Devon Wildlife Trust

Your School Guide to Taking Action for insects

#ActionForInsects

For teachers: Taking action for insects

Photo: Paul Harris / 2020VISION

Our bugs, moths, butterflies and other minibeasts are in deep trouble. Insects are dying out up to eight times faster than larger animals and 41% of insects face extinction.

But all is not lost. Urgent action is needed to reverse this trend, which is why The Wildlife Trusts have launched the Action for Insects campaign **www.wildlifetrusts.org/take-action-insects** and want schools to get involved.

As part of the campaign, we have created a series of learning sessions and resources that you can access on-line at **www.wildlifetrusts.org**, and that we hope you will find inspiring and help to get your class excited about insects! Whether its through doing a 'great bug hunt', creating insect homes and hotels in your school grounds, or delivering a campaign to help insects, there are lots of ways that your school can make a difference and learn at the same time.

Through 6 sessions, that can be delivered as a series or as stand alone activities, your students will be encouraged to learn about habitats and to investigate their local environment, whilst considering their place in it and how they can change it for the better. They'll have excellent opportunities for writing with a purpose, and developing skills in simple classification, creative arts, geography and science exploration.

Each session comes with its own detailed delivery plan and can be delivered within whatever timeframe suits you and your students – from an afternoon's lesson to a full multi-week programme.

Enjoy! And please share what you are doing – send us your pictures, videos, letters to **watch@wildlifetrusts.org** – and share on your social media using **#ActionForInsects**

To find out more about this campaign, please go to **www.wildlifetrusts.org**

Session	Summary of Activities
1. Can it be true?	To introduce the amazing world of insects, a series of facts and figures will be used to identify the incredible work that they do - from pollination to composting.
2. When is bug not a bug?	An introduction to the different types of insects found in the UK and resources to conduct a great bug hunt.
3. How insect-friendly is our school?	Using their knowledge of differences between creatures to survey different parts of the school to discover where the best and worst areas are for insects.
4. Where have all the insects gone?	Students explore the reasons for loss of the insects. Students can consider what the future would look like without insects through poetry, art or music.
5. What can we do?	Students will explore different ways to help insects, from habitat creation through to changing behaviours in gardening and lifestyles.
6. Action for Insects	Using their learning from the previous sessions, students will create and run their own Action for Insects activity or project. This could be a practical task such as creating a wildflower meadow or bug hotel in the school grounds, or a campaign to encourage others to do things for insects in their gardens and communities.

Learning and Nature

The Wildlife Trusts believe that everyone should have the chance to experience and learn more about the natural world in their daily lives. By ensuring people of all ages and backgrounds have access to, and education in, the natural world, we can improve mental and physical wellbeing, and safeguard the environment for the future.

The Wildlife Trusts would like every school child in every place of learning to be able to spend at least an hour outside every day, immersed in inspiring wild play and nature-based learning experiences. **Taking part in Action for Insects in your schools is a great place to start** or a great way of developing outdoor learning you may already have in place.

There are lots of great ideas and resources in this pack and at **www.wildlifetrusts.org** and your local Wildlife Trust may have school's projects local to you.

We know that:

- Accessing wildlife-rich places brings health and wellbeing benefits and increases our feeling of connection with nature and works for people of all ages and backgrounds.[1]
- Children exposed to green spaces for 20 minutes a day engage in five times more physical activity.[2]
- Children in deprived areas are nine times less likely to have access to green space and places to play.[3]

The New Economics Foundation (NEF) 'Five Ways to Wellbeing' – ***Connect, Be Active, Take Notice, Keep Learning, Give*** – is an evidenced based framework of actions that can improve personal wellbeing and outdoors learning can support all these actions. Because people and nature's wellbeing are so connected to each other, we have added a 6th way – **'Care For The Planet'**. By experiencing and learning about the natural world, people feel better and are far more likely to understand how they can take better care of it.

Photo: Misty Hutton / Avon Wildlife Trust

[1] The Wildlife Trusts 30 Days Wild 5 Year Review **www.wildlifetrusts.org/30-days-wild-5-year-review**; Nature Connectedness among adults and children In England **http://publications.naturalengland.org.uk/publication/6005041314136064**

[2] The Importance of Nature for Health (Wells et al 2007, Bowler et al 2010)

[3] Greater Expectations - Raising Aspirations for our Children (National Children's Bureau 2013) **www.ncb.org.uk/sites/default/files/uploads/documents/Policy_docs/GEXP_final WEB.pdf**

Fact Card

How many legs does an insect have?

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Fact Card

How many insect species do scientists believe there might be in the world?

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Fact Card

How many insect live in Antarctica?

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Fact Card

What is the length (in centimetres) of the longest insect in the world?

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Fact Card

How many ants are there for every person on the planet?

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Fact Card

How many days (on average) does a honeybee live for?

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Fact Card

How old (in millions of years) is the oldest insect fossil?

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Fact Card

How many eggs does a termite queen lay in a day?

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Fact Card

Of all the species in the world – what percentage are insects?

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Fact Card

How many different types of beetle are there?

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Fact Card

Which insect lives the longest?

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Fact Card

At what speed (kmph) can the world's fastest flying insect fly at?

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Fact Card Answers

How many legs does an insect have?
(6)

How many insect species do scientists believe there might be in the world?
(9,000,000)

How many ants are there for every person on the planet?
(1,400,000)

How many days (on average) does a honeybee live for?
(38)

Of all the species in the world – what percentage are insects?
(90)

How many different types of beetle are there?
(380,000)

How many insect live in Antarctica?
(2 - a wingless midge and a louse which lives on the bodies of Weddel seals)

What is the length (in centimetres) of the longest insect in the world?
(57 – chans megastick)

How old (in millions of years) is the oldest insect fossil?
(400)

How many eggs does a termite queen lay in a day?
(6,000)

Which insect lives the longest?
(50+ years)

At what speed (kmph) can the world's fastest flying insect fly at?
(dragonflies)

Insect Top Trumps

Insects are amazing creatures. Help your students learn more about weird and wonderful insects by playing a game of Top Trumps. Photocopy this template and make your own pack of cards!

A scoring guide

Here are some suggestions for categories you might like to use. But it's up to you, so get creative!

Name of creature .....

How long is the creature in mm? .....

How heavy is the creature in mg? .....

How fast is the creature in m/s? .....

How does it attack or defend itself? .....
Score out of 10:
- *large jaws, poison, sting all get high scores,*
- *which combination gets the most points?*

How easy is it to see? .....
Score out of 10:
- *bright colours score low*
- *completely camoulflaged scores 10*

Picture in here

FACT: A cool fact goes here

Length .....

Weight .....

Speed .....

Weapons .....

Camouflage .....

We're going on a bug hunt!

A bug hunt is an excellent way of building skills around scientific enquiry. The following guide gives some pointers on how to run one on your school grounds.

What you will need

- A Google map of your school grounds
- Clipboards
- Pencils
- Spotter sheets (see links at the end of this document)
- Recording sheet (see resource 4)
- Collecting jars/pots with lids
- Magnifying glasses
- If available – sweep nets, trays, white sheet

Before you start

1. Using a Google map of the school, identify areas that can be surveyed and label them A, B, C, D etc.
2. Decide how long you will spend surveying each area (depends on how much time is available and how many areas are chosen). We'd advise at least 15 minutes per area. Identify a logical order to survey them in to reduce loss of time. Explain to the students that this is to make it as close to a fair test of which area is the best for insects.
3. Decide what level of identification you are going to do – into groups or down to species (time and accuracy are worth considering).
4. Briefly describe the techniques and determine which ones will be used (see below). Divide the tasks to specific groups if necessary. Ensure each group has the relevant equipment and recording sheets/clipboard/pencil.
5. Ask students to predict what they will find, and which area will be best and worst for number and variety.

Techniques

1. Habitat survey – identify the type of habitat that is most common in the area (refer to resource 1)
2. Log/stone turn – students turn over logs/stones carefully and record what is seen underneath. Ensure that the log/stone is put back as this is the creature's home.
3. Tree/hedge beating – this is a useful technique for seeing what lives in a tree canopy. Lay out a white sheet or tray beneath the tree or hedge. One student beats/shakes a branch to see what falls onto the sheet. Others identify as quickly as possible – the insects are likely to fly or run away quickly!
4. Sweep nets – these are a great way to survey long grasses. You can buy them or make your own **www.lostladybug.org/files/SweepNet09.pdf** Students move through long grass sweeping the net backward and forward to see what falls in. Use pots to gently collect and identify what is in the net.
5. Pitfall trap – if you want to create a trap for crawling insects, these can be done the day before (but not left longer). Dig a small pot into the ground (yoghurt pot) and then place a couple of stones and a raised lid over the top to stop rain getting in. Passing insects will fall into the trap and can be identified (and released) the next day.

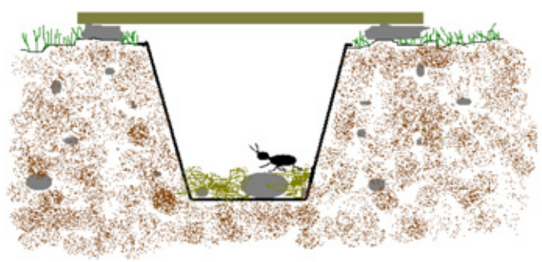

Figure 1 Pitfall trap

During the survey

1. Students record the area on their sheets and the main habitat in it.
2. Start the timer and set the students to record what they find on their recording sheets.
3. Give time warnings. Move on and repeat.

After the survey

1. Students reflect on what they have found and how it compares to what they had predicted.
2. Use data to create graphs/results and draw conclusions about insects types, number, variety and location. What does it tell us about the school?
3. Where are the best and worst places on site? How can they be improved?

Photo: Lyndsey Young

Safety considerations

It is always important to check the site before identifying areas you will survey. Do a walk over on the day to remove hazards.

Weather will affect results significantly – warm, dry days will produce more than cold wet days, so consider this in the planning.

Risk assess the areas for hazards such as water, sharps or stinging plants. Be aware that some of the "bugs" bite and sting!

Use the Wildlife trust's handy spotter sheets here **www.wildlifewatch.org.uk/spotting-sheets** and search for:

- Bees
- Beetles
- Caterpillars
- Damselflies and dragonflies
- Ladybirds
- Moths
- Shieldbugs
- Snails
- Spiders
- Woodland Butterflies
- Other unidentified minibeasts

Photo: Redaktar

Survey Recording Sheet

Area **Habitat**

Ants	Beetles	Butterflies, Caterpillars & Moths	Bees & Wasps
Millipedes	Centipedes	Grasshoppers & Crickets	Flies
Bugs	Worms	Mites	Earwigs
Snails	Woodlice	Spiders	Damselflies & Dragonflies
Slugs	Other		

Notes

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No matter where you live in the UK, there is a Wildlife Trust inspiring people about the natural world. Each day we work to save, protect and stand up for the wildlife and wild places near you.

Supported by more than 850,000 members, we take action for insects on our 2,300 nature reserves, through our work with a whole range of people and sectors including learning and school communities, individual teachers and a whole range of educational establishments. By encouraging everybody to look after insects where they live. We hope that you will join us.

The Wildlife Trusts
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#ActionForInsects #WilderFuture

Photo: Alan Price