



Staff Name:
Zone: Beekeeping
Ability Range: NC Level 1-4
Target Group: EBD

Date:
Class:
Lesson Reference: Week 2 "The Honey Bee Colony"

Learning Objectives:

- To examine the structure of a bee colony.

Learning Outcomes:

- To be able to identify the different roles individual bees play within the colony.

Challenge: More detail to answers through written work and written exercises.

Differentiation: Support from teaching assistant, visual aids, access to the internet.

AFL: Refer to scheme of work.

Development of Skills/Cross Curricular Links:

LITERACY/COMMUNICATION

Reinforcement of key words, development of discussions through describing tasks and group activities.

ENTERPRISE

Communication, team work, using initiative.

PSHE

Development of environmental awareness.

STARTER ACTIVITY

Explain to the students that a bee colony consists of different members with different roles in the colony.

Watch Youtube link related to bee colonies. <http://www.youtube.com/watch?v=tqjP3-6prwM> Watch the Youtube link of the three different members of the colony, have the students identify the differences between the queen, the worker and the drone.

MAIN PART OF LESSON

Look at a DVD "An Introduction to Bees with Paul Metcalf" (see SOW for information) of the colony in action, allow the students to ask questions and take notes regarding the colony. If time and circumstances allow visit a working hive or

<http://www.youtube.com/watch?v=IE-8QuBDkkw>

Students will then complete an information sheet to demonstrate their understanding of the key facts about the queens, worker and drone bees within a bee colony.

PLENARY

Ask the students what they have learned from the discussions. How does this make them think about their own role in their own colony (home?).

Extension Tasks Complete drawings of the three different members of the colony.

Risk Assessment Teacher in charge to ensure all correct and appropriate risk assessments are carried out to ensure the health and safety of all of the students.

Disclaimer

The template used to produce this document, is purely for guidance only and can be adapted to suit individual requirements/standards/establishments

VISUAL	DVD. Visit a working hive.
AUDITORY	Direct teaching. Explanation.
KINAESTHETIC	Completing work sheet activity.
SKILLS	Development of skills and knowledge.
SEN	Ref. to statements. Behaviour/epilepsy plans.
REWARDS	Links to school reward system.

Queen Bee

There is only one queen per hive. The queen has fully developed ovaries. A queen bee can live for 3-5 years. The queen mates with each male (drone) bee only once, and will remain fertile for the entirety of her life. She lays up to 2000 eggs per day. Fertilized eggs become female (worker bees) and unfertilized eggs become male (drone bees). When she dies or becomes unproductive, the other bees will 'make' a new queen by selecting a young larva and feeding it a diet of 'royal jelly'. For queen bees, it takes 16 days from egg to emergence.

Worker Bee

All worker bees are female, but they are not able to reproduce. Worker bees live for 4-9 months during the winter season, but only 6 weeks during the busy summer months (they literally work themselves to death). Nearly all of the bees in a hive are worker bees. A hive consists of 20,000 - 30,000 bees in the winter, and over 60,000 - 80,000 bees in the summer. The worker bees sequentially take on a series of specific chores during their lifetime: housekeeper; nursemaid; construction worker; grocer; undertaker; guard; and finally (after 21 days) they become a forager, collecting pollen and nectar. For worker bees, it takes 21 days from egg to emergence. The worker bee has a barbed stinger that results in her death following stinging, therefore, she can only sting once.

Drone Bee

These male bees are kept on standby during the summer for mating with a virgin queen. Because the drone has a barbed sex organ, mating is followed by death of the drone. There are only 300-3000 drones in a hive. The drone does not have a stinger. Because they are of no use in the winter, drones are expelled from the hive in the autumn.

Using the information above identify five interesting facts about the queen, the worker and the drone on the following page.

Fact	The Queen	The Worker	The Drone
Fact 1			
Fact 2			
Fact 3			
Fact 4			
Fact 5			

Lesson 2 Name of Student: _____

Interesting Facts About Bees

Find out 5 key facts about each bee identified below.