Observing

Invite students to come to the tables with bird food. Tell them what you have prepared for them.

Which foods are good for birds?

Natural foods are suitable for birds – foods that they obtain themselves in nature: nectar from flowers, small insects, worms, aquatic plants, seeds, larvae, and small animals.

Birds do not eat the bark of trees, leaves, or (pine) cones. Our processed, salted, sweetened and preserved food is unhealthy for them. That is why, for example, if we want to feed birds in winter, it is worth preparing some cereal grains or shredded vegetables, but not bread and rolls.

Analyzing

Students will view the "nests" to which they have carried food. Students will match appropriate species of birds to the tools they have used. They should justify their choices.

1. Food in the form of nectar can most conveniently be collected with a dropper.
That is how a **hummingbird** collects food. A hummingbird is small and is not able to store a large amount of food, but like some smaller birds collects food that is energy-dense. The hummingbird sucks in liquid food using a long beak and tongue (a dropper sucks in liquids in a similar fashion). The hummingbird hovers in the air above a flower while collecting food – it is able to do so because its wings beat many times a second – 80 times.

2. Food floating in water is most conveniently collected using a tea infuser, which also fulfils the role of a strainer.
A mallard (duck) collects food in a similar way, capturing small invertebrates and aquatic plants. **Water birds – ducks and swans** – are members of Order Anseriformes (waterfowl): on the edges of their beak they have thin plate-like structures that serve to filter food and let out water. These protruberances somewhat resemble very small alligator teeth, but they are not teeth. They make up a sort of sieve at the edge of the beak. These protruberances are called lamellae. If a duck did not filter out water through these lamellae, it would probably choke.

3. Food concealed in the bark of trees or in cones is most conveniently collected with tweezers.
A woodpecker picks out insects and larvae from wood and also seeds from cones in a similar way.
A woodpecker has a long strong beak. Thanks to such a beak, it can bore holes, find insects and their larvae under bark, and can also drum (like a musician on percussion) – on branches, wood knots, and sometimes even on road signs and gutters. Woodpeckers need old trees, since it is easier to bore into them and find insects. Woodpeckers prepare so-called anvils – cracks in bark, in which a cone can be placed so that the seeds can be pulled out of it. In order to find an insect in the cone, it has to tap it. It reaches its food because it has a very long tongue – as many as 3 times longer than its beak. It is sometimes referred to as a "tree doctor," because it eats parasites that can harm trees.

4. Food that is located on tree bark or on leaves is most easily collected using a hairpin.
The tit obtains food in a similar way, collecting insects and their larvae "from the surface of the tree," e.g., leaves, or the surface of the bark.
The tit has a small, cunningly designed beak. It is called a "tree nurse," because it doesn't perform surgical operations (boring), but collects caterpillars, which feed on leaves and fruit on the surface of trees – if it didn't eat these caterpillars, they would devour the fruit and leaves.

5. Food in the form of small animals is best collected with a staple remover.
The bald eagle has a similar, curved beak with which it catches small animals, e.g., rodents, and hares. These birds grab their prey with their talons (claws), whereas the beak only serves later to divide the food into small pieces for swallowing.

6.Grains can most easily be collected using pliers.
A sparrow has a similar beak and uses it to collect grain. It is broad and strong, and can hold a pip/stone or a hard grain, and easily split them.

Conclusions

Discuss the significance of the diversity of birds' beaks. You can ask auxiliary questions

The significance of the diversity of birds' beaks

Thanks to the diversity of beaks, different birds can eat different food. If they all had the same beaks and ate the same food, they could have a problem with obtaining it – they would compete for food and might start fighting for it, which could lead to the death of many birds. Currently, shortages of some kinds of food can occur, but then only those birds that feed on that particular type of food die (e.g., if there is a lack of flower nectar, only hummingbirds are threatened, and not birds that feed on grain, etc.). Thanks to the mentioned diversity, birds have different "seats at nature's table" – there is enough food for each of them and they do not have to steal it away from each other. They live in a variety of environments, are adapted in a way that is unique to them, and we can admire their diversity of forms.