The ARKive Darwin education materials cover a number of science subjects, such as variation, classification and keys, using Darwin and the voyage of the Beagle as the exploratory vehicle.

Included within the package are: an ARKive themed classroom presentation, classroom activities and links to additional ARKive internet multi-media resources. All the resources provided can be used alongside your existing teaching material, individually or as a complete set.

In addition, the ARKive website contains a wealth of multi-media that teachers can tailor to the specific needs of their individual teaching group. The educational material ARKive has put together is intended to give an idea of how ARKive can be used to help teach a variety of subjects.

The components of the ARKive animal classification education materials for 11-14 year olds are detailed below:

- **Class presentation**
  - o 11-14 year olds Classroom presentation – Darwin's Observations.ppt
  - o MyARKive scrapbook of images: Darwin's observations: www.arkive.org/darwins-observations

- **Animal classification - activity**
  - o 11-14 year olds Activity – Animal classification - classroom materials.ppt
  - o 11-14 year olds Activity – Animal classification - handout.pdf
  - o MyARKive scrapbook: Animal classification: www.arkive.org/animal-classification
  - o 11-14 year olds Activity – Animal classification – teacher's notes: see below

11-14 year olds Activity – Animal classification – teacher's notes

Part 1 – Answers

1. Mammal – endothermic (warm blooded), hair, internal fertilisation and development, suckles young
2. Bird – feathers, wings - though flightless, lays hard shelled eggs, beak - no teeth, internal fertilisation, endothermic (warm blooded)
3. Reptile - scaly skinned, exothermic (cold blooded), internal fertilisation, lays leathery shelled eggs
4. Bird - feathers, wings, lays hard shelled eggs, beak - no teeth, internal fertilisation, endothermic (warm blooded)
5. Amphibian - moist skin, lacks scales, external fertilisation, lays eggs moist environment, adult has lungs, tetrapod - often with webbed hind feet
6. Mammal – endothermic (warm blooded), hair - is visible on photograph, internal fertilisation and development, suckles young
7. Crustacean – hard exoskeleton, two pairs of antennae and one pair of mandibles – pinchers used for handling and processing food
8. Mammal – endothermic (warm blooded), hair, internal fertilisation and development – although the platypus is evolutionary distinct mammal and lays eggs rather than giving birth to developed young, suckles young
9. Mammal – endothermic (warm blooded), hair – though not often obvious for cetaceans, internal fertilisation and development, suckles young

Supported by:

10. Reptile - scaly skinned, exothermic (cold blooded), internal fertilisation, lays leathery shelled eggs, tortoises have carapace/shell

Part 2 – Answers

1. Number 7 is the invertebrate, it has a hard external skeleton (exoskeleton)

2. In danger of becoming extinct due to threats such as competition, lack of habitat, human encroachment, hunting etc

3. Explorers throughout the last few centuries, and whalers in the 19th century, collected Galapagos giant tortoises when they passed the islands to use as food for their crews. Today, the greatest threats to the remaining tortoises come from introduced species, such as dogs, cats and rats which predate on juvenile tortoises before their carapaces harden.

4. Goats compete with the tortoises for the vegetation which they eat.

5. Predators hunt, kill and eat other animals. The puma is well adapted to life as a predator, it is powerful and extremely agile. Unusually long back legs are thought to be an adaptation to bursts of high-speed running and jumping used to chase and ambush prey. It also has powerful teeth and jaws and acute senses to locate prey.

6. The legs of the greater rhea are long and powerful, with strong toes, and are adapted for running and for ranging over large distances. It is capable of reaching speeds of over 60 kilometres an hour, and, perhaps surprisingly, is also a good swimmer.