontal line underneath.