

Biology

Beaky feeding frenzy

(Ireland and Denmark)

Background:

This game activity involves students choosing a 'beak' type (forceps, clothes pegs, bulldog clips, spatulas etc.) and being timed to see how many food items they can collect from a pool of mixed food (beans, rice, rubber bands etc.). The food types can then be changed or restricted to see which beak type is best adapted to the available food. The activity illustrates adaptation.

You will need:

For each group:

- ✓ As beaks: fine forceps, clothes pegs,
- ✓ tongs, bulldog clips,
- ✓ As food types: dried beans, rice,

- ✓ dried pasta, elastic bands.
- ✓ Cups or beakers
- ✓ Stopwatches

Follow these steps:

1. Students work in groups of four. Each student chooses a beak type (forceps, clothes peg etc.)
2. Each student is given 30 seconds to collect as many food items as possible by putting them singly into the cup (the bird's 'stomach'), using only the beak they chose.
3. The data is recorded in a suitable table and repeated for different food types. Averages are calculated and displayed on a bar chart.
4. The process is repeated using an equal mixture of different food items.

So what happened?

If food items are not replaced between each student's turn, a food shortage scenario can be developed, in which any bird that doesn't collect a minimum number of food items dies off.

Surviving birds can also reproduce. Offspring with the same beak can then join the group of feeding birds and take a turn. Beaks that are suitable for collecting more than one type of food may have an advantage over a beak that can very efficiently collect only one food type.

What next?

- Data from each group can be compiled and displayed on a digital spreadsheet and bar chart using Excel or similar. Differences between groups in terms of beak success could be explored – certain individuals may have learned how to use their beak in a different way to collect a food type it didn't initially feed on. Some beaks could be used as hooks or scoops as well as pincers.
- There are some other versions of this activity on the internet, and there is plenty of scope for extending this activity, perhaps by creating a storyboard or a game.

