



# WHAT LIVES IN A POND ON A GOLF COURSE?

 9-11 years  20-30 minutes per station

## Introduction

Many golf courses have water features. These could be rivers, streams, lakes or ponds. These bodies of water are home to animals, insects and other creatures.

In this session pupils will test the quality of the water by looking at its clarity, identifying creatures that they find in a pond or stream, and classifying the creatures into groups.

## Pupil Learning Objectives

By the end of the session pupils will be able to

- » test the quality of water by testing how clear it is
- » identify and name five different creatures that live in fresh water
- » classify the creatures that they find into different groups based on their characteristics

## What is needed for the session

Item	Who will provide it
Several laminated pictures of all creatures that could be found in freshwater on a golf course (Provided on page 9)	Golf course
Large bucket full of water from a pond/stream (if pupils are not sampling directly from the water-feature). Ensure you collect as many creatures as you can which are often found near the bottom. Including some plants will improve the number of creatures found and give them somewhere to shelter.	Golf course
Clear tubs to test water clarity (1 per pupil)	Golf course
BIGGA clarity testing circle provided on page 6 (1 per three pupils)	Golf course
Long handled pond nets (1 per pair of pupils if pupils are sampling directly from the water-feature)	Golf course/School
Buckets/tubs for pupils to collect water from the pond/bucket	Golf course
Plastic spoons	Golf course
White plastic trays to put water samples in	Golf course/School
Hand Lenses (1 per pupil)	Golf course/School
Wet wipes to clean hands	Golf course
Rubbish bag to collect wet wipes	Golf course
Hi-visibility jackets for all pupils (not essential)	School
Pencil and clipboard for every pupil (not essential)	School
Printed worksheet for each pupil (only if using worksheets as agreed with school)	Golf course

## What the greenkeeper needs to do

Prior to the visit discuss with the teacher in charge which method of water sampling and pond dipping is recommended as they know which is most appropriate for their pupils. If the teacher agrees, identify a safe water-feature where the pupils can collect their own samples for the activity. The alternative is for pupils to collect a water sample from a bucket full of water taken from a water-feature on the course in advance. It is recommended that this activity is done sometime from April to end Oct to ensure there are plenty of creatures to be found in the water.

Activity	Equipment	Questions to ask
1. Take the pupils to the pond or the area with the large bucket of water. Explain that the pupils will be looking at water quality and the animals that live in the water.	» Pond or large bucket of pond water	What are the dangers of being near water?  How are you going to stay safe around the water?  What creatures live in a pond/stream?

Activity	Equipment	Questions to ask
<p>2. Explain to the pupils that a greenkeeper needs to know the water in ponds/streams on the course is good quality. One way is to test how clear it is. Pupils collect some water from the pond/bucket in their clear plastic cup and then put their testing circle underneath. They then look through from the top and see how many logos they can still see. This could be done with water from different sources.</p>	<ul style="list-style-type: none"> <li>» BIGGA clarity testing circle</li> <li>» Clear plastic cup</li> </ul>	<p>Why does water in a pond/stream need to be good quality?</p> <p>How clear is the water?</p>
<p>3. Firstly, the pupils need to fill their tray with water from the pond or large bucket of water using a smaller bucket/tub.</p>	<ul style="list-style-type: none"> <li>» Large bucket of pond water (if required)</li> <li>» Smaller buckets/tubs</li> </ul>	<p>Why is it important to wear hi-visibility jackets?</p> <p>What are the potential dangers?</p>
<p>4. For both methods tell pupils they are now going to look at the animals present in the water. Remind them that they must treat the animals carefully so they are not harmed. Give each pupil a white plastic tray, hand lens and a plastic spoon.</p> <p>For groups at the pond demonstrate to the pupils how to pond dip using their nets. Show them how to do it slowly and carefully. Explain that they may find different creatures depending on how deep they dip. Empty the contents of your net into the white plastic tray of water.</p> <p>Tell the pupils that they are going to do their own pond-dipping, but they must remain safe at all times.</p>	<ul style="list-style-type: none"> <li>» pond nets</li> <li>» white plastic trays</li> <li>» hand lens</li> <li>» plastic spoons</li> </ul>	<p>Why must you be careful when looking at the animals?</p>
<p>5. Get pupils to look carefully into their trays to see what creatures they can see. Get them to use their hand lenses as some creatures might be quite small. Ask pupils to identify some of the creatures they can see. They can probably only identify a few. Some of the creatures may be the larvae of insects that pupils are familiar with like dragonflies.</p>		<p>What creatures can you see?</p> <p>What are larvae?</p>
<p>6. As an extension ask pupils to classify the creatures they can see into groups based on common characteristics.</p>	<ul style="list-style-type: none"> <li>» Worksheet</li> </ul>	<p>Why have you grouped these creatures together?</p>

## Key words

You may have to explain some of these words as pupils will not be familiar with them. Check that pupils know their meaning before using them too much.

**pond**  
**clarity**

**classify**  
**amphibian**

**characteristic**  
**larva/larvae**



## Lesson extension activities

Pupils could try and put the different creatures that they find into groups based on a particular feature. Ask the pupils to justify why they have put them into these groups.

## Support activities

Use laminated pictures to show the sort of creatures found in freshwater.

# Information for the teacher

## National Curriculum links

### England

- » Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals
- » Give reasons for classifying plants and animals based on specific characteristics
- » Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird

### Wales

- » Through fieldwork, study the plants and animals found in two contrasting local environments, e.g. identification, nutrition, life cycles, place in environment
- » The environmental factors that affect what grows and lives in those two environments, e.g. sunlight, water availability, temperature

### Scotland

- » By investigating the lifecycles of plants and animals, I can recognise the different stages of their development.
- » I can use my knowledge of the interactions and energy flow between plants and animals in ecosystems, food chains and webs.

### Northern Ireland

- » We can identify a variety of animals and plants according to their characteristics
- » To understand some of the ways in which living things rely on common landscape features

## Additional Resources that could be used to follow up the session

Click on the links below to access

- » [Education pack: Life in ponds](#)
- » [How to pond dip – Natural History Museum](#)
- » [Guide to identifying common freshwater invertebrates - Natural History Museum](#)
- » [Freshwater habitat trust](#)
- » [Wet, wet, wet – habitats- Explorify](#)
- » [The damselfly's day - Explorify](#)
- » [Wildlife in the pond - Explorify](#)

# Worksheet: What lives in a pond on a golf course?

Date ..... Golf Course .....

Pupil Name .....

Please answer the questions below.

How many BIGGA logos are on the testing circle?

How many BIGGA logos can you see on the testing circle when you look at it through the water?

Do you think the water is good quality?

Why do you think this?

Yes/No

Why is good water quality important?



As you find creatures, add them to the table below. If you are not sure of the name, give a good description so that you can identify them when you're back in school.

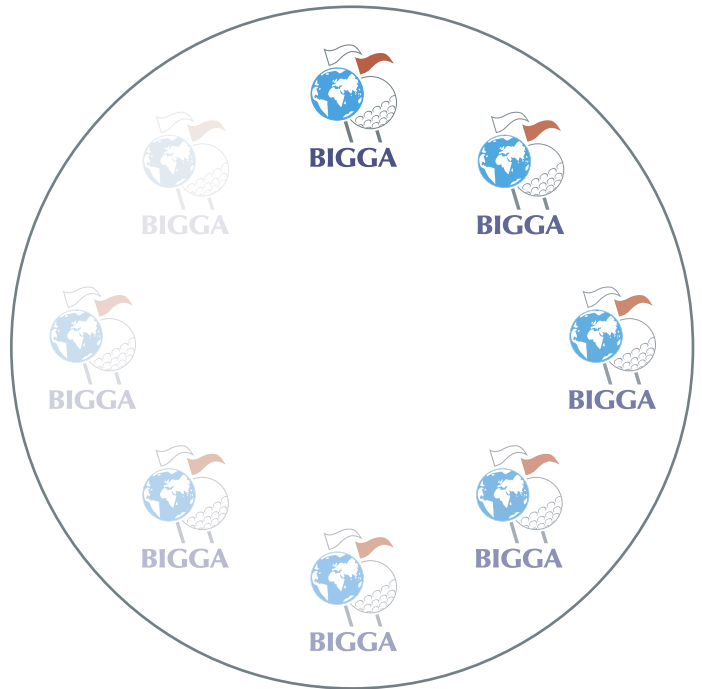
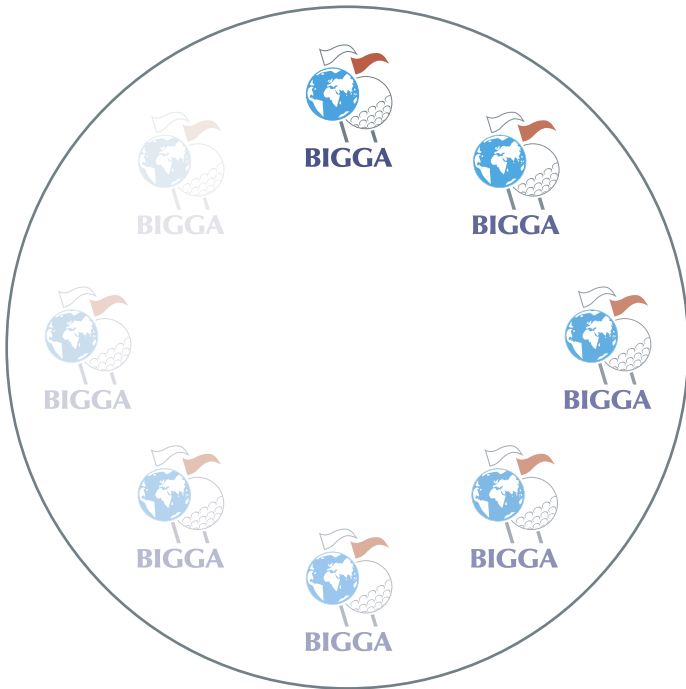
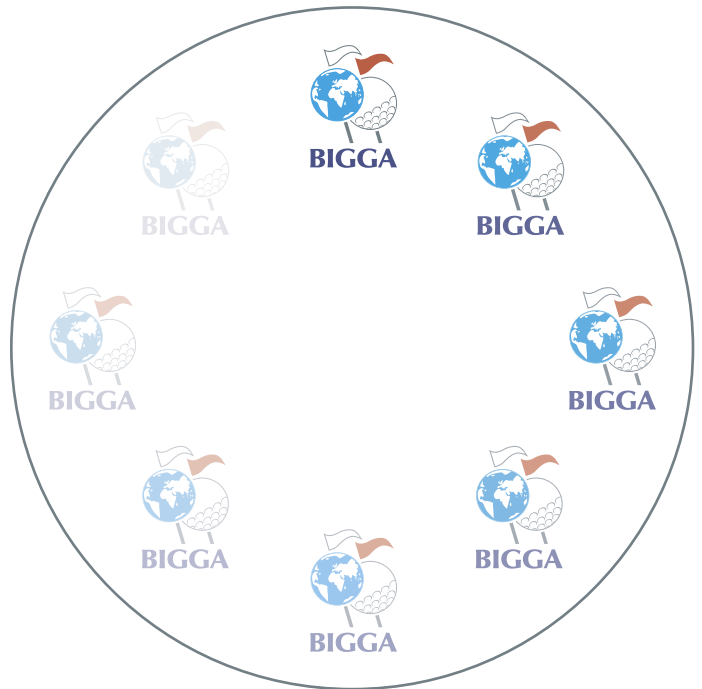
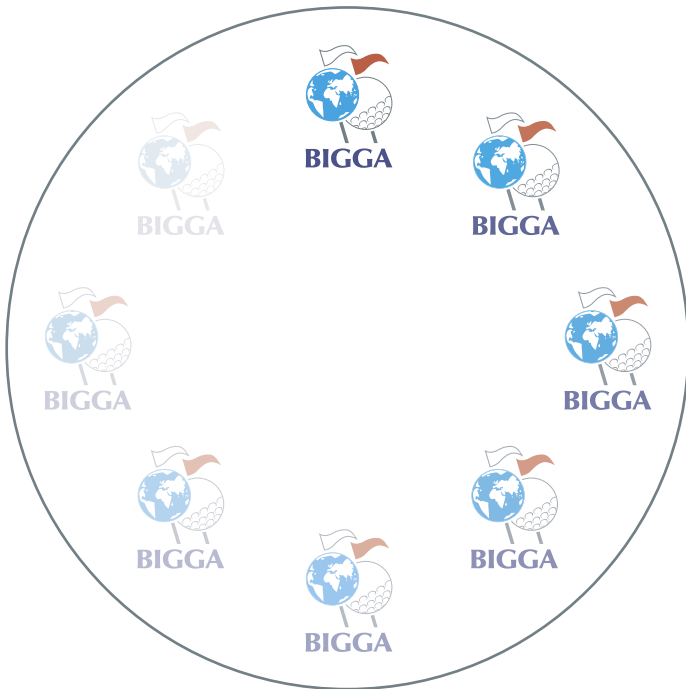
Name of creature	What does it look like? Draw a picture	How many legs?	Number found



Name of creature	What does it look like? Draw a picture	How many legs?	Number found

The pupils are going to test how clear the water is by testing how many BIGGA logos they can see. The more they see, the clearer the water.






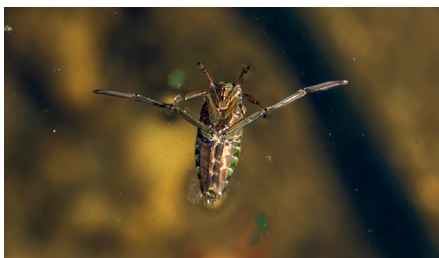
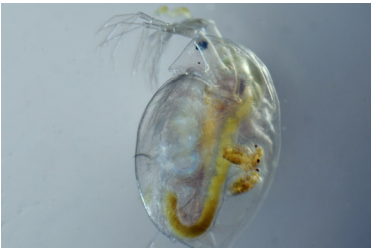








Print this page and laminate it. Cut the testing kits out and give one between 3 pupils.





# Pond life

Print, laminate and cut to make bug identification cards. Please note these are not to scale

		
Dragonfly larva	Damselfly larva	Pond Skater
		
Tadpole	Newt (smooth male and female)	Water Boatman
		
Water flea	Water beetle	Water snail (great pond)
		
Freshwater shrimp	Freshwater mite	Fish (stickleback)
		
Small Worms (nematodes)	Caddisfly larva	Leech

# Risk Assessment:

These are suggested risks, you will probably want to add some of your own.

School Name ..... School Representative .....

Golf Club Name .....

Greenkeeper Name ..... Date of Visit .....

What are the hazards?	Who/what is at risk?	What needs to be done to avoid accidents?	Who is to action?
There will be moving cars in the car park	Pupils	<ul style="list-style-type: none"> <li>» Inform pupils that they must follow instructions when leaving the minibus</li> <li>» All pupils to wear high visibility jackets whilst on the golf club (if the school requires)</li> </ul>	Teacher Greenkeeper
Pupils might get lost from the rest of the group	Pupils	<ul style="list-style-type: none"> <li>» All pupils to wear high visibility jackets whilst on the golf club (if the school requires)</li> <li>» Teacher to count pupils in every time they move between areas</li> </ul>	Teacher
Being hit by a golf ball	Pupils Teacher Greenkeeper	<ul style="list-style-type: none"> <li>» Inform pupils that there are some areas of the golf course that may be dangerous, therefore they need to avoid</li> <li>» All pupils to wear high visibility jackets whilst on the golf club (if the school requires)</li> </ul>	Teacher Greenkeeper
Pupils will be handling pond water	Pupils	<ul style="list-style-type: none"> <li>» Ensure pupils wash their hands after the activity, especially if they are eating</li> </ul>	Teacher Greenkeeper
Minibeasts are fragile creatures	Minibeasts	<ul style="list-style-type: none"> <li>» Inform pupils to be gentle when handling the minibeasts</li> </ul>	Teacher Greenkeeper
There will be other adults around the course	Pupils	<ul style="list-style-type: none"> <li>» Pupils to be told to report to the teacher if they have any concerns</li> </ul>	Teacher Greenkeeper
Open-water hazard (if applicable)	Pupils	<ul style="list-style-type: none"> <li>» Inform pupils that they must stand back from the edge of the water and not try to enter the water</li> <li>» Ensure there is adequate supervision of pupils near water</li> <li>» Ensure that rescue devices are present</li> </ul>	Teacher Greenkeeper

