

Key Area 5—Symbiosis

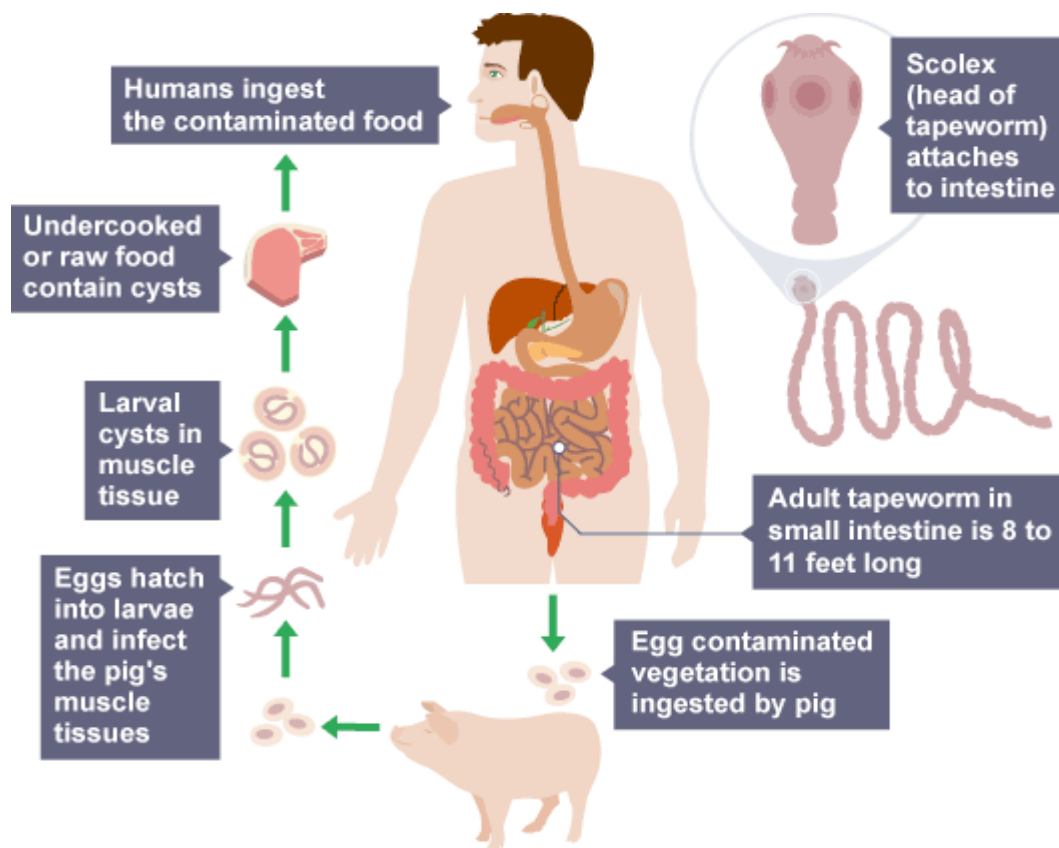
Symbiosis describes the co-evolved intimate relationships between members of two different species.

There are 2 types;

1. Parasitism

In a parasitic relationship the parasite benefits in terms of energy or nutrients whereas the host is harmed by the loss of these resources.

- Parasites often have a **limited metabolism** and **cannot survive outwith the host**.
- Parasites can be transmitted by **direct contact**, **resistant stages** and **vectors**.
- Some parasites require a **secondary host** in order for them to **complete their lifecycle** eg. Tapeworm.



2. Mutualism

In mutualism **both partners benefit** in an interdependent relationship.

Rhizobium are a type of bacteria that live in the roots of legumes and fix nitrogen, which the plants need in order to make protein. In return for the nitrogen, the rhizobium get carbohydrates from the plants. Both the bacteria and plant benefit in this relationship.

