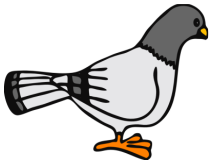
Name: _____ Date: _____

Life Science Period: _____

Vertebrates: *Birds*



bird beak adaptations

You can tell a lot about an animal just by looking at its anatomy. Gazelles and cheetahs, for example, both have long, slender legs that enable them to run incredibly fast. And speed is important: to the latter for chasing and to the former for running away. Similarly, the size and shape of an animal's mouth structure -- its jaws and teeth or its beak -- can suggest important information about another aspect of an animal's life: its food.

Bird beaks, in particular, reflect the variation not only in the types of foods these animals consume but in where and how they get their food. Some birds, for example, catch their prey in water. Stilts, herons, spoonbills, and oystercatchers wade in shallow water, searching for fish, crustaceans, and mollusks. Stilts and herons have long, pointed beaks to snatch fish they've spotted, while spoonbills move their broad, rounded beaks through the water to catch their prey by feel. As their name implies, oystercatchers eat oysters, clams, and mussels. Their beaks, not surprisingly, are very strong and stiff, enabling them to pry open mollusk shells and extract their contents in a matter of seconds.

The size of a bird's prey also presents tremendous challenges. Pelicans and bald eagles, for instance, both rely on the element of surprise, ambushing fish swimming just below the water's surface. The pelican typically dives into the water from great heights and uses its gaping mouth and the pouch at the base of its lower jaw as a fishnet. When it surfaces, the bird tips its beak down to drain the water out, and then up to swallow the fish whole. Bald eagles also grab fish just below the surface but do so with the sharp talons on their feet instead of with their beaks. Because the eagle's prey is often too large to swallow whole, it uses its sharp, hooked beak to tear off bite-sized strips.

Some bird beaks, like those of the woodpecker, the flycatcher, and the bunting, are pincer-like, perfect for grasping tiny objects (usually insects) with great precision. These beak types are specialized further still, relative to each bird's method of foraging. The woodpecker's beak is tough and chisel-like, enabling the bird to excavate holes in trees in search of insects inside. The flycatcher's beak is long, with a slight hook at the tip and flanked with stiff hair-like feathers, all of which help the flycatcher capture insects on the wing. The bunting's beak is less specialized. It allows this species to eat a wider variety of foods, including insects and seeds.

The beak of the crossbill is one of the most specialized of all bird beaks. The upper and lower portions of its beak are curved in opposite directions and cross each other when the beak is closed, making the bird look deformed and the beak unusable. This shape, however, is perfectly suited to prying open the cones of conifers for the seeds they contain. (source: www.teachersdomain.org)

For each bird that is presented on the screen, work with your tablemates to describe the beak of the bird and predict what the bird may eat.

Bird #	Description of Beak	What do you think it eats?
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		