



BIG IDEA

Different physical traits can influence how well a species survives in an environment!

MATERIALS

- Small objects (peppercorns, beads etc)
- Medium objects (dried beans, almonds etc)
- Large objects (jumbo marshmallows, ping pong balls etc)
- Tweezers
- Spoon
- Small cup or tongs
- Bowl
- Large plate or tray
- Timer

THE SCIENCE

You probably found that it was easier to pick up the smaller objects with tweezers, the medium objects with your spoon and the large objects with your tongs/cup. Why? Well those tools have a specific job; some are better at picking up certain objects.

Think about birds that have different sized beaks. Do you think they should all eat the same kinds of foods? Probably not!

This process shows how **natural selection** works. Natural selection is when survival depends on and is shaped by your physical traits. Think about a bird who has a narrow beak (like the tweezers) that's good at eating small food. What if there is not much small food in their environment? This species will not be able to survive as well in this environment and may end up dying off after a long period of time.

INSTRUCTIONS

1. This activity is broken up into three trials. You can do them one at a time or have friends and siblings do other trials at the same time.
2. Spread out some of your small, medium and large objects on a tray or large plate. Choose *one* of the three tools (tweezers, a spoon or tongs/small cup) to use.
3. Your goal is to pick up as many objects with your tool as you can in 30 seconds and place them in your bowl. **You can only use your tool, and you can't slide the objects off the tray into your bowl.** Get your timer ready! Go!
4. After 30 seconds, how did you do? How many of each object did you pick up? Think about why you were able to pick up more of one type of object. It might help to write down your results to help you remember and compare.
5. After counting, put the objects all back on your tray. Try again with a different tool. Did you pick up the same amount? Was it easier to pick up smaller objects this time? Harder?
6. Try it out with all kinds of materials and tools!