

# KS3 Biology

Name:

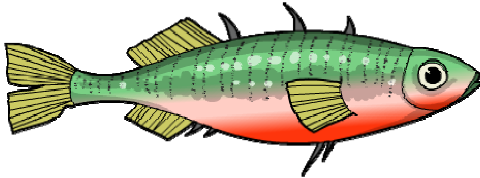
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## Worksheet One

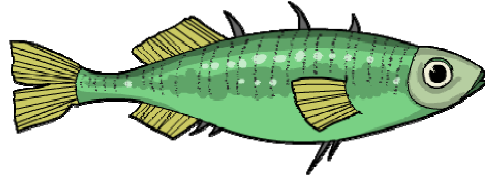
This worksheet accompanies slide 9 of *Animal Behaviour.ppt*

### The three-spined stickleback

Complete the activities below...



male



female

**Three-spined sticklebacks** are fish that live in freshwater lakes and streams in the UK. When the male is ready to mate his belly goes red. A male stickleback will attack other males that invade his territory.

### Part 1

1. Male sticklebacks show aggressive behaviour when they encounter other males.

How might this behaviour be an **advantage** to the stickleback?

Tick the appropriate box:

It could decrease the stickleback's food supply.	<input type="checkbox"/>
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It could decrease the competition for a female in the territory.	<input type="checkbox"/>
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It allows the sticklebacks to avoid predators.	<input type="checkbox"/>
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It helps the sticklebacks to change with the environment.	<input type="checkbox"/>
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2. How do you think a stickleback knows when a male (and not a female) is near?

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Nikolaas Tinbergen, a scientist studying sticklebacks, noticed that a male stickleback in his aquarium always behaved aggressively when a red truck passed the tank.

3. The male stickleback was responding to the colour of the truck. Do you think this response to the colour red is an innate response or a new learned response?

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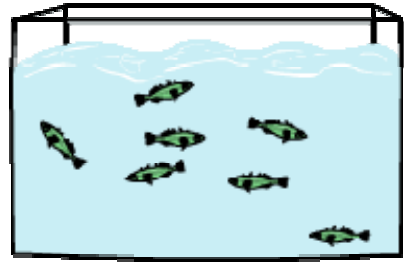
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4. The scientist Tinbergen suggested that “sticklebacks will respond to anything red”.

Design an experiment to test this.

You have been given the following equipment:

- fish tanks
- male and female sticklebacks
- coloured paper
- pencils
- scissors



Write a step by step account outlining how you would carry out this experiment.

Think about what factors you should vary, measure and keep constant.

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## Part 2

The three-spined stickleback uses **courtship behaviour** to recognise and communicate with a female.

Using books and the internet find out more about the three-spined stickleback. Research the courtship behaviour of the stickleback, called the **zig-zag dance**, to complete the questions below.

a. Describe the stages of the zig zag dance:

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b. What is the stimulus for this behaviour in the male?

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c. Do you think this behaviour is innate or learned?

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d. How is courtship behaviour an advantage to the sticklebacks?

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