Risk assessment revisited

It has been some time since we published specific guidance about the process of risk assessment. Recently, we have noticed an upsurge in the number of enquiries about this, so we felt that it was a good time to address some of the frequently asked questions on the topic.

Before we go any further, it has to be said that SSERC's advice can't override your employer's policy. Most employers do, however, follow SSERC guidance on science and technology health and safety.

The bottom line is that all activities that present a risk of injury or ill-health have to be risk-assessed and the significant findings from that process must be recorded. This does not mean that there will be a paper risk assessment for absolutely everything that you do. For many activities, there will be no significant hazards. For most others, somebody else will have risk assessed before you. More about using existing or model risk assessments later.

Who should risk assess?

Your employer sets out the procedure to be adopted. Hopefully, it will follow the HSE "Five Steps Model". The task of risk assessing can be delegated to employees, though it falls to your employer to check that it has been done properly. For the majority of science and technology pupil activities, teachers are the best people to carry out risk assessments.

What if I risk assess an activity and someone gets hurt? Can I be sued?

This is extremely unlikely. Your employer has ultimate responsibility for risk assessment. It would have to be shown that you had been negligent when risk assessing, for example ignoring a very obvious hazard. Do not hesitate to consult SSERC resources or personnel for help.

Can I use model risk assessments?

Yes, though you must check that the activity they cover matches the one you are proposing to do. If you plan to use powdered magnesium and the model risk assessment uses magnesium ribbon, you may have to amend the model RA. Consider too who will be doing the activity and where. The control measures you need for S4 may be different to those for a visiting P7 class. Your employer may insist that all your risk assessments conform to a particular template.

Is "cut and paste" OK?

See above. Yes, if it passes through your brain between "cut" and "paste". You can also avoid duplication by including statements like, "See SSERC guidance on Optical radiation, Section 3.6".

What's the difference between a hazard and a risk?

A hazard is something that can cause harm. A risk takes into account the likelihood of harm happening and the severity of that harm. For example, if you were to risk assess crossing the road, one hazard would be moving traffic. If the road was the one through the SSERC car park, the chances of being hit by a car would be small and, though unpleasant, if you were hit it would be unlikely to be fatal. Contrast this with crossing the M8 motorway. The hazard is the same, but the risk is so great as to be intolerable.

I can't find any significant hazards. Have I failed?

No. Focussing on insignificant hazards and trivial risks is the real danger. It's what gives health and safety a bad name and it distracts us from the real issues.

What are the "five steps"?

This is an approach to risk assessment devised by the Health and Safety Executive. In general, if the HSE suggests a way of doing something, it's best to go along with it unless you are really sure that your way is at least as good.

Step 1 - Identify the hazards.
Step 2 - Decide who might be harmed and how. Consider pupils, teachers, technicians involved in preparation and anyone who might be involved in clearing up.
Step 3 - Look at existing control measures. Are they adequate or are additional measures required?
Step 4 - Record your findings.
Step 5 - Review and revise if necessary.

Remember to consult with and involve staff in the process. A "Five Steps" template is available from the SSERC website, or your local authority may provide you with their design of form.

So what do I record?

If you have found no significant hazards or particular groups especially at risk, you don't need to record anything. If you do find something significant, it is worth printing out a "five steps" form to have as a working document (see next question) but the most important thing is that work cards, pupil, teacher or technician guides contain the safety information your risk assessment deems to be necessary.

When do I review?
You must review if there is an accident, a near miss or a significant change to the activity. Other than that, it is good practice to have a look at risk assessments and the resulting safety advice at departmental meetings just before a particular group of activities are carried out. If you do this, sign and date the RA.

What about COSHH assessments?
There are a number of pieces of legislation that require employers and the self-employed to carry out risk assessments in order to make decisions about the actions required to prevent injury and ill health. The underlying management principles of COSHH assessment, ie finding out and then deciding what to do, are the same as those for assessment required by other health and safety legislation. Our view at SSERC is that the requirements of COSHH can be met as part of the more general risk assessment requirements of the Management of Health and Safety at Work Regulations using the "five steps" method. Regarding the requirements of COSHH, much of the work has been done for you and can be found in the Hazardous Chemicals area of our website. When you risk assess an activity involving chemicals, all you may need to do is refer to or get information from that part of the SSERC site.

My risk assessment says "wear safety glasses". Wee Johnny won't wear them. What do I do?
Simple. He can't do the activity and it probably isn't safe for him to be in the room where the activity is taking place. You risk assessed for a reason.

Wee Johnny's dad is a chemistry teacher. He doesn't wear goggles either, though he insists that his pupils do. As an adult, is this his right?
This is a terrible message to send to the children. It suggests that control measures are just another set of rules dreamed up to hassle pupils. If they meant something, surely teachers would conform to them?

We've been a bit behind with this whole risk assessment business. Where do we start?
Start with the really big issues - flammables, strong acids and alkalis, lasers, radioactivity, microbiological cultures and so on. You will find lots of information on the SSERC website. SSERC runs courses on health and safety for teachers and technicians needing an introduction or refresher, or for those with a management role within a science department. Look under the CPD tab on the SSERC website. Schools can request a custom-made course, and local authorities are entitled to a free course approximately every three years.

RME & Science teachers working together

UK science curricula ask teachers to include areas of contemporary science in their teaching and to encourage informed discussion of social, moral, and ethical issues. Meaningful interdisciplinary learning is one of the drivers of these new curricula and schools wish to explore realistic links which will enhance teaching and learning.

Research evidence indicates that many science teachers feel they lack the skills and confidence to initiate and manage classroom discussions. There is a view that they could benefit from support in this area from teachers of religious and moral education, who often use discussion techniques. On the other hand some RME teachers may feel limited by their knowledge and understanding of science and this may constrain the discussion in topic areas, which they feel confident to explore with their pupils. Areas of science and RME do overlap but they are often taught separately and can be seen as being 'in opposition' and this may lead to a closed approach to learning. Research has shown that young people are motivated by meaningful, well managed discussion where complex issues can be explored taking into consideration different cultures, values and beliefs.

The project
Two years ago SSERC received a '*New approaches to Learning*' Award from the Esmée Fairbairn Foundation. Through this project we set out to answer two questions:

- Can science and RME teachers work together on themes in a way which will enhance the pupils understanding of science/religion issues?