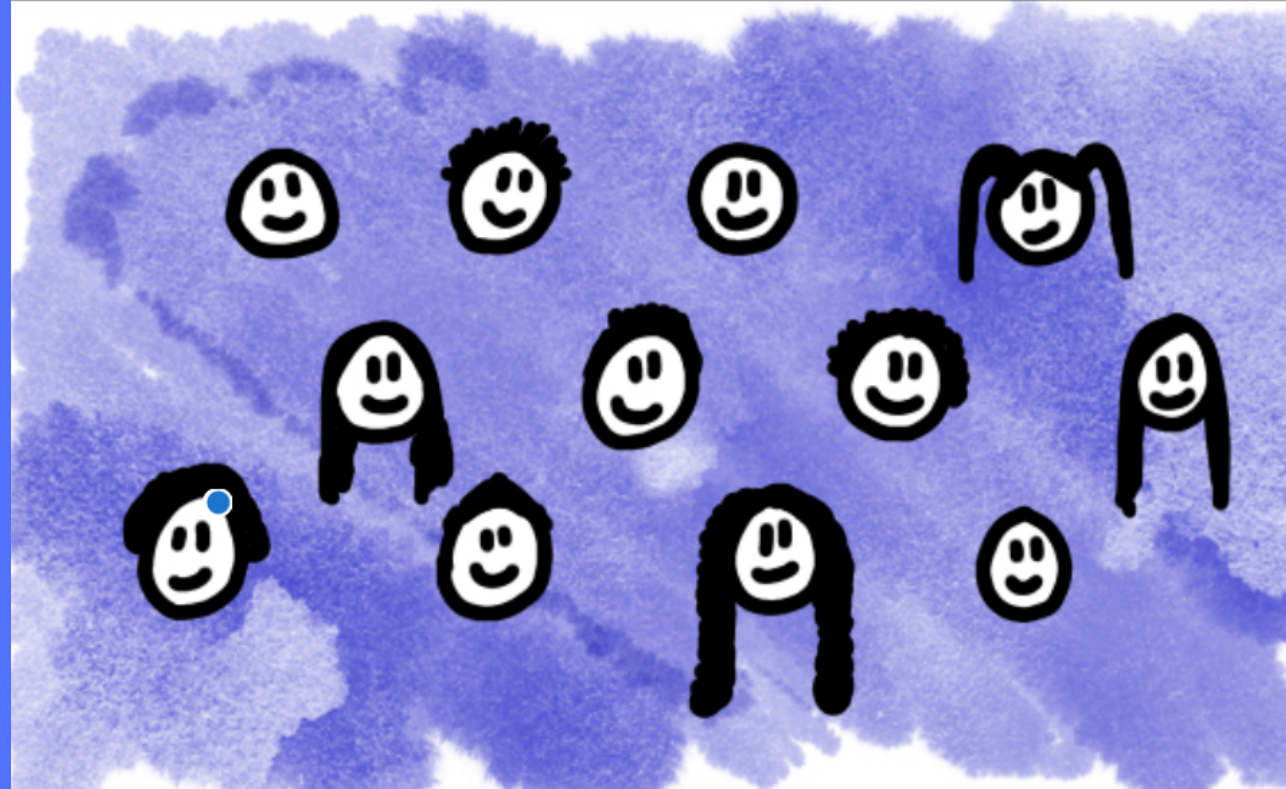


Darwin's Finches: Explaining Speciation

Speciation explains how many unique species develop from one original species

Let's start with an example!

Imagine a class of people in one classroom:



When lunch time comes, these students are **separated** into two lunchrooms



One lunchroom is serving **soup**...



The other lunchroom is serving **steak**

People in the soup room would have a hard time eating with a fork



While those in the steak room would have difficulty eating with a spoon



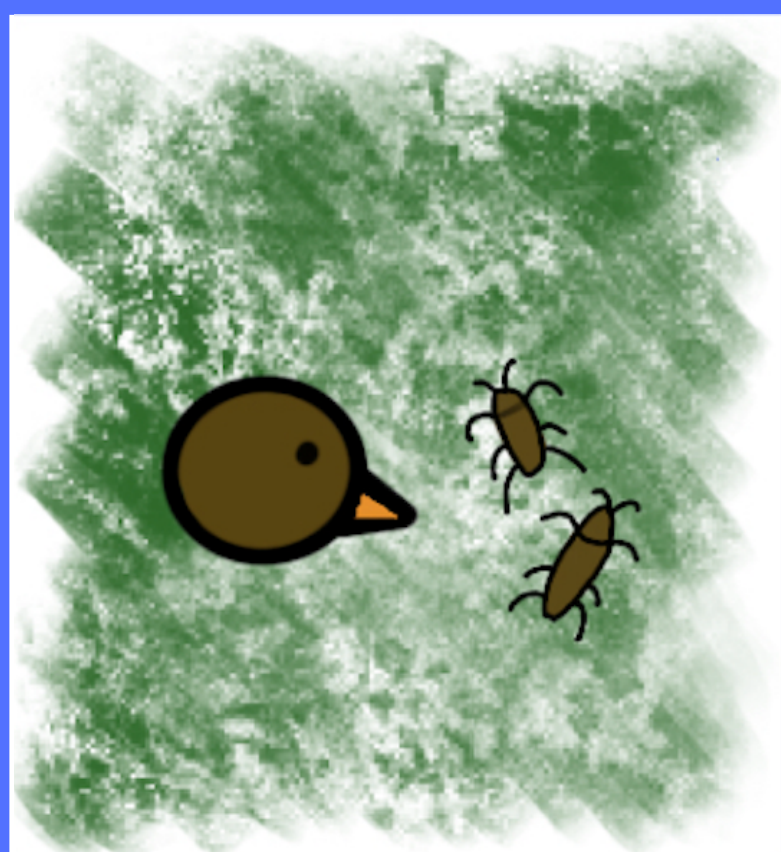
The only way these people can eat enough to become strong and healthy is if they have the **tools** that are useful in their *specific environments*!

So what do kitchen utensils have to do with birds?

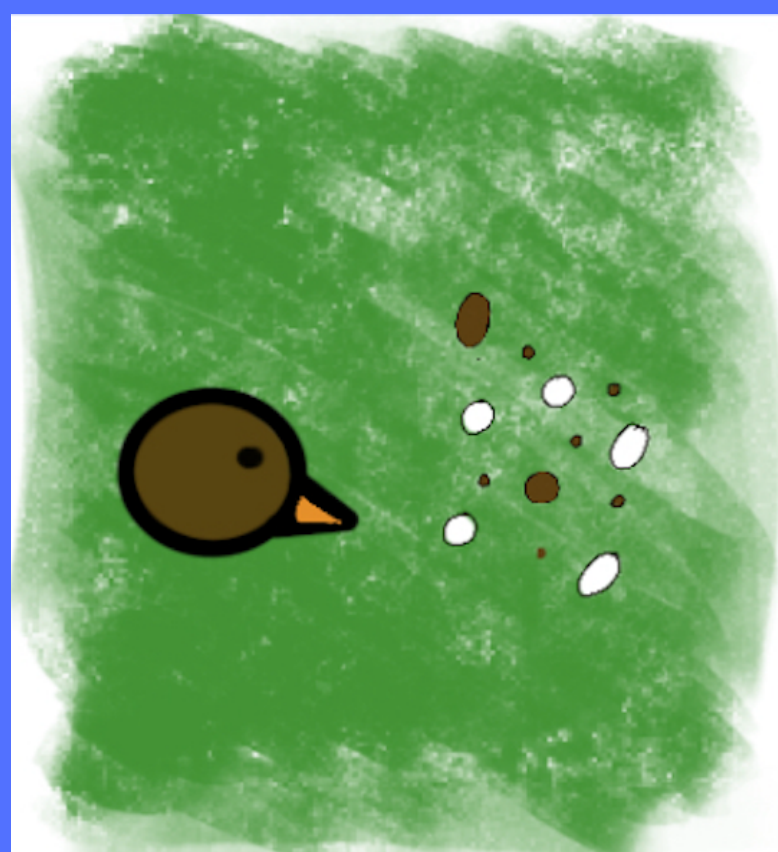
Millions of years ago, many birds of **one species** set off from their mainland and settled on different islands in the Galápagos



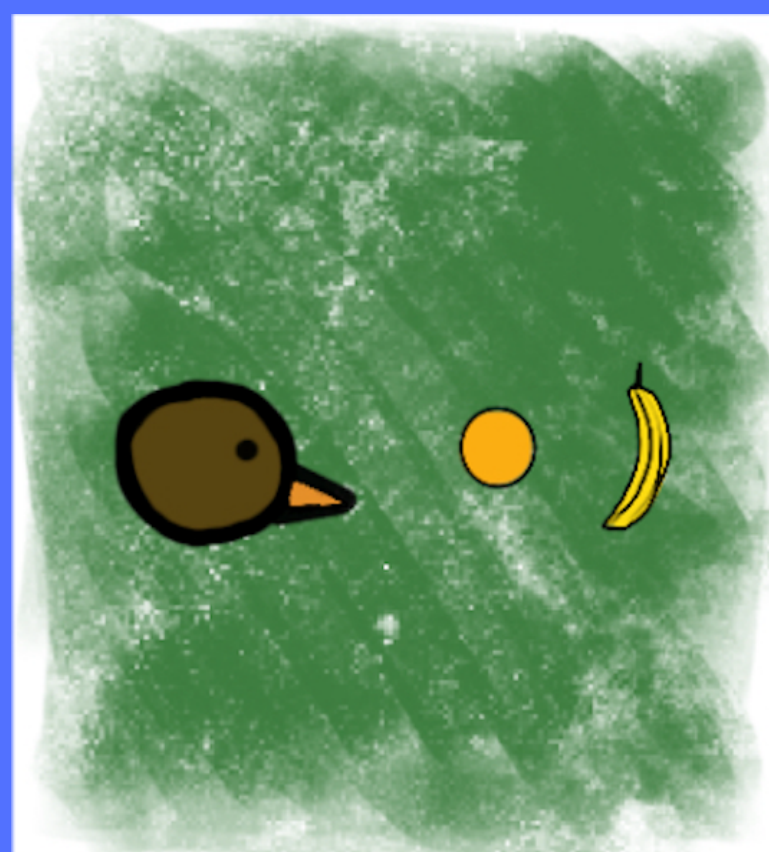
these islands had **different environments** and sources of food



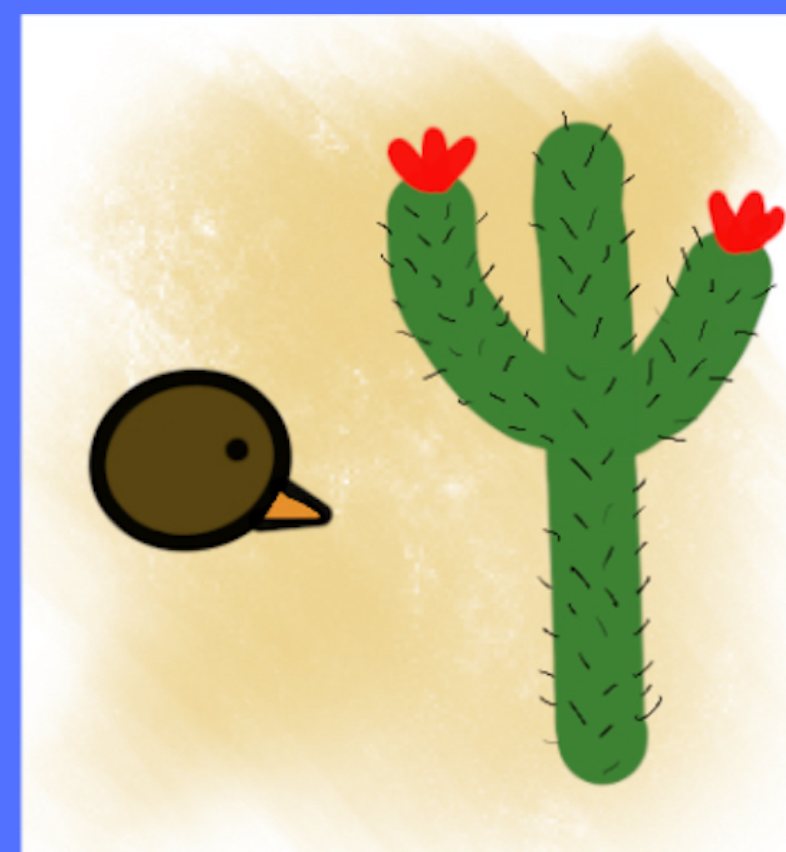
Insects



Hard nuts and seeds

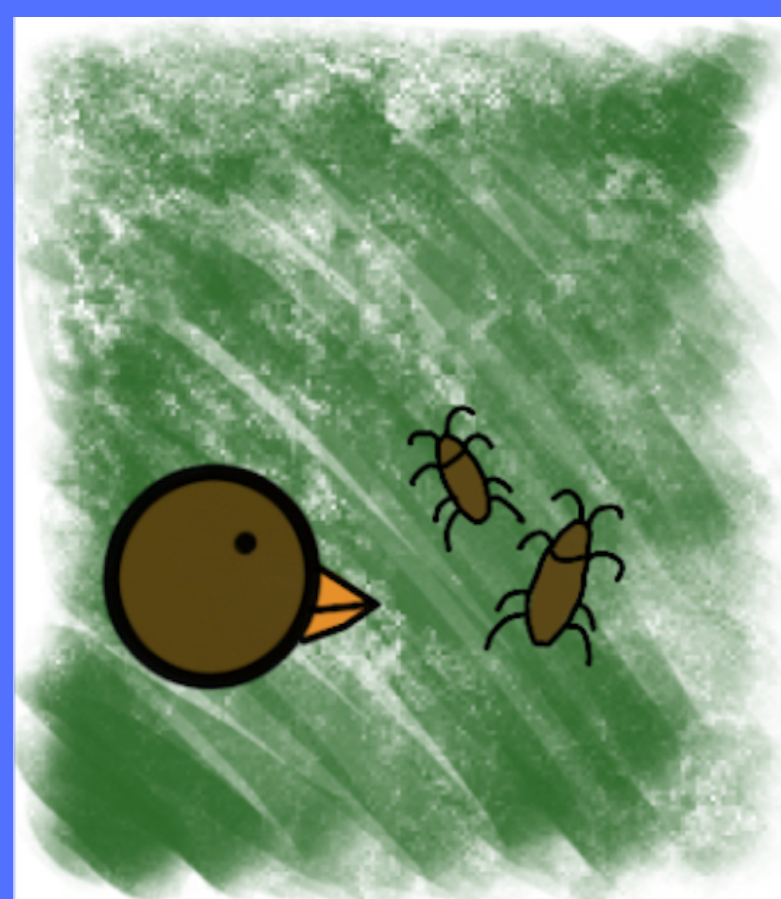


Fruit

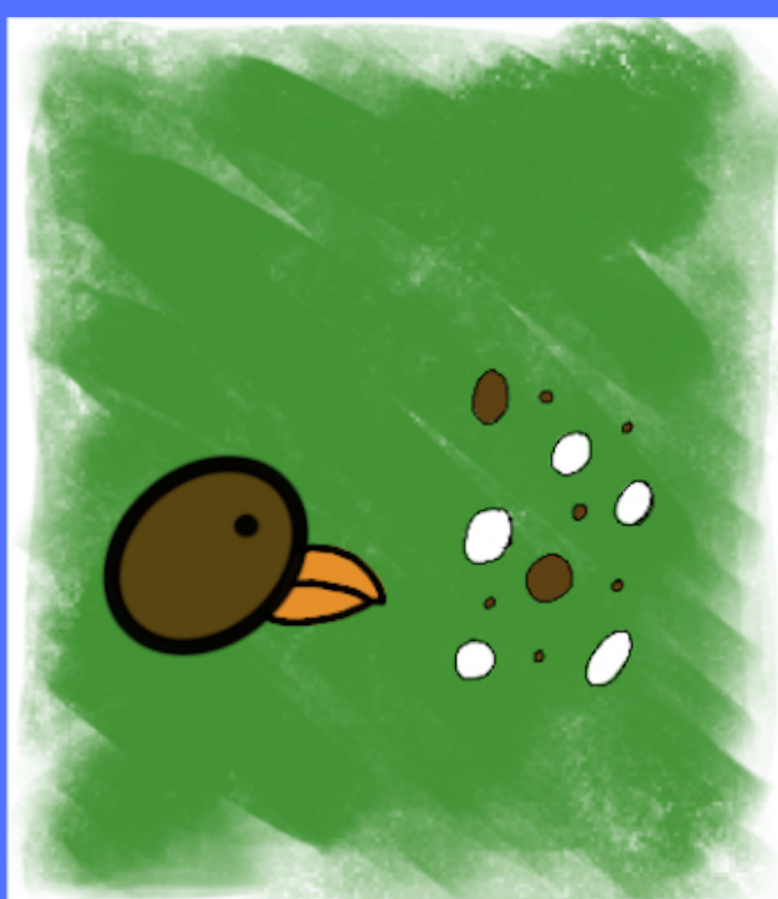


Cacti

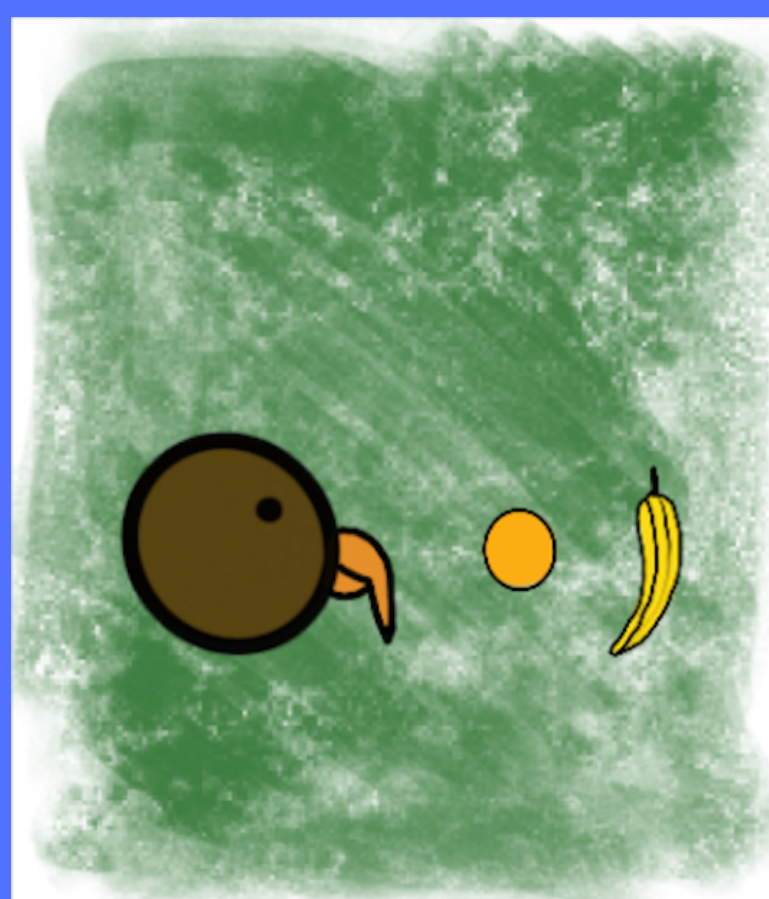
Just like the students in their lunchrooms, birds need the **proper tools** to eat their food *specific to their environment*



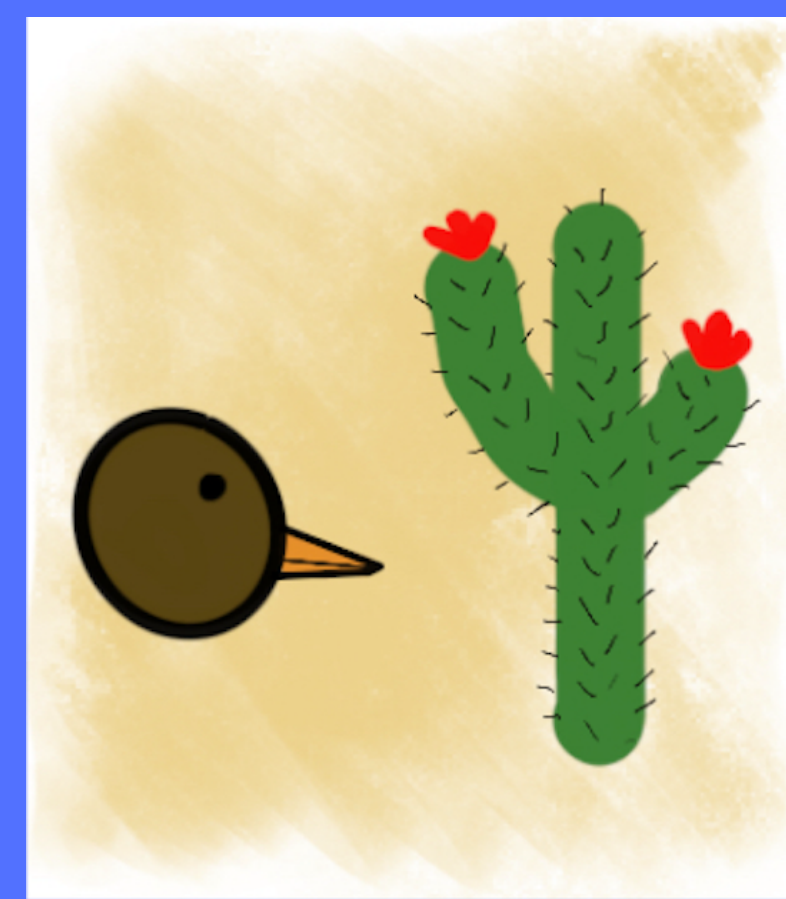
Medium Beaks
to quickly grab and hold insects



Large Beaks
to crack hard nuts and seeds



Parrot Beaks
to use the sharp hook and peel fruit



Long Thin Beaks
to reach the inside of cactus flowers without being poked

These characteristics developed over millions of years to allow the birds to thrive in their *unique environments*, leading to the creation of many species from only **one** originally.

This is the concept of **speciation**!

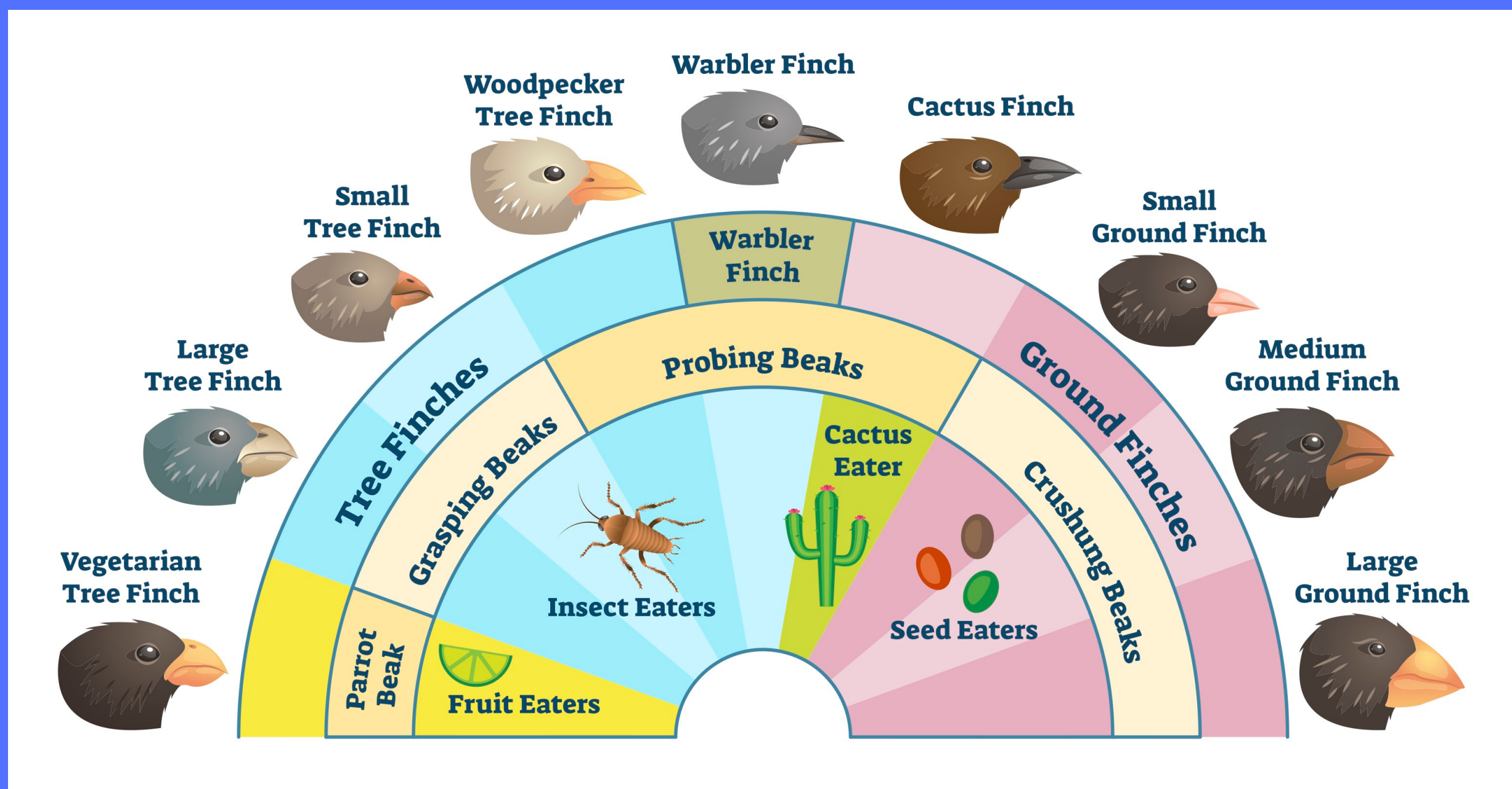


Photo Credit: VectorMine/Shutterstock.com (1)

Just look at all these bird species that evolved from the same **single species**!

Congratulations! You have now learned about the concept of **speciation**, where one species evolves into many new ones due to being **separated** and adapting to **different environments**.

Developing unique characteristics allowed the birds to thrive in their specific environments, and eventually create many new species with *special qualities* that are different from their ancestor species they once came from! (2)

Keep in mind, this doesn't just happen to birds...

Speciation can occur for fish, mammals, and all other types of species!

(1) VectorMine. (n.d.). Adaptive radiation vector illustration. Labeled birds diet evolution diagram. Darwin's finch scheme explanation with wildlife food sources and beak styles. Biology process educational handout graphic [digital image]. Retrieved from <https://www.shutterstock.com/image-vector/adaptive-radiation-vector-illustration-labeled-birds-1712195998>.

(2) National Geographic Society. (2012, October 9). Speciation. National Geographic Society. Retrieved December 8, 2021, from <https://www.nationalgeographic.org/encyclopedia/speciation/>.