

# All About Birds

Investigation Data Sheet



## How Do Birds “Chew” Their Food?

Birds have a unique way of eating. In addition to their beaks, they have special digestive organs that help them break down their food. Birds store food in the part of their body called a crop, which sits at the end of their throats. They do not have any teeth. Instead, birds have a second stomach, called a gizzard, where tiny pebbles help them grind their food into a more digestible form.

### Objective

Conduct an experiment to show how a bird uses its beak, crop and gizzard to break down its food.

### Materials

- a heavy-duty plastic bag
- some aquarium gravel
- a pair of needle-nosed pliers
- at least 10 sunflower seeds
- 1 teaspoon of water
- an adult helper

**Safety Notice:** All applicable laboratory safety rules must be followed. Students should not perform any experimental activity without the teacher's supervision and express permission. Students must follow safety guidelines and wear appropriate protective gear.

### Procedure

1. Use the pliers to break open the shells of the ten sunflower seeds. Be careful. You may want to get the help of an adult with this step. A bird does the same thing to extract seeds or nuts from a shell, but instead of pliers, the bird uses the force of its beak.
2. When you're done breaking open the seeds, throw the empty shells away and place the seeds inside the plastic bag. Add one teaspoon of water to the bag and allow them to soak for thirty minutes. As the seeds soak in the water, they'll soften. This is similar to the role a bird's crop plays in the process. When a bird eats a seed, it temporarily holds the food in its crop, located at the front of its neck. The crop will soften the seed before passing it farther along in the digestion process.
3. Add some aquarium gravel to the wet seeds in the plastic bag. Place the bag between the palms of your hands and rub them back and forth so that the gravel grinds against the seeds inside the bag. Do this for a few minutes. After birds use their strong beaks and crop to break apart and soften their food, the food is passed along to the gizzard. The gizzard contains small pebbles that grind down the food into more digestible pieces.
4. Empty your bag. You'll see that the seeds have been ground into mush by the stones. This is how birds “chew” their food.

## Conclusions

- Explain how a bird's digestive system is like a human's digestive system. How is it different?

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- Why do different species of birds have different kinds of beaks?

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- In what other ways do birds use their beaks?

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