

#### **Boardworks High School Science**



# Energy Loss in Food Chains

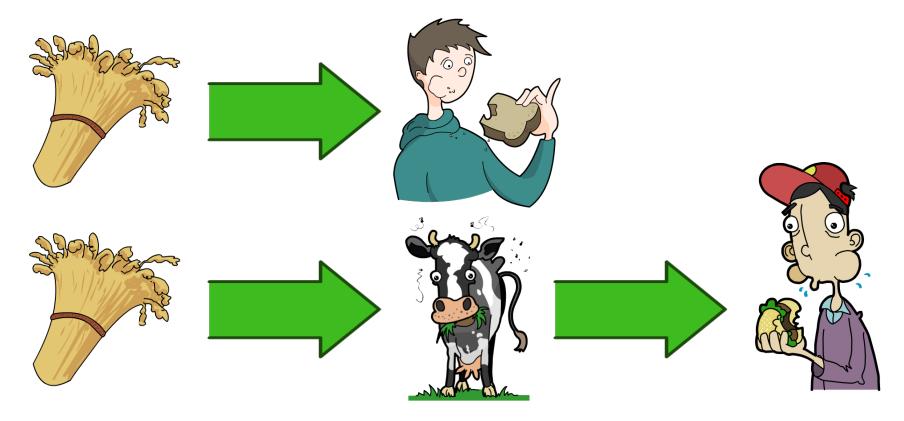




### How energy efficient is it to eat meat?



Food chains can be used to understand why some foods cost more than others. Which of these chains is the most efficient?



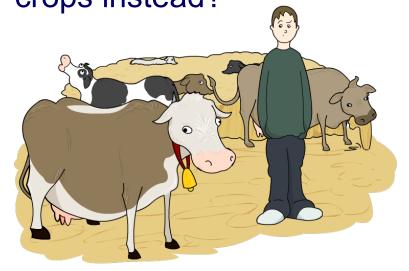
The first food chain is the most efficient because it contains fewest trophic levels, so less energy will be lost.

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## Is eating meat less energy efficient?



Cattle and other livestock are fed grain and cereals. Would it be more energy efficient if humans ate the plant crops instead?



If a one-acre field of corn is used to feed cows, it can support one person.

If the same area is used to feed humans directly, it can support 10 people.

Why is so much energy lost?





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# Why do some animals need more energy?



Mammals and birds are able to regulate their body temperature. This has many advantages, but it uses lots of energy.

Other animals, such as snakes, lizards and fish, are unable to regulate their body temperature, so need less energy.

Would it be more energy efficient to farm snakes for food than chickens?

