Adaptations 1

Starter

- Show photos of some animals that are found in Orkney. Ask the class on whiteboards to choose an animal and say why is it very good at living where it lives? Does it have special teeth or claws. Does it have special eyes?
- How did these animals end up being so good at living where they do? Did it just happen or is there something else going on?
- Introduce the terminology– evolution, adaptation, inherited and non-inherited.
- Explain that today the class will be conducting an experiment into inherited characteristics using paper airplanes.

Activity

- Using the scientific method, students model the process of evolution by artificial selection to test and select the most efficient paper plane in controlled conditions.
- In groups of four. Students make 10 random paper planes and assess the "best" design. They will then make 10 variations on this design and repeat the process. Students can repeat this process as many times as they like to create the ideal paper plane using the paper provided. Some students will need to be guided to decide what parameter they are going to judge the best paper plane on: time of flight, distance travelled, or any other logical measurement.
- Students will present their finding as an extended response which will outline the process of the investigation and the results, including what evolution is and what was learnt about creating artificial representations to model evolution. They need to analyse how their activity models the process of evolution.
- In lesson two produce a scientific report including methodology and results to show their findings from the experiment

Plenary

- Discuss the raw findings of their experiment.
- Did the evolution of their planes improve them?
- Can they explain an adaptation that their plane had?

Extension idea

- How might adaptations not help an animal or plant? Think about climate change and changing environments. Animals fill a niche and when that niche rapidly vanishes what impact does this have?