Carboniferous Fact File

Dragonfly (*Meganeura*)
This dragonfly is one of the largest insects ever to fly; it had a wingspan of over 50cms!

A perfect predator
Its wings were heavily veined with many cross braces to strengthen them – not at all like the delicate wings of dragonflies today. The large eyes helped them to be excellent predators on anything else that dared to take to the air, and the spines on their legs helped them to keep hold of anything they caught. The sharp chewing mouthparts would make a quick meal of any smaller dragonflies, cockroaches or flies that didn't manage to escape.

A flying giant
Modern dragonflies are very similar to this giant, but even the largest of them never reaches this size. What has changed? One theory is that during the Carboniferous the concentration of oxygen in the air was higher, something that can be determined by analysing elements in rocks. The size of an insect is limited by how much oxygen diffuses into its blood from the outside world. If it becomes too big, then it will use oxygen faster than it can replace it, and so die. With a higher concentration of oxygen in the atmosphere, *Meganeura* was able to grow big enough to be a threat to almost any other insect around at the time.