



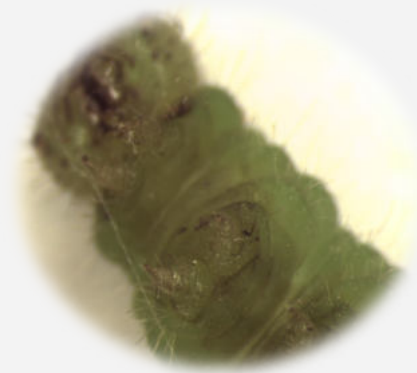
Adaptations in caterpillar movement behaviour

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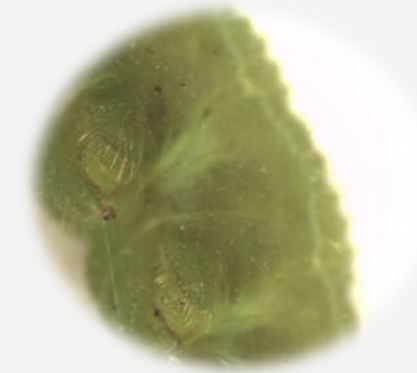


UK Centre for
Ecology & Hydrology

- They have lots of muscles in their body to help them move
- Caterpillars have six legs with tiny claws that they use for gripping onto things like leaves
- They also have some structures that look like legs; called prolegs
- Prolegs are not real legs, but the caterpillars can use them to grip tightly onto things
- Caterpillars move around using their legs and prolegs

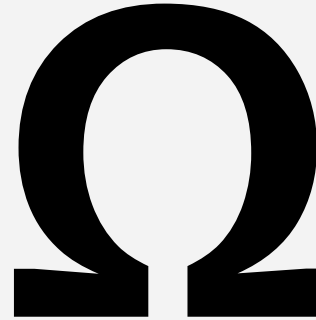


Caterpillar legs



Caterpillar prolegs

- Different types of caterpillars move in different ways
- Some types of caterpillars move using **inching behaviour**:
 - ❖ When caterpillars move in this way their body shape looks like a loop
- Larger types of caterpillars move using a **crawling behaviour**
- Caterpillars have 12 eyes, but they cannot see very well. When moving a caterpillar might lift its head and move it from side-to-side. They do this to help them to judge depth and distance



Inching behaviour:
Caterpillar body shape



Caterpillar
eyes

- The length of time that a caterpillar can survive without food can depend on how large it is:
 - ❖ Larger caterpillars tend to move faster than smaller caterpillars
 - ❖ Larger caterpillars can therefore travel longer distances more quickly, and find a new food plant faster.
- Insecticides can have unwanted side-effects such as:
 - ❖ Affecting how well the caterpillar can move to find food, or a safe place
 - ❖ These unwanted side-effects can cause a drop in the number of caterpillars that survive to become adult moths or butterflies

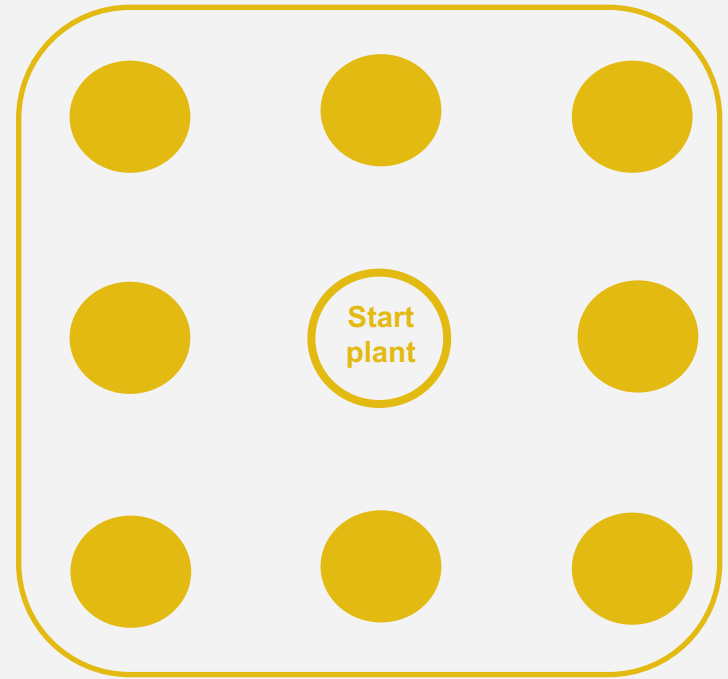


Caterpillar footprints!

- Scientists have found that caterpillar food searching behaviour changes depending on:
 - ❖ how the caterpillar's food plants are positioned in the habitat
 - ❖ how far the caterpillars need to travel to reach new plants
 - ❖ how easy it is for the caterpillars to find these plants
- This is a behavioural adaptation to help caterpillars to find new plants to eat, grow and survive to become adult butterflies or moths

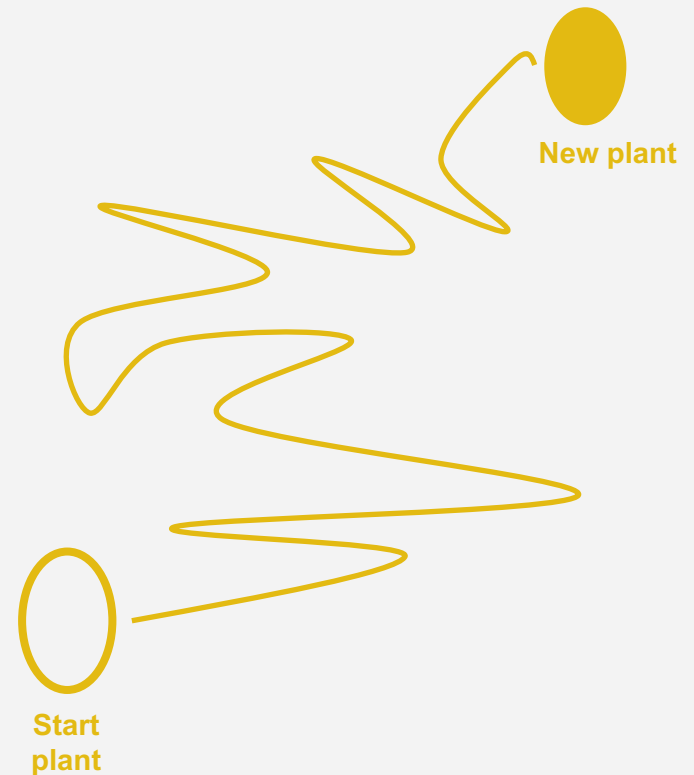


- When caterpillar types live in habitats like Habitat A in the picture:
- ❖ There are plenty of plants available for them to eat
- ❖ The plants are easy to reach because they are not too far away for the caterpillar to move to
- ❖ The plants are easy for the caterpillar to find quickly



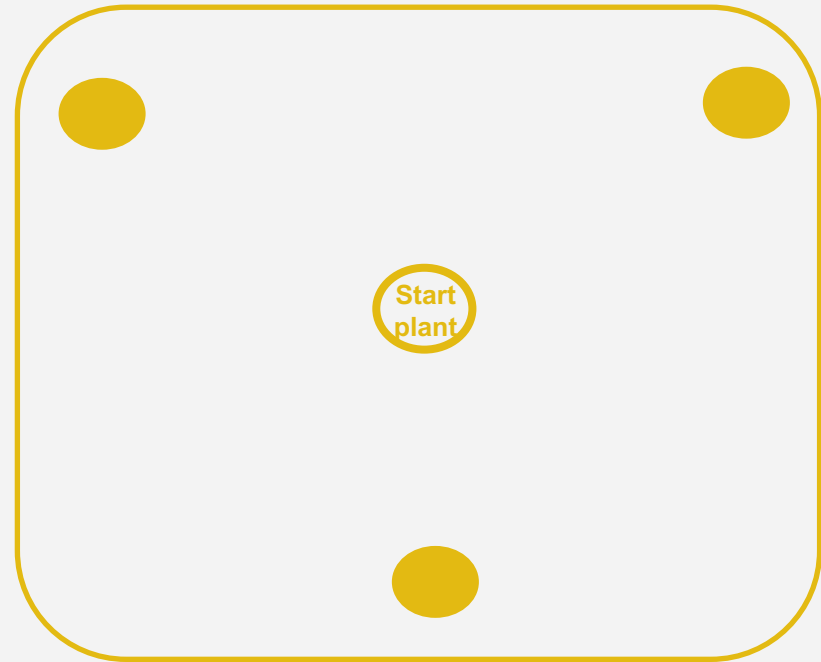
Habitat A

- These caterpillar types have a searching behaviour where they:
 - ❖ move slowly, turn to change direction often, and do lots of head waving
 - ❖ This type of slow careful moving helps the caterpillar to very carefully search a small area, and find a new plant that is close by
 - ❖ Some types of caterpillar also use this type of searching behaviour when they are not hungry and do not need to rush to find food



**Caterpillar searching
behaviour in Habitat A**

- When caterpillar types live in habitats like Habitat B shown in the picture:
- ❖ There are not many plants available to eat that are close by
- ❖ Plants are far away and take a long time to reach
- ❖ They are not easy to find quickly



Habitat B

- These types of caterpillars have a searching behaviour where they:
 - ❖ Move quickly
 - ❖ Turn and change direction less often
 - ❖ Move in straighter lines, and don't do head waving
 - ❖ This searching behaviour helps caterpillars to move faster, cover longer distances and quickly find a new food plant that is far away
 - ❖ Some types of caterpillar also use this type of searching behaviour when they are hungry and need to find food quickly

