Friends of the Honey Bee Newsletter

Vol. 6 Winter Term 2025



Happy New year!

The festive season might already feel like a distant memory as we settle into the new term. While we're busy in lessons, most insects are hibernating, known as diapause; finding shelter in leaf litter, holes in trees, under logs and even in our homes. Soon we will be welcoming spring; Equinox falls on March 20th so the longer days and warmer weather begins. This excites us all and encourages bees and other insects back into action. In this edition, we'll take a closer look at how honey bee colonies endure the winter and get ready for spring. We'll also check in on the Buff-tailed Bumblebee, start our own spring preparations in the garden, and celebrate some achievements!

'Friends of the Honey Bee' members are encouraged to share environmental projects. schools.officer@bbka.org.uk

This edition celebrates the achievements of Millbrook Primary at the RHS's Britain in Bloom ceremony 2024.



What's Happening in the Hive?



In the wild, honey bees create hives in trees or other suitable spaces. Beehives are designed to replicate wild hives while enabling beekeepers to inspect the colony. Click here to learn more about beekeeping.

January: Honey bees do not enter diapause; instead, they cluster and use their flight muscles to keep the hive at 32-35°C, thus requiring the stored honey for energy. Beekeepers can monitor the stored honey by weighing the hive often, and provide supplemental feeding if required.

February: On warm days, honey bees may venture out to forage for food from spring bulbs and early flowers. The delivery of pollen indicates that the queen is laying eggs again, prompting beekeepers to prepare their equipment for the year - if it has not yet been done!

March: March can be a testing month for bees as the colony begins to increase while forage can be limited and weather is inconsistent. Beekeepers can make quick inspections when temperatures are above 12°C, checking for adequate stores and healthy bees.

April: Suddenly it's all systems go! The colony will be increasing and start filling the hive with honey. Regular and thorough inspections begin to ensure there is enough space for the colony to expand. It's also time to replace old hive parts and prepare for swarm season.

Who's That Bee?

In Britain we have only one species of honey bee, but around 270 species of other bee! They are wild and many live solitary lives. This year we are following the: Buff-tailed Bumblebee, *Bombus terrestris.* More info here.



Buff-tailed bumblebee queens hibernate alone and emerge in late winter/early spring, typically from February. Workers appear about six weeks after the nest is established, followed by new queens and males at the end of the three/four month nesting period.

In warmer parts of the UK this species can also be winter-active. You may have seen workers foraging winter-flowering plants.



Crocus and a honeybee

Gardening for Insects

- Leave dead or dying plant material throughout winter. If desired, tidy this when spring arrives taking care for sleepy insects. More info here.
- Deep containers collecting rainwater can trap insects. Cover containers, empty often, and provide escape ramps similar to a bee watering station.
- As spring arrives, begin planning your wildlife friendly garden and start sowing seeds. Information on plants for pollinators can be found here.

Does your school have a wildlife garden or any features for insects? Please share with us!

Protecting Pollinators

Honey bees are pollinating insects, alongside at least 1,500 other insects in the UK!

Pollination is an essential ecosystem service.
3/4 of crops grown in the UK require insect pollination.

Pollinating insects are in rapid decline, many factors contribute to this such as:

Flooding

Flooding has impacted many of us this winter and not just humans. Some insects have special tactics to increase survival, many involving respiration and buoyancy. However, many succumb to consistant high water levels and some populations can take many years to recover.

Habitat loss

When introducing living things and their habitats, it is good to discuss the importance of protecting habitats and their features, regardless of size. Small ponds, hedgerows or individual trees connect habitats for locally migrating insects

These issues affect all native wildlife, see the State of Nature Report for more information.

World Wildlife Day: 3rd March

A global celebration of the world's wild animals and plants. Resources: BBC Teach and BBKA.

Earth Day: 22nd April

Raising awareness and support for environmental protection. A chance to introduce environmental campaigns.



Rainy day activities

Millbrook Primary - Wigan

Millbrook was announced the best in the North West at the Royal Horticultural Society's Britain in Bloom ceremony in Bolton. The school received the prestigious Trevor Leese Award, presented annually to an exceptional school. Alongside others, Millbrook also earned the Environmental Award for Schools.

Congratulations!





Consider keeping bees at your school

Equinox: 20th March - the second start of spring

The day the sun passes directly above the equator resulting in equal length day and night. Demonstrate this by measuring shadows and comparing on the summer solstice. New life and balance is often associated with spring - decorating eggs for an egg & spoon race is a fun twist!



Britain in Bloom NW Gallery 2024

Well done!

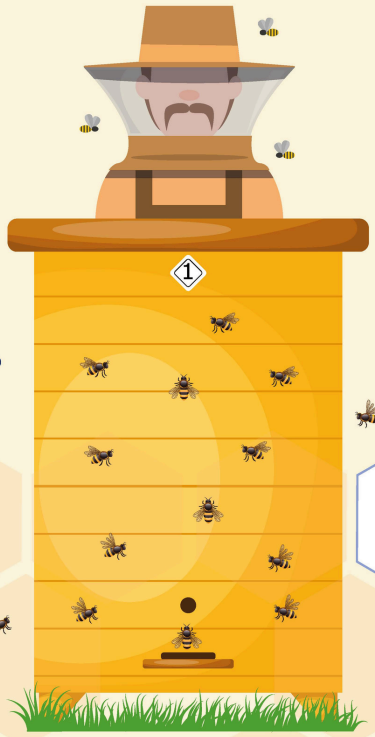
In addition, Two pupils received the 2024 Individual Young Persons Award for their excellent contributions to horticulture. Milbrook has won Best in Bloom numerous times over the last four years, earning the Community and Young Champions Award in 2022, and being recognised as best school in the North West - congratulations Millbrook!

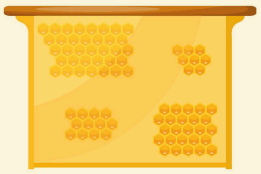
Please share updates and photos as well as feedback to: schools.officer@bbka.org.uk

THE WORLD OF BEES











IN ANY HIVE IN THE SUMMER THERE ARE THREE TYPES OF HONEY BEE:

A SINGLE QUEEN

1
The drone's primary role is to mate with a virgin queen, and in the early Autumn they are evicted by the workers and die.

HUNDREDS OF MALE DRONES

THOUSANDS OF FEMALE WORKER

How Far Does a Bee Fly?

2
A honey bee can fly as far as 5 miles for food, however an average distance would be less than a mile from the hive.

1/2 MILE

3
15-20mph (21-28km/h) the normal top speed of a worker when flying to a food source.

24

4
A strong colony flies the equivalent distance from Earth to the Moon everyday.

5
12mph (17km/h when returning with nectar, pollen, propolis (resin collected from tree buds) or water.

How Does a Honey Bee Navigate?

6
Bees use the position of the sun to help them know where they are and where they need to go back to; bees' eyes are sensitive to polarized light so they can see when the sun is obscured!

Earth's magnetic field

7
There is now some evidence of sensitivity to the earth's magnetic field too.

Can a Honey Bee See Colour?

8
Yes, bees' eyes are sensitive more to the **BLUE** end of the light spectrum and into **ULTRAVIOLET.**

9
Flowers reflect large amounts of ultraviolet light and will appear very bright to a bee. Bees are totally red blind.

How Do Bees Make Honey?

10
Bees take nectar, which is a sweet sticky substance exuded by most flowers and some insects (honeydew), and mix it with enzymes from glands in their mouths.

100%

17%

Why is Pollen So Important?

11
This nectar/enzyme mix is stored in hexagonal wax honeycomb until the water content has been reduced to around 17%.

12
Honeybees mix plant pollen with honey to make bee bread that is fed to the growing larvae.

12
It provides a rich source of protein and fat whilst honey provides energy (carbohydrate).

How Much Pollen Can Bees Collect?

13
Bees collect about 20kg of pollen every year - that's 1 Million pollen loads at 20mg per trip!

POLLEN

20KG

365

1M

20mg

Anatomy of a Bee

14
Incredible as it may seem, the honey bee has FIVE eyes, two large compound eyes and and three smaller ocellus or simple eyes in the centre of its head.

antenna
compound eye
Ocelus
thorax
legs
fore-wing
tarsal claw
hind-wind
sting
abdomen

14
The honey bee has four wings in total. The front and rear wings hook together to form one big pair of wings and unhook for easy folding when not flying.

14
The honey bee has three pairs of legs, six legs in total. However, the rear pair is specially designed with stiff hairs to store pollen when in flying from flower to flower.

How Much Honey Can One Beehive Produce?

27KG

SPRING

SUMMER

11KG

15
One hive can produce 27 kg (60 lb) or more in a good season, however an average hive would be around 11 kg (25 lb) surplus.

5SK MILES

1LB

16
Bees fly about 55,000 miles to make just one pound of honey, that's 2.2 times around the world.

Honey and History

17
Honey has been delighting humans for more then 40 centuries. 8000 year old cave paintings have been found showing honey foragers collecting honey.

TAX

18
The Romans were allowed to pay their taxes in honey but no-one did during the entire 1,000 year reign of the Roman Empire.

REFERENCE: https://www.bbka.org.uk/pages/faqs/category/bee-facts