Why Leaves Turn Color in the Fall

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The **stealth** of autumn catches one unaware. Was that a goldfinch perching in the early September woods, or just the first turning leaf? A red-winged blackbird or a sugar maple closing up shop for the winter? Keen-eyed as leopards, we stand still and squint hard, looking for signs of movement. Early-morning frost sits heavily on the grass, and turns barbed wire into a string of stars. On a distant hill, a small square of yellow appears to be a lighted stage. At last the truth dawns on us: Fall is staggering in, right on schedule, with its baggage of chilly nights, macabre holidays, and spectacular, heart-stoppingly beautiful leaves. Soon the leaves will start cringing on the trees, and roll up in clenched fists before they actually fall off. Dry seedpods will rattle like tiny gourds. But first there will be weeks of gushing color so bright, so pastel, so confettilike, that people will travel up and down the East Coast just to stare at it—a whole season of leaves. A

stealth (stĕlth) *n.* a concealed manner of acting

A **AUTHOR'S PURPOSE** What seems to be Ackerman's purpose in the first paragraph? Support your answer with specific details.

Where do the colors come from? Sunlight rules most living things with its golden **edicts.** When the days begin to shorten, soon after the summer solstice on June 21, a tree reconsiders its leaves. All summer it feeds them so they can process sunlight, but in the dog days of summer the tree begins pulling nutrients back into its trunk and roots, pares down, and gradually chokes off its leaves. A corky layer of cells forms at the leaves' slender petioles,[1] then scars over. Undernourished, the leaves stop producing the pigment chlorophyll, and photosynthesis[2] ceases. Animals can migrate, hibernate, or store food to prepare for winter. But where can a tree go? It survives by dropping its leaves,

edict (ē'dĭkt') *n.* a command issued by an authority

1. **petioles:** the stalks of leaves.
2. **chlorophyll . . . photosynthesis:** Chlorophyll is the green pigment in plants that is necessary for photosynthesis, the process by which plants use sunlight, water, and carbon dioxide to produce food.