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Manipulation of a Honeybee Colony

<i>The Candidate should be...</i>	<i>Responses may include:</i>
1.1 aware of the care needed when handling a colony of honeybees	<ul style="list-style-type: none">  Consider your own personal safety  Consider the safety of other (particularly in relation to the proximity to the public)  Consider the precautions that need to be taken  Manipulate the colony slowly and gently
1.2 aware of the reactions of honeybees to smoke	<ul style="list-style-type: none">  Bees fear for the colony  Nectar and honey is ingested  Bees become full and heavy and less inclined to sting  Consider what type of fuel you put into the smoker and why  Consider why the use of grass in the smoker is important – cools the smoke and prevents the hot ash falling and burning the bees
1.3 aware of the personal equipment needed to open a colony of honeybees	<ul style="list-style-type: none">  Essential items include: <ul style="list-style-type: none"> Suit Gloves Smoker Spare fuel Lighter Hive Tool Torch (to use when checking for eggs)  Desirable: <ul style="list-style-type: none"> Bee Brush Container for removal of brace or drone comb Drawing Pins (to mark the location of queen cells directly above on top bar of frame)  Occasional Use: <ul style="list-style-type: none"> Queen Cage Queen Marking Pen

	Spare/Specialist equipment for other manipulations
1.4 aware of the reasons for opening a colony	 To check that the queen is in residence and that all is well  To check that there are sufficient stores  To ensure that there are no signs of disease  To check the results of previous manipulations  To perform new manipulations to achieve specific objectives
1.5 aware of the need for stores	 To provide bees with food during the late autumn, winter and early spring months  To provide food during prolonged poor weather in the 'honey flow' season  Stores contain carbohydrates – fondant, sugar syrup, nectar or honey for worker bees  Stores contain protein – pollen for the brood
1.6 aware of the importance of record keeping	 Effective management of stocks by: Identifying what was found during inspections Acting as a reminder of manipulations that were performed Enabling you to plan for next steps  Record the following information each time: Date Time Weather Queen Queen Cells Brood Stores Space Health Temper Varroa Supers Feed  Refer to the SWMBKS Hive Record Sheet
1.7 able to open a colony of honeybees and keep	 Initially observe bees at the hive entrance before smoking in order to identify normal

the colony under control	<p>behaviour</p> <ul style="list-style-type: none">  Smoke hive entrance and under the roof  Work from behind the entrance  Place upturned roof on the floor or hive stand  Place supers on the roof, keeping the crown board on the top to prevent robbing  Crack open queen excluder, lift partially and apply a little smoke to calm the bees before fully removing it – this will further calm the bees  Check the underside of the crown board and queen excluder for the queen and return her to the brood box  If appropriate, demonstrate your understanding of the use of cover cloths – help prevent bees from flying up, maintain the hive temperature  Model understanding that using a spray of tepid water can be better than smoke, as the former will calm the bees, whereas the latter may panic them if applied too liberally  Return frames in the correct order, ensuring that they are tightly packed to avoid brace comb being built
1.8 able to demonstrate lighting and the use of the smoker	<ul style="list-style-type: none">  Explain which fuels are available and which are the coolest  Explain that fresh grass in the top prevents hot ash being blown into the hive  Puff the entrance and WAIT for it to take effect  Keep the smoker alight throughout the inspection  Keep your smoker close to hand  Use the smoker occasionally and only if the bees become too agitated  Demonstrate use to control the bees and drive them down before replacing hive parts  Put out the smoker safely by plugging the spout with fresh grass (to remove oxygen)
1.9 able to demonstrate the use of the hive tool	<ul style="list-style-type: none">  Keep the hive tool in your hands at all times  It can be used for a variety of purposes – such as a scraper or lever  The curved end can be used in between frames to separate them
1.10 able to remove combs from the hive and identify worker, drone and queen cells (if present) and to comment on the state of the combs	<ul style="list-style-type: none">  Remove the outermost edge frames or dummy board to make space to operate  Store removed frames responsibly, such as on a frame holder attached to the side of the hive or rested in the gap on the hive stand  Do not roll the bees, but use the space made to remove frames along and then

	<p>slowly lift them out</p> <ul style="list-style-type: none">  Brood pattern should be biscuit coloured and uniform, with adjacent cells occupied with brood of the same age  Comment on anything you find that is 'out of the ordinary'
1.11 able to identify the female castes and the drone	 Females – workers, queen (or the presence of a queen)
1.12 able to identify brood at all stages	 Eggs, larvae, pupae (sealed in cells)
1.13 able to demonstrate the difference between drone, worker and honey cappings	<ul style="list-style-type: none">  Honey cappings are paler and waxier  Worker brood cappings are various biscuit shades, flat and look more fibrous in texture  Drone brood cappings are various biscuit shades, have a larger surface area, are deeper (longer) than that of the worker and look more fibrous in texture
1.14 able to identify stored nectar, honey and pollen	<ul style="list-style-type: none">  Nectar is clear and uncapped  Honey is capped  Pollen is uncapped and in a range of colours  All three are typically found in an arc formation around the brood cells or on the outermost frames
1.15 able to take a sample of worker bees in a match box or similar container	 Draw part of a large open matchbox over the face of a frame of bees and close it before removing it from the frame
1.16 able to state the number of worker bees required for an adult disease diagnosis sample	<ul style="list-style-type: none">  200 – 300 dead ones for suspected poisoning (most likely found outside the hive)  30 or so live ones for disease diagnosis
1.17 able to demonstrate how to shake bees from a comb and how to look for signs of brood disease	<ul style="list-style-type: none">  Make space by removing two frames  Shake bees sharply from the frame whilst it is still low in the brood chamber  Take care not to bang the frame on the brood box