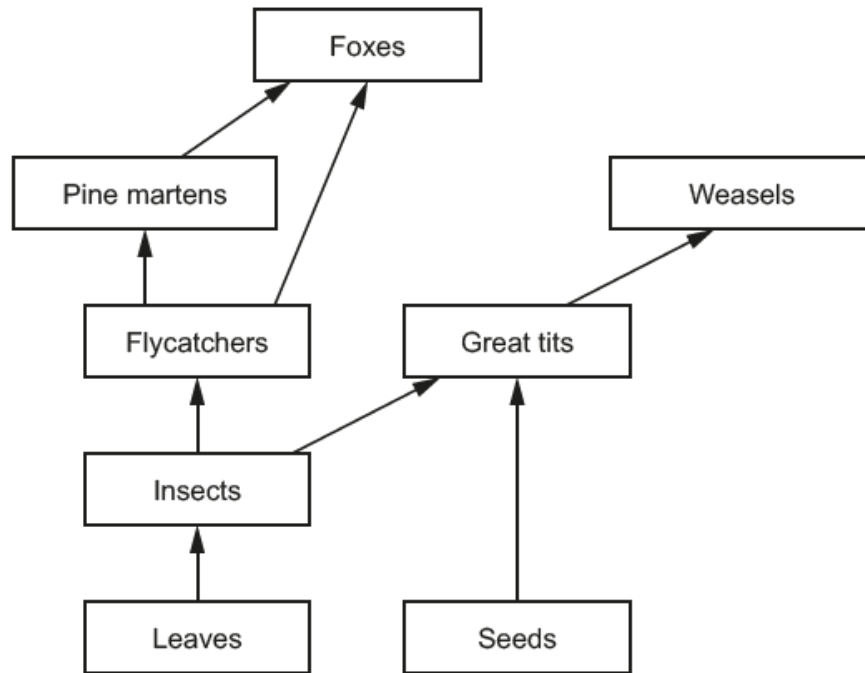


GCSE Biology A (Gateway)

J247/02 B4-B6 and B7 Foundation (Foundation Tier)

Question Set 23

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 feed of seeds, but also insects which are consumers of leaves. (primary) [2]

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

Explain why. foxes eat pine martens, but share the flycatchers as a food source with them, so must compete for them. [2]

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

Insects

[1]

(b) Great tits and flycatchers are both birds.

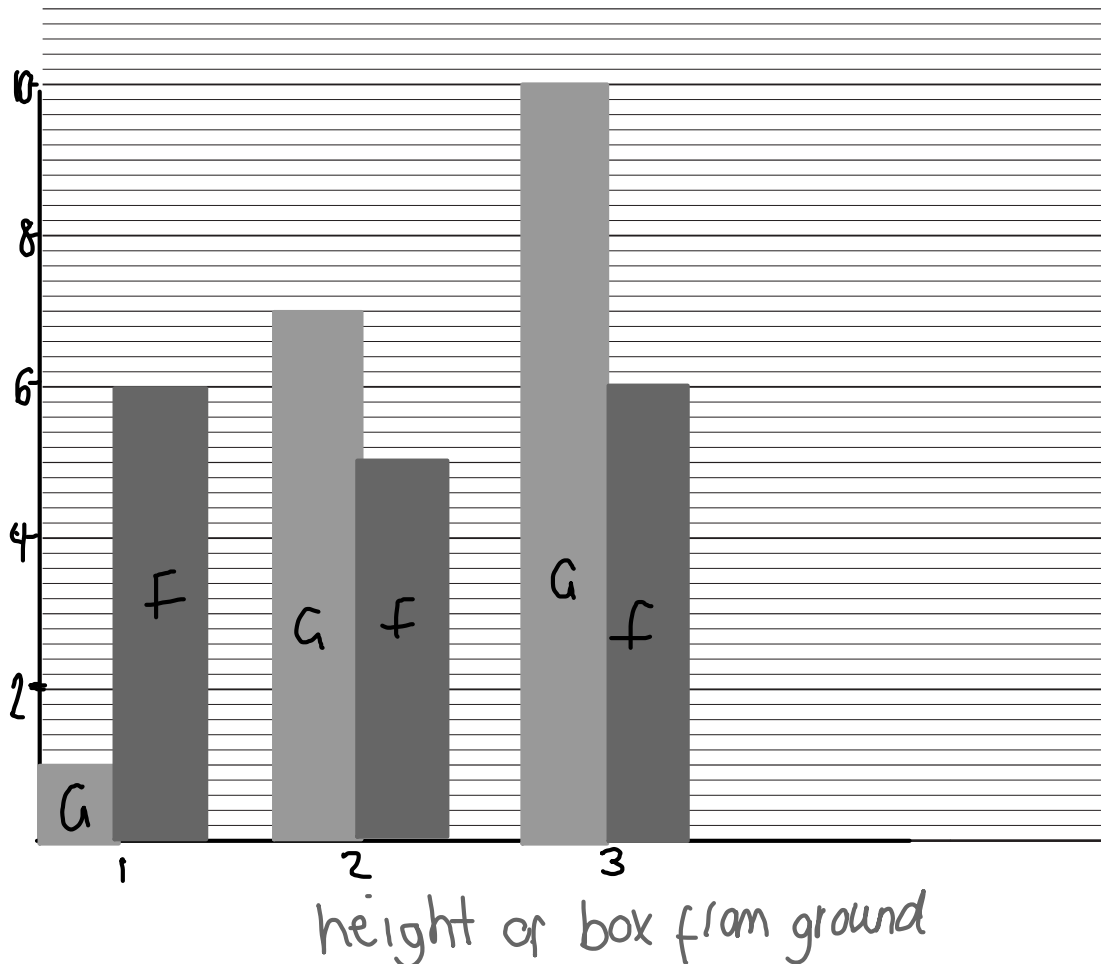
In a conservation project, scientists have built boxes for the birds to nest in. The scientists fixed the boxes on trees at different heights.

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]

(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?

[3]

Great tits are prey of the weasel, and since weasels live on the ground, great tits prefer to live higher up in the trees where they are safer. Hence why most live 2 or 4m from the ground. (so more bird boxes used) ^{for survival}

flycatchers live in trees just like their predator the pine marten, so how high from the ground they nest is insignificant. Hence why they are quite evenly spread through the tree, for safety in numbers, and to reduce intraspecific competition.

Total Marks for Question Set 23: 12

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