

Name _____ KEY _____

EAS Master Beekeeper Lab Exam 2021

The EAS Lab Exam consists of ? stations each with one or more items. There are 2-5 questions per station each worth 1 or 2 points. Total exam value = 100 pts. Passing grade = 85 points. **Read the questions carefully.**

STATION 1. Here before you are 6 mystery items. Please identify the object (1 point each).

- 1a. _____ Varroa
- 1b. _____ Hamulii
- 1c. _____ antennal cleaner
- 1d. _____ drone adeagus
- 1e. _____ mandible
- 1f. _____ Pollen grains

Station 2. Name each pathogen/organism (1 point each).

- 2a. _____ Wax moth adult
- 2b. _____ Small Hive Beetle adult
- 2c. _____ Wax moth larvae
- 2d. _____ European FoulBrood
- 2e. _____ Small Hive Beetle larvae

Station 3. What is the name and purpose of each tool (2 points each)

- 3a. _____ propolis trap
_____ trapping propolis
- 3b. _____ hot knife
_____ removing wax caps
- 3c. _____ frame scraper
_____ scraping out frame grooves
- 3d. _____ grafting tool
_____ picking up larvae for grafting (20)

Station 4. Identify the object, and why one would use it. (2 points each)

- 4a. _____ hive lifter
_____ lift hive
- 4b. _____ entrance reducer
_____ reduce robbing and intrusion into the colony
- 4c. _____ queen shipping container
_____ to ship a queens and bees for sale
- 4d. _____ frame lifter
_____ lifting frame
- 4e. _____ Queen cage
_____ -to introduce a queen or protect her during moving
- 4f. _____ pollen trap
_____ trapping pollen

Station 5. Identify the object and answer associated question (2 points each).

- 5a. _____ bee escapes
What is this object used for? _____ harvesting honey
- 5b. _____ mouse guard
When would one use this tool _____ in the fall and winter
- 5c. _____ propolis
How is this used in the hive? _____ to seal cracks and as social medicine
- 5d. Name this equipment _____ refractometer
When would one use this piece of equipment _____ look at honey composition
- 5e. What is this object? _____ When and how would one use it? epi-
pen, for anaphylaxis

Station 6. Honey bees and their relatives (2 points each)

6a. Name this insect? _____ Spotted Lanternfly

Does this insect negatively or positively affect honey bees and why? Possibly as honey bees collect honey dew from them

6b. What is the common name of this insect? _____ yellow jacket

Where does it make its nest? _____ in the ground

6c. What insect is this? _____ Cicada killer

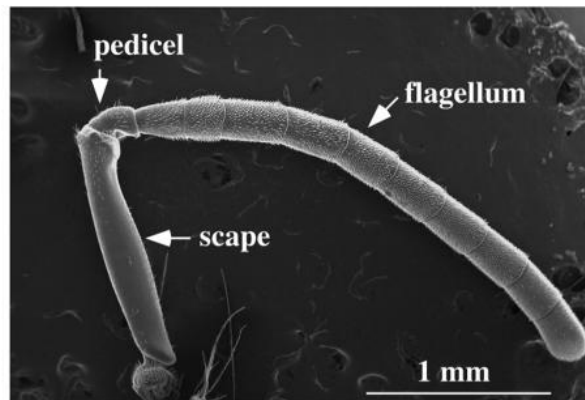
Where would one find this nest on the landscape? _____ in the ground

6d. Whose nest is this? _____ Megachilidae- mason bees

What is inside? _____ developing larvae

Station 7. Identify the structure in the picture and answer the associated question(s). (2pts)

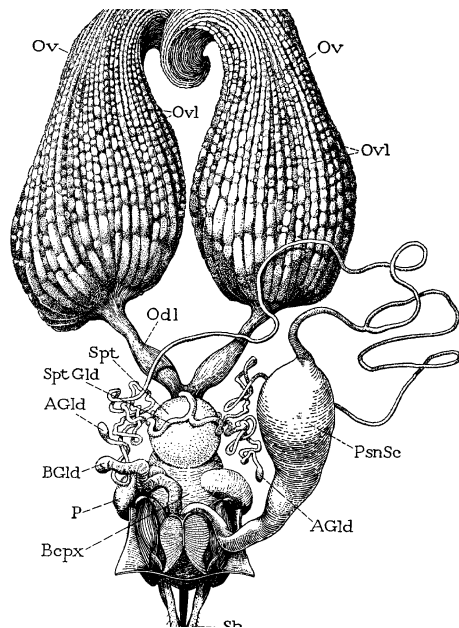
7a. Please label the structure and name two functions they provide to the worker bee.
Antennae. They are used to smell and taste.



7b. What structures are the arrows pointing to on the adult honey bee workers head. Ocelli and compound eyes. How do these two structures differ in function. Ocelli are just simple lens and can perceive light and dark whereas compound eyes are made of thousands of individual optical units called ommatidia, each with their own lens, cone and optical pigments.



7c. What structure is the arrow pointing to?



Ovaries

What is the purpose of this structure? To produce and care for eggs until maturity

7d. What is the name and function of this structure? _____
 (2pts) Spermatheca, to store and care for sperm until used for fertilization of an egg.

Station 8. Pests and pest management

8a. Compare and contrast the pros and cons of these two mite monitoring techniques, powdered sugar shake and alcohol wash. (4 pts)

Sugar shake- Pros: doesn't kill the sampled bees, easy to get ingredients

Cons: not reliable at removing mites

Alcohol wash- Pros: good at removing mites for a more reliable mite count, easy to get ingredients

Cons: kills bee sample

8b. Name the product(s) currently registered for Varroa management that can be used during a nectar flow name the active ingredient in each (6pt)

HopGuard

Formic pro

Powdered sugar

8c. What chemical is used in this device? Varroa killing Vaporizer, oxalic acid

8d. Black Queen Cell Virus

8e. Sacbrood

8f. AFB photo

Station 9. Foraging behavior and honey (3 pts each)

9a. What type of dance would be used for each of the 3 scenarios a,b and c?

a. A couple of lavender bushes 2 meters away ____ round
dance_____

b. A large patch of flowering Black Locust over 3 miles away ____ waggle
dance_____

c. Small patch of sunflower 25 meters behind the apiary ____ round dance_____

9b. What is on this honey bee's legs? Why did this honey bee die? Milkweed pollen. The bee starved.

9c. What three things are required on a honey label? [a: common name of product, net weight, contact information] (3pts)

- 1.
- 2.
- 3.

Station 10. Flower biology (5pts)

1. Draw a flower and label these parts: petals, ovary, pistil, stigma, stamen, anther
2. Define pollination.
The movement of pollen (the male gamete) from the anther of the stamen to the stigma of the pistil

D. Look at this pinned pollinator. Describe 3 parts of its body that have been modified for pollinating.
Hind legs, hairy body, chewing and lapping mouthparts

Station 11. Miscellaneous

11a. Please name the malady represented in the photograph. (1pt.) Chalkbrood

11b. What type of treatment would you do if any?

You could requeen but usually just let it clear up on its own

Extra credit:

What famous researcher is this a picture of?

Dewey Caron