

THE STANDARD

Internal & External Structures

"Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction."

 ANCHORING PHENOMENON

The Cactus That Won't Let Anyone Take a Bite

A cactus lives where almost nothing else grows. It has sharp spines all over, a thick waxy skin, and roots that spread out wide and shallow. Hungry animals walk right past it. Other plants nearby wilt and die, but the cactus stays full and green. 4th graders will want to know how one plant has the exact parts it needs to survive a place this harsh.

DRIVING QUESTION

"How do the cactus's parts work together to help it survive in a place where other plants can't?"

 INVESTIGATIVE 1

Watch the Stem Move Water (Color Climb)

Stand a white flower or a stalk of celery in a cup of water dyed bright red. These are cuttings with no roots. Leave them overnight. The next day the color has climbed up the stem and into the petals or leaves. You can actually watch the stem do its job of moving water, even with no roots in the cup.

DRIVING QUESTION

"How does water get from the bottom of the cutting all the way up to the leaves and flowers?"

 INVESTIGATIVE 2

Bird Beaks Built for the Job

Give 4th graders different tools: tweezers, a clothespin, a spoon, an eyedropper. Add a pile of 'foods' like seeds, water, and gummy worms. Each tool grabs some foods easily and fails at others. Use this to show the same idea in animals: a body part is shaped for the job it does, and the right part helps the animal eat and survive.

DRIVING QUESTION

"Why is each bird's beak a different shape, and how does that shape help it get food?"