



### How do you perform a ladybird survey?

There are two methods of Ladybird surveying that you can do in your schools grounds, suitable for children of different ages and abilities. At the simplest level, they can have a **ladybird hunt** in the school grounds or they can perform a more **structured survey**. Both will provide valuable data.

### What do you need?

On the CD and pack provided, there are copies of ladybird identification guides to help you and your pupils to identify what they have seen. The most useful item that you will need is a 10x hand **magnifying glass**, letting your pupils get a close-up view to make it easier to identify the species. Remember some ladybirds are only 4mm long! If you are planning a more structured survey, you may need a little equipment such as a **sweep net** and/or a **beating tray**. Do not worry if you do not have these items as they can be easily created from available bits and pieces. To make a sweep net, see the activity sheet on the CD from the BBC Breathing Places. For a beating tray, all you will need is a white or pale-coloured towel or similar piece of cloth or even an upturned umbrella. You will see what we mean in the step-by-step guide.

The UK Ladybird Survey is a primary source of data for scientific research and accuracy of identification is important to ensure the integrity of this data. An easy way to verify the ladybird species that have been found is to take a photo and send it in with the data. A **digital camera** will make this recording easy. If you cannot take photos, do not worry, all of the data is valuable in assessing the trends and the more records we receive the better.

### Getting started

You need to start by thinking about how your school grounds can be described. The recording form included on the CD is based on information from the UK Ladybird Survey team, who suggest a few simple categories:– Indoors– Garden (e.g. flowers and vegetables)– Park (e.g. trees, hedges and possibly long grass and weeds)– Woodland (e.g. dense trees with leafy undergrowth)– Moorland (e.g. low vegetation, such as tussocks of grass, heather and gorse)– Marshland (e.g. boggy area with mixed vegetation, grasses and flowering plants, maybe around the edge of a pond)– Other.

If your school grounds cover a number of these categories, you could choose one area or, even better, survey and enter results for more than one area. Your pupils can then compare the results for different habitats. Decide whether you are going to do a ladybird hunt or a structured survey. Both methods are described here followed by the same method for recording and submitting data.

### Where should your pupils look?

Ladybirds are likely to be found where there is food and/or shelter. Most ladybirds eat small bugs and aphids (often called greenflies or black flies), which is why they are considered the gardener's friend. As a result, green leafy plants that attract aphids will also be popular with ladybirds. Nettles,

particularly early in the year, will attract ladybirds when they come out of hibernation. You will find out more about the life cycle of ladybirds on the leaflets in the pack.

### **Ladybird hunt**

**Step 1** Get your group together and split them into as many teams as is practical. Give each team a copy of the identification sheet. Let them pick one team member to fill in this sheet with what their team find. If it is possible, allow one team member to have a digital camera to record a photo. Give the remaining team members a magnifying glass each. If you only have one camera for the class, ask the hunters to call you or a designated pupil over to take a photograph when they find something.

**Step 2** Assign each team to an area of the school grounds and give them 20 minutes or so to hunt in their area, recording any ladybirds that they find. Don't forget to encourage your pupils to turn over leaves, sift through leaf litter and look in crevices in bark or buildings. If they are looking in nettles, warn them to be careful to avoid being stung. They could use a pencil to lift a leaf to see what is underneath.

**Step 3** After each team has finished hunting in their area, bring them back together. Now is the time to compare results. Let each team in turn tell the others what they have found.

**Step 4** Record and submit the data to the UK Ladybirds survey. You can also use the information to identify ladybirds you don't have in your grounds and target some habitat improvements to try and attract them. Start with the more common ladybirds to increase the likelihood of success.

### **Structured survey**

**Step 1** Look at your school grounds and identify areas of different habitat – preferably those listed on the recording form. Do not worry if you only have one or two of these land types, for instance a garden area where you may be growing flowers and/or vegetables or a park area with a few trees where sports activities take place. Different ladybirds like different places.

**Step 2** Break up your group into as many teams as you can manage and give each team member a role as follows:– Data recorder (inputting data into a copy of the recording form)– Sweeper, beater– Beating tray holder(s)– Inspectors– Photographer. Allocate each team to a different area of the school grounds. Allow them 20 minutes to survey their area, identify the ladybirds and record the data.

**Step 3** The teams gather data as follows:

**Long grass or dense low vegetation:** A sweep net can be used for searching meadows, grasses, heathland or other low growing vegetation types. A sweep net is comprised of a white fabric bag held open by a stout ring attached to a handle. The sweep net is best used by walking slowly and sweeping from side to side. Considerable coverage of an area can be made quite quickly using this method. When you have swept the area, carefully empty the contents onto a large sheet of white paper. Make sure that all of the mini-beasts have been released from the net. The contents can then be examined.

**Shrubs and trees:** A beating tray is used where ladybirds are in amongst trees and shrubs. You could stretch a piece of light-coloured cloth between two pupils underneath a tree or shrub which is then beaten or vigorously shaken, taking care not to damage the plant. Insects that have taken refuge

there will fall into the tray for collection. An upside down umbrella also works well to catch falling mini-beasts.

**Other areas:** No special equipment is required, just observe and record what is found as described in Step 2 of the ladybird hunt.

**Step 4** Using magnifying glasses, identify which types of ladybirds you have collected, record the species and number found on the recording sheet and take a photo of each type found if you have a camera available. After identifying your catch, make sure that all of the mini-beasts that have been collected are released back where they were found.

**Step 5** When all of the teams have completed their survey, ask them to return to the group where they can share and compare results.

**Step 6** Record and submit the data to the UK Ladybirds survey. You can also use the information to identify ladybirds you don't have in your grounds and target some habitat improvements to try and attract them. Start with the more common ladybirds to increase the likelihood of success.

### Hints and tips

**Identifying ladybirds:** Keep the species leaflet and FCS guide handy in case your pupils are not sure what they have found and to help identify some of the less common species. There are 46 ladybird species in the UK – we have listed the six common ones and the nine rarer ones in Scotland in the leaflet, and there are many of the others in the FCS guide. The information in the guides should allow you to answer any identification questions and explain the life cycle of ladybirds in some detail. If you find something that cannot be recognised but are sure is a ladybird, the team at the Centre for Ecology and Hydrology will be happy to look at a photo and tell you what species it is. Just send your picture by email to [ladybird-survey@ceh.ac.uk](mailto:ladybird-survey@ceh.ac.uk).

Look out for larvae and pupae as well as adult ladybirds during the survey as these should be included in the count. The UK Ladybird Survey website provides some useful downloads including a larvae identification sheet at [www.ladybird-survey.org/ladybirds.aspx](http://www.ladybird-survey.org/ladybirds.aspx) For some images of pupae, take a look at the 'Ladybirds' natural enemies' activity sheet referenced in the next section.