

OPAL Bugs Count

Group leaders' support pack



Thank you for taking part in the OPAL Bugs Count! This **group leaders' support pack** contains ideas and advice to help you run the survey with a group.

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What is Bugs Count?

The sixth and final OPAL survey, Bugs Count is a fun and exciting way to discover more about the invertebrates living in the built environment. It will gather information that will be analysed by scientists at the Natural History Museum, London. Anyone can take part! This nation-wide survey can be carried out by individuals as well as organised groups and schools - the activities are suitable for any age and assume no prior knowledge of invertebrates.



You can download the Bugs Count Field Notebook, Pocket ID Guide and Species Quest card from the OPAL website www.opalexplornature.org/bugscount or request one by emailing bugscount@opalexplornature.org. These contain all the instructions you need, as well as tips to help you identify the invertebrates you find, and recording sheets to write down your results.

School groups

A **teaching supplement** is available to accompany this group leaders' support pack. It contains curriculum links for Key Stages 1 to 4 as well as GCSE and A level. It also provides suggested lesson plans for Key Stages 2 and 3. You can download the teaching supplement from the OPAL website www.opalexplornature.org/bugscount.



What is involved?

Bugs Count takes **between 30 minutes and 1 hour** to complete, depending on which bug hunting challenges you choose to do. Remember to allow enough time on top of this for travelling to your survey site and introducing the activities to the group. Working in pairs or groups of three works well.

Explore your area

The survey begins with exploring your survey area, recording which micro-habitats (such as log piles, fallen leaves, long grass) are available for bugs to live in and planning where you will look for bugs. At this stage you need to answer questions 1-10 in the Field Notebook to tell us about your survey site and survey team. Recording the postcode of your survey site allows us to calculate how urban (or otherwise) the area is.

Tips for groups: If you don't know the postcode of your survey site, you can find it using the [Royal Mail's postcode finder](#) or [Free map Tools' UK postcode map](#). It's best to find this out in advance, so your group doesn't leave the question blank and forget to come back to it.

The timed bug hunting challenges

The three bug hunting challenges each focus on a different aspect of the environment – soft ground surfaces, human-made hard surfaces, and plants. You can do as many challenges as you like, and they can be done in any order. Each one takes 15 minutes. You start the clock and spend 15 minutes looking for bugs and identifying them to broad categories. You record these on pages 10-15 of the Field Notebook. It's important that you identify the bugs within the 15 minutes, not afterwards, to ensure that your results are comparable with those from other participants.

Tips for groups: Divide the group in three. Each sub-group can complete a different bug hunting challenge, then rotate round after 15 minutes.

Tips for groups: You might find it easiest to put a bug in a jar or container while you identify it. Why not keep any particularly interesting bugs in their container until the end of the session, then have a 'show and tell' before releasing them. This allows everyone to see the bugs – different groups may have found different things. Don't leave bugs in their container for too long though!

While you do the bug hunting challenges, keep an eye out for the six Species Quests shown on the separate Species Quest card. These are invertebrates that we want to record to species level (all others in the survey are just identified to broad categories). They have been carefully chosen so that any records gathered will feed into current research. If you see any of these, please take a photo if at all possible. This is really important to ensure that your record can be added to national distribution maps and will be valuable for years to come. The Species Quests are not easy to spot and are not found everywhere, so please don't be disappointed if you don't see them!

Send us your results!

Back indoors you need to send your results to us – whether you found hundreds or just a handful of bugs! This is a really important part of the survey and will ensure your results can feed into our research. You can enter them online at www.opalexplornature.org/bugscount or post them to us using the Freepost address given on the back of the Field Notebook.

Tips for groups: If you don't think the individuals in your group are likely to send their results in, please collect their Field Notebooks in at the end of the session and post them to us.

Aims of the Bugs Count

First and foremost, Bugs Count aims to get lots of people having fun outdoors, exploring their local environment and discovering some of the invertebrates that we share the built environment with. The survey aims to:

- Support participants to learn basic invertebrate identification skills,
- Teach participants how to separate tricky groups, for example how to tell beetles from true bugs, and flies from bees and wasps,
- Raise awareness of the huge diversity of invertebrates that can be found within easy access of our homes, schools and places of work,
- Highlight how important these animals are to us and our ecosystem, and
- Encourage participants to think about how the built environment may affect invertebrates, and how they are adapting to live alongside us.

Invertebrate abundance and distribution

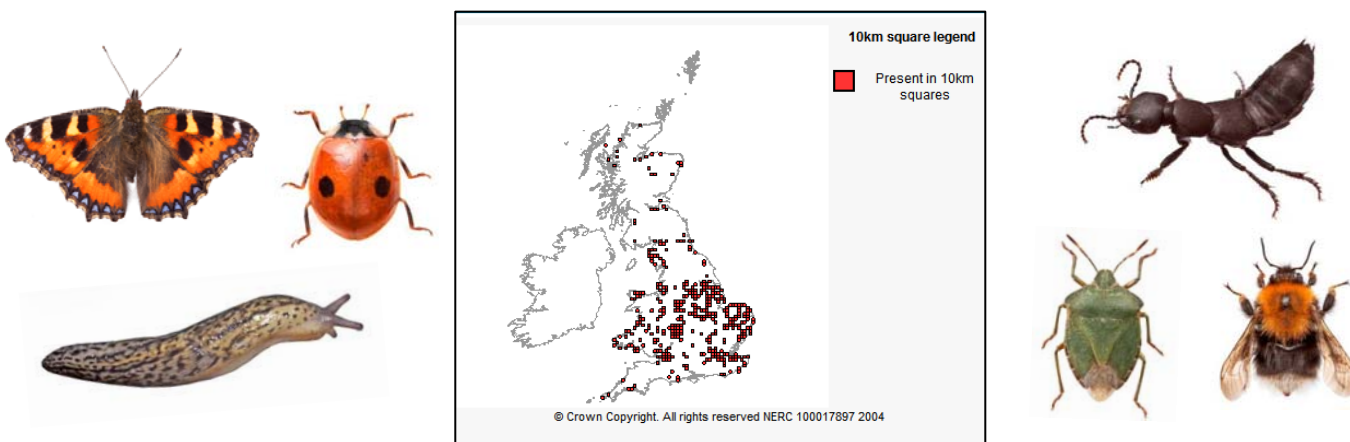
The survey will collect data that can be scientifically analysed to understand how invertebrate abundance and diversity are being affected by the built environment. The results from the three bug hunting challenges will be compared to see whether invertebrates overall prefer one habitat type over another, and whether the different invertebrate groups have different preferences. This could highlight which invertebrate groups may be better adapted to surviving alongside us, and which may suffer as the built environment spreads.

Habitat availability

Bugs Count will gather new information about the availability of various micro-habitats for invertebrates in our living spaces and we will see whether these vary between urban, sub-urban and rural locations. For this reason we need surveys to be carried out right along the gradient from rural countryside to inner city and everything in between.

Biological recording

Species Quest records will be added to national maps, tracking changes in the distribution of these invertebrates over time.



More information on the science behind the survey, and summaries of what we have found so far will be posted regularly on the OPAL website.

Preparation – things to consider before the day

Choosing a survey area

You can do the Bugs Count anywhere. Challenge 2 asks you to look on human-made hard surfaces, so may not be possible in a very rural location. Small survey areas are better – you only have 15 minutes to look for invertebrates and the slower you go and more closely and carefully you look, the more you will find. Make sure the area is big enough for the group to spread out though. Make sure the area is easy for the group to access, and that you have permission to be there. Ideally you should visit the site before the day, to make sure it is suitable and safe, and plan where to carry out the survey.

Equipment

The minimum you need is the Bugs Count Field Notebook, Pocket ID Guide, Species Quest card and a pencil or pen. It's also useful if you have a magnifier and a container or jar to put the invertebrates in while you identify them. If you have a camera or mobile phone that can take pictures, please take it along to photograph any of the Species Quests if you see them.

For adults and older children, you may want to take a more detailed identification guide with you, to identify the invertebrates to species or family level.

For challenge 1 (soft ground surfaces), it is very useful to have a white tray or ice cream tub to put fallen leaves or soil in, so you can sort through it. This makes it a lot easier to find and identify any invertebrates living there. For challenge 3, a dustpan and brush to sweep the plants with will help you to find more invertebrates.

Tips for groups: Gather the equipment together in advance. Make sure you have enough equipment for everyone in the group, or ask them to bring their own.

Health and safety

As the group leader you are responsible for carrying out a risk assessment for the activities. An example risk assessment for Bugs Count is available to download from our website, but you must adapt it to suit your survey area and the needs of your group.

Ideally you should visit the survey area in advance to identify any hazards, as well as checking it is a suitable place to carry out the survey. You should consider whether facilities for hand-washing are available once the activities have been completed, especially if leading a group of children.

Health and safety information is provided on page 7 of the Field Notebook, so please read this in advance. Take a first aid kit and mobile phone with you on the day. Ask your group in advance if any of them are allergic to insect stings, and ensure they have the correct medication with them. Make sure that children are adequately supervised.



Safe fieldwork for bugs

- Handle bugs gently – they are delicate, so only pick them up when necessary. If you put a bug in a jar to study it, don't keep it in the jar for too long, and don't leave it in the sun.
- Always put the bugs back where you found them.



Safe fieldwork for you

- Take a responsible friend with you who can help if anything goes wrong. Make sure you both know what to do in an emergency and can call for help if necessary.
- Supervise young children at all times.
- Cover any open cuts. Wash your hands thoroughly afterwards.
- Don't try to turn over any heavy stones or logs, only those that you can easily lift. Always put them back the way you found them.
- Look out for stinging nettles, prickles and thorns.
- Look out for sharp objects, e.g. broken glass.
- Bees and wasps occasionally sting in self defence. If you see a lot of bees or wasps, there may be a nest nearby, so survey in a different area. Whilst most stings only result in minor pain and swelling, sometimes it can be much more severe. Seek medical advice if stung near the eyes, nose or throat, or if stung multiple times.
- Don't survey near a road.

We also include health and safety information for the bugs – they are delicate so please handle them with care and always put them back where you found them. Although the timed challenges are races against the clock, please don't trample the plants, and if you turn over logs and stones, put them back the way you found them and lower them gently so as not to squash any bugs underneath.

Familiarise yourself with the activities

Familiarise yourself with the survey and what it entails in advance, including the key characteristics of the main invertebrate groups and how to record them, so you can answer simple queries. Frequently asked questions are included in the 'On the day' section below. The survey is designed to make identification and recording simple but bear in mind that there are still some groups that look similar to begin with. If more specific scientific or practical questions arise then email bugscount@opalexplornature.org and we will do our best to assist.

Indoor session

We understand that many groups won't have the opportunity for an indoor session before they do the survey, but if you do, it's useful to familiarise the group with the activities, the purpose of the survey and what they need to bring with them. A short Powerpoint quiz to help the group to learn the key identification features of the invertebrate groups can be downloaded from the OPAL website.

On the day

Weather / clothing

Remember that the weather could be hot and sunny, or cold and raining! Dress appropriately for the weather, and carry extra layers, waterproofs and sunscreen. Dress appropriately for the activities too – you will probably want to kneel down and/or walk through long grass which may contain thistles or stinging nettles. If weather conditions are hazardous, it's advisable to cancel the session.

Safety

Refer back to your risk assessment, and give the group a safety talk on arrival. Take a first aid kit and mobile phone with you. Participation in the OPAL Bugs Count is entirely at the participant's own risk.

Frequently Asked Questions

- 🔴 **Do we need to do all activities?** No, but questions 1-10 need to be done.
- 🔴 **Do any activities need to be done first?** You can do them in any order.
- 🔴 **What if we can't identify the bug?** There may be lots of bugs you are unable to identify, either because they are too small or too quick! Record them in the results table as 'other invertebrates'.
- 🔴 **What if the bug isn't in the list of groups?** The Pocket ID Guide isn't comprehensive. You are likely to find invertebrates that aren't covered such as lacewings, dragonflies and scorpionflies. Record them in the results table as 'other invertebrates'.
- 🔴 **What if we run out of time?** Please submit the results you have so far.
- 🔴 **Can any activities be done on a different day?** Questions 1-10 need to relate to your bug hunting challenges, so they need to be done on the same day. You can repeat the whole survey on a different day if you would like – extra copies of the recording forms can be downloaded from our website.
- 🔴 **What if we see hundreds of bugs in one spot – do we have to count them all?** No, we expect you to estimate. This will particularly be the case if you see lots of aphids on a stem – we don't want you to spend your whole 15 minutes counting them, but estimate as accurately as you can.

Completing the survey

The final (and very important!) part of the Bugs Count is to send your results in to us. We are keen to have your results regardless of how many invertebrates you found, or how confident you are with your identification skills. We can factor this in to our analysis – all data are useful.

If you enter your results online they will appear instantly on an interactive results map, and you can compare your results to those of other participants across the country. Alternatively, you can post your results to the freepost address given on the back of the Field Notebook.

Post-survey ideas

Doing Bugs Count is just the start! If this has fired up your enthusiasm for invertebrates, here are a few ideas for other activities.

Repeat the survey and compare your results

Why not carry out the Bugs Count at different locations to compare the survey results within a local area, or at different times of the year to compare seasonal changes? Extra copies of the Field Notebook can be downloaded from our website. If you register on the website you will be able to view all your previous survey submissions.

Read our Bugs Count blog!

We'll be writing a regular blog, reporting back the results from the survey and showing you any interesting finds from our own Bugs Count survey area – the Natural History Museum's wildlife garden. [Take a look!](#)

Improve your identification skills

There are a number of useful websites that help you to identify UK wildlife. Upload photos to the OPAL iSpot website www.iSpot.org.uk and a community of amateur naturalists will help you to identify it, or ask museum experts a question on the Natural History Museum's identification forums www.nhm.ac.uk/identification.

Join a natural history group

Thousands of people in the UK spend their spare time recording wildlife. Each page of the Bugs Count Pocket ID Guide links to a natural history society that studies that particular group of invertebrates. Take a look at their websites to find out what activities they run and how you can join in. Our website also includes links to other invertebrate societies – new members are always welcomed.

Improve your patch for invertebrates

There are lots of ways you can improve your local area to make it more invertebrate-friendly. Creating a log pile, building a bee hotel or leaving an area unmanaged or 'wild' are just some ideas. More can be found on the OPAL website.



www.opalexplorenature.org/bugscount

