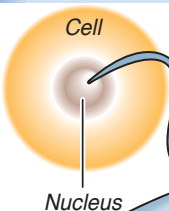


# Jurassic Park – fact or fiction?

The kernel of science fact at the centre of Steven Spielberg's science fiction spectacular 'Jurassic Park' is the discovery that DNA can be recovered from prehistoric insects entombed in amber. If it is possible to recover fossil DNA how feasible is it to clone a living dinosaur today?

## 1. Is it possible to find dinosaur DNA?

When dinosaurs dominated the earth – over 65 million years ago – blood-sucking insects may have fed on their blood. If so, insects found entombed in fossilised amber could contain dinosaur blood cells and thus the DNA, the genetic blueprint, of a dinosaur. **The oldest DNA extracted to date is from a beetle trapped in amber about 135 million years ago**



## 2. How much DNA is needed?

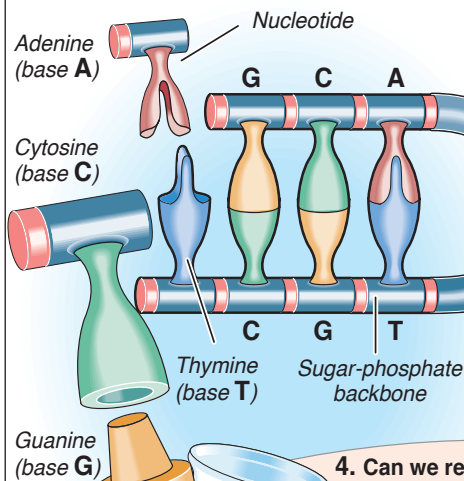
To create a clone of a dinosaur, DNA extracted from the fossilised insect's stomach must contain the complete genetic blueprint – the genome

This genome has long ago been broken into fragments by the action of enzymes, ultra violet light and cosmic radiation

DNA strand from nucleus of cell

## 3. Can the genome be re-assembled?

The genome consists of thousands of millions of units called nucleotides which each carry one of four bases identified by the letters A, T, C and G. **These bases must be assembled in the correct sequence before the blueprint to grow an animal is complete**



## 4. Can we rebuild the total DNA sequence from just a fragment?

There is an extremely sensitive technique which can recover the sequence from a short fragment of DNA even if only one molecule remains intact. This is the Polymerase Chain Reaction. **We can only guess at the sequences of missing DNA**

**5. If we identify the genome can we make a dinosaur?**  
No – it is possible to synthesise a single gene (length of DNA) but to build a very large DNA molecule comprising billions of nucleotides is impossible at present

CGCTCGACTTCCAGGGGGGACTTC