

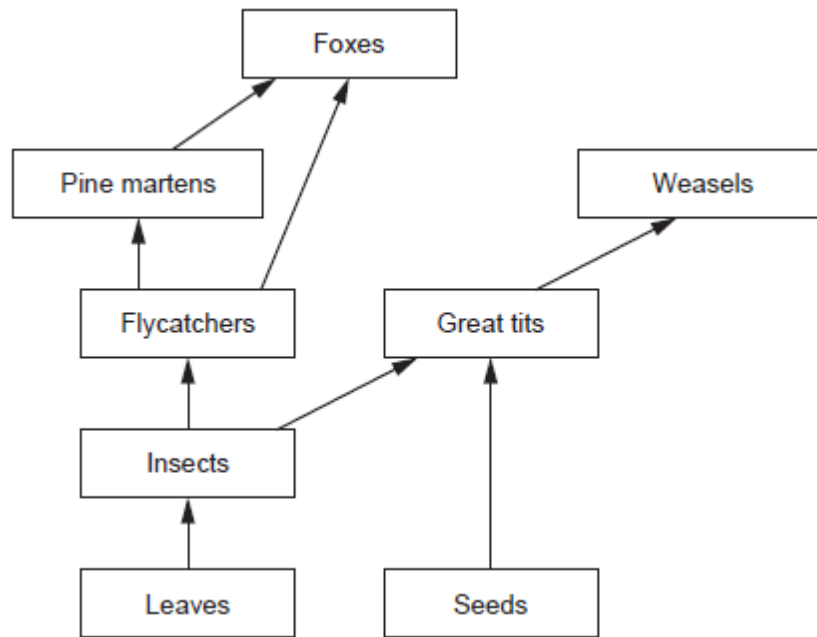
**GCSE Biology A (Gateway)**

**J247/04 Biology A B4-B6 and B7 (Higher Tier)**

**Question Set: 16**

1

The diagram shows part of a food web from a woodland.



- (a) (i) Great tits are described as both primary consumers and secondary consumers.

Explain why. *They eat both producers (seeds) and primary consumers (insects).* [2]

- (ii) Foxes are described as both predators and competitors of pine martens.

Explain why. *foxes hunt for food from lower trophic levels, so predators and compete with pine martens, to hunt and feed on flycatchers so competitors* [2]

- (iii) Which organism in the food web occupies the second trophic level? [1]

*Insects*

(b) Great tits and flycatchers are both birds.

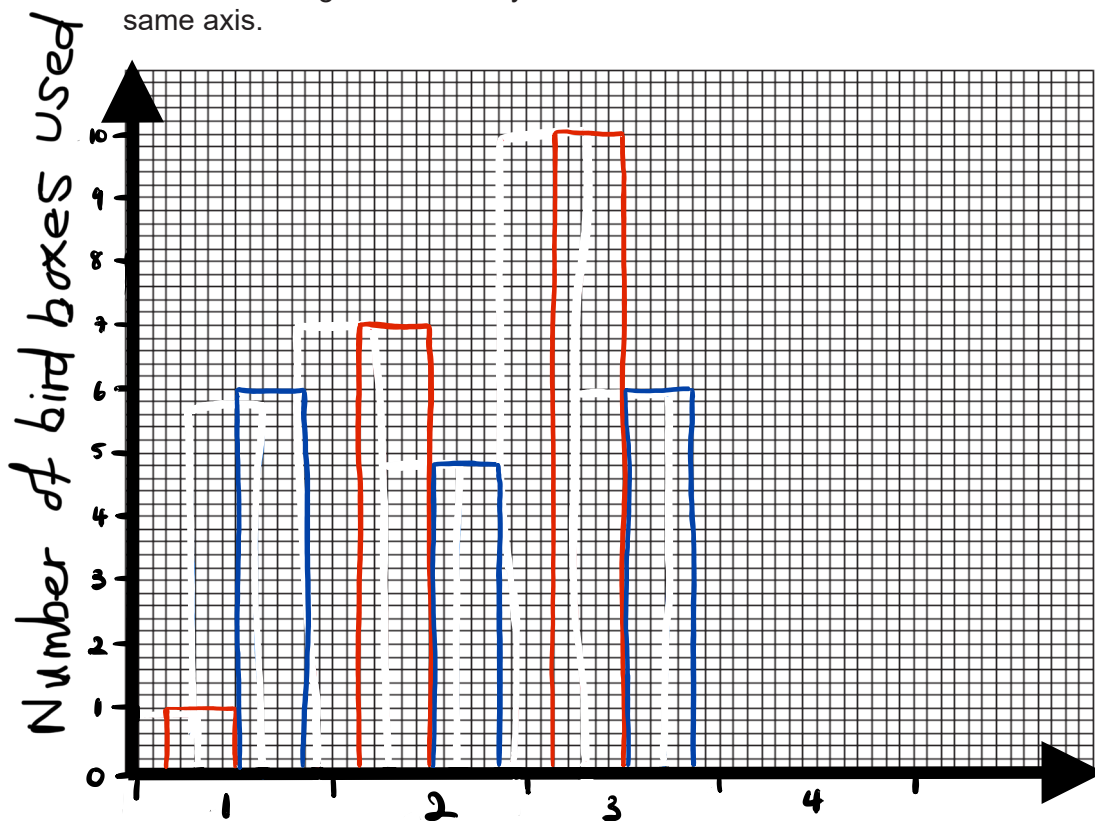
In a conservation project, scientists have built boxes for the birds to nest in. The scientists fixed the boxes on trees at different heights.

The table shows how many birds of each type used the boxes for nesting.

Height of bird box above the ground (m)	Number of bird boxes used	
	By great tits	By flycatchers
1	1	6
2	7	5
4	10	6

(i) Draw a **bar chart** on the graph paper to show the scientists' results.

The results for great tits and flycatchers should be on the same axis.



[4]

Height of bird box above the ground (m)  
w = by great tits  
m = by flycatchers

(ii) The food web shows:

- Weasels feed on great tits
- Pine martens feed on flycatchers.

Weasels live on the ground but pine martens live in trees.

How can this be used to explain the results of the scientists' investigation?

There are more great tits than flycatchers at greater heights. This is because weasels are predators of great tits and they live on the ground. So great tits stay away to avoid being hunted<sup>[3]</sup> and eaten,

**Total Marks for Question Set 16: 12**

so lives higher up the tree to increase the chance of survival.

Even distribution of flycatchers on trees as pine martens & flycatchers both live on trees so distribution independent from height as equal chance of getting eaten

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