

Overview and Useful Contacts (Bees EBD)

Theme/Zone Identified

The scheme of work and resources within this zone cover the theme of Beekeeping.

Key Stage

This zone is applicable to Key Stage 4.

Ability/NC Levels

National Curriculum Levels 1-4.

Type of School

EBD

Useful Contacts/Websites

George Eames, Master Beekeeper 07970926250.

Please view the school's website for more information:
www.elemorehall.org.uk

www.beeseames@btinternet.com.

<http://www.britishbee.org.uk/>

Register with BeeBase and get free expert advice on 01904 462510.

Environment and Greener Living contacts.

www.biobees.com.

Some reading material:

Practical Beekeeping, Clive de Bruyn.

- A Guide to Bees and Honey, Ted Hooper.
- Foul Brood Diseases of Honey Bees, MAFF.
- Varroa Jacobsoni Monitoring and Forecasting Mite Populations, MAFF.
- So You Wish to Sell Honey, BBKA leaflet.
- Bees and Neighbours, BBKA leaflet.

Assessment/National Curriculum/Accreditation

A general certificate in beekeeping through the BBKA.

Conditions of Entry

The candidate shall have been awarded the BBKA Basic Certificate or an equivalent certificate acceptable to the Board. The date when this certificate was awarded shall be entered onto the application form. The candidate shall have kept and managed bees for at least three years. A competent person who is familiar with the candidate's beekeeping skills shall sign a statement to this effect. This statement shall be submitted with the application form.

The Secretary to the Board shall have received a completed application form and fee by the 28th February in the year that the candidate intends to be assessed.

The Assessment

The assessment will normally be conducted in May, June or July at the candidate's apiary and will last about two hours. The assessor will visit the candidate's apiary and test his/her practical skills and knowledge of the important aspects of beekeeping and bee products, as defined in the syllabus.

The assessor will observe the candidate's practical skills at opening and manipulating colonies and note the correct use of beekeeping equipment and apiary hygiene. Honey preparation facilities will be inspected and the candidate will describe their procedures for extracting and packaging honey.

The candidate's understanding of beekeeping, as covered in the syllabus will be assessed through a discussion with the assessor who may use the candidate's record book as the basis of the assessment.

An assessor, appointed by the Board, shall conduct the assessment except for a retake when there will normally be two assessors. The Board may wish a trainee assessor or Board member to be present, as an observer, but prior written agreement must be obtained from the candidate.

Health & Safety Recommendations/Risk Assessment

Health and safety in beekeeping should be approached, like any other activity, by using your common sense to think about what's involved in the job before starting. In health and safety terms this is known as carrying out a 'Risk Assessment', the purpose of which is to identify any hazards and the likelihood

of something or someone being injured by those hazards. Once the hazards have been identified a plan of action can be devised for minimising the risk of accident or injury, detailing what actions should be taken in the event of such an occurrence.

The most common hazards connected with beekeeping are from procedures and products used in normal hive manipulations such as slips trips and falls, stings, back strains, fire, burning, poisoning and asphyxiation. It all sounds very dangerous when put like this but in reality accidents don't happen very often, all you have to do is apply a little common sense!

Where Risks Occur

- Apiary location - proximity to other people, animals and property
- Access in and out of the apiary
- Opening & examination of stocks
- Transporting hives
- Use of potentially harmful substances
- Visitors to the apiary
- Health concerns
- Sting reactions
- Honey extraction and preparation
- Collection of swarms & observation hives

Risks from Bees

Honey bees like Bumble Bees, Wasps and Hornets have a stinger at the posterior end of their abdomen. The sting, which is connected to a venom sac, is a modified egg-laying tube. So, if you are stung, it was a female insect that did it. In general wasps are involved in about 70% of the stings to humans and they are often mistaken for bees because of their yellow and black markings.

See Individual School Risk Assessments and Health and Bodies.

Most stinging insects can sting more than once, the exception is the honey bee (the female worker bee) which has a barbed sting. When the worker bee escapes after stinging a person, the sting and attached venom sac are ripped out of the bee and stay in the victim's skin, hence the bee will die shortly afterwards.

Hazards of Being Stung

Generally, most stings only result in a temporary injury - pain, swelling, redness and itching around the sting site. However, sometimes the effects can be much more severe, even life-threatening, depending on where you are stung and whether the injured person has an allergic reaction. Summon medical help immediately if the person has an allergic reaction or the sting is near to the eyes, nose or throat.

Normal Reaction

Most people experience local effects like pain, swelling, itching, and redness around the sting site. Painful stings in the mouth and throat can result if you accidentally swallowed a wasp or bee (e.g. by drinking a soft drink from a can that a wasp has entered).

Health and Safety Around Honeybees

Mild Allergic Reaction - Some people will experience swelling in a larger area, not just immediately around the sting site. They may develop hives but no systemic effects (reactions in the body away from the sting site e.g. changes to a person's breathing or blood flow). This mild allergic reaction can last a few days. The area will be sore and uncomfortable but one should not give in to the temptation to scratch the stung area. Scratching may cause a break in the skin which could lead to an infection.

Severe Allergic Reaction - In rare cases, a **severe allergic reaction** can occur. This situation is serious and can cause 'anaphylaxis' or anaphylactic shock. Symptoms of 'anaphylaxis' may appear immediately or within the first 30 minutes. The symptoms include:

- Hives, itching and swelling in areas other than the sting site
- Swollen eyes and eyelids
- Wheezing
- Tightness in the chest and difficulty breathing
- Hoarse voice or swelling of the tongue
- Dizziness or sharp drop in blood pressure
- Shock
- Unconsciousness or cardiac arrest.

The 'anaphylactic reaction' can occur the first time someone is stung or with subsequent stings. Death can occur within 30 - 45 minutes of being stung. If you see any of the signs detailed above or even if you are not sure, get medical help immediately. People, who have had severe allergic reactions to insect stings in the past will probably have a similar, or worse, reaction if stung again. Bee sting kits may be available to allergic people through their Doctor.

The Risks

To You the Beekeeper - There is always a risk of being stung when working around honey bees, it is an occupational hazard. In general honey bees, bumble bees, wasps and hornets will not attack and sting unless provoked or physically attacked (or think that they are being attacked). Normal hive manipulations create a great disturbance in the colony, this makes the bees tetchy and prone to sting anyone in close proximity. Honey bee colonies differ in temperament, some are well behaved and will tolerate fair amounts of disturbance, while others are ready to meet the beekeeper at the apiary gate and will harass them all of the time that they are there and then escort them out to the car!

To Other People - As well as the risks to the beekeeper in the apiary, there are risks to other people and property in the vicinity of the apiary. Flight paths are often quite direct and may take bees straight into areas where people are going about their normal business. Stinging occurs when individuals try to wave away bees in a manner that looks threatening.

There is always a risk to humans when apiaries are sited near to public areas such as pathways where adults, children and animals pass. The latter two are often inquisitive and may get closer than is safe.

To Property - Honeybees must void their bowels, like any other living creature. They tend to do this within the vicinity of the apiary (up to 50 metres or more). This can cause soiling of laundry, windows and vehicles.

Note: Any sting to a member of the public will be from your bees, even if it was a wasp!!

Health and Safety Around Honeybees

Risk Management - The risks involved in beekeeping can be minimised to an acceptable level by following a few simple rules:

- Bee Prepared!
- Site apiaries well away from areas where people and animals will be within close proximity.
- Keep the apiary tidy and free from debris. Maintain clear access ways.
- Lift only what you are comfortable lifting, get assistance if necessary.
- Always wear the correct PPE (Personal Protective Equipment) such as a hat, veil, suit, gloves and footwear when working in the apiary. Make sure you

maintain them in good condition and ensure that you are completely bee-proof before entering the apiary.

- Ensure that there are barriers in place to lift the bee flight paths above areas where people and animals habituate.
- Avoid working on hives when bees are not likely to be in good humour e.g. too cold, colony structure upset, wrong time of day, recent disturbance.
- Avoid working on hives when there is a risk of members of the public being within the vicinity.
- Exercise care when using a lighted smoker, particularly during long dry spells.
- Always follow manufacturer's instructions and approved codes of practice when using chemicals and products for disease control and hygiene, and only use approved products.
- Know what you need to do in the event of an accident and 'Bee Prepared!'
 - Be prepared for all eventualities and assess the risks before working with honey bees.

Cross Curricular Links

- English (Using Speaking and Listening; Reading and Writing across a variety of contexts e.g. writing and reading poems).
- Mathematics (the hexagon and its properties; tessellation weighing).
- Science (using microscopes to look at the anatomy of a bee; the importance of bees as pollinators for seed and fruit production; survey the flowers available to bees in and around the school grounds).
- Geography (climate change... is it linked to the decline in bee populations).
- History (looking at the uses of honey through time e.g. the use of honey in medieval medicines).
- Design and Technology (building the frames for the hives; making bee themed key rings, clocks and picture frames).
- Art & Food Technology (pattern making with hexagons).
- PSHE & Culture (indicate the many references to bees and honey in religious scriptures such as the Bible and the Koran).