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by jok church

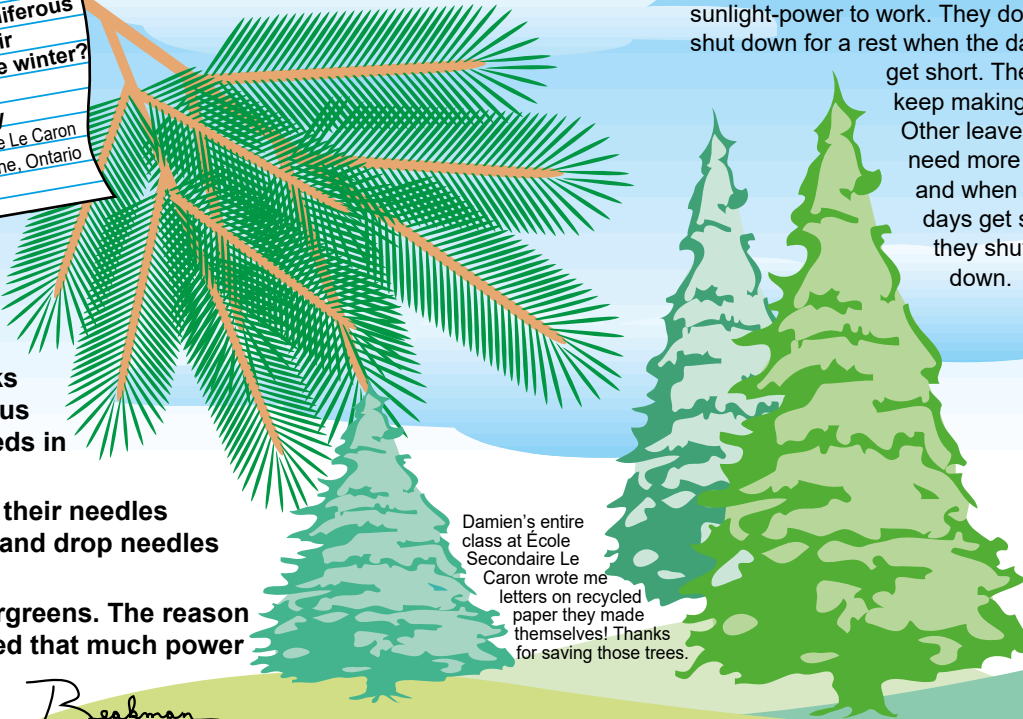
Dear Beakman,
Why don't coniferous trees lose their needles in the winter?

Damien Dery
École Secondaire Le Caron
Penetanguishene, Ontario

Beakman or Jax,
P.O. Box 30177
Kansas City, MO
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Needles Are Leaves

Most needles are so good at being chemical factories they need less sunlight-power to work. They don't shut down for a rest when the days get short. They keep making food. Other leaves need more light, and when the days get short, they shut down.



Damien's entire class at École Secondaire Le Caron wrote me letters on recycled paper they made themselves! Thanks for saving those trees.

Dear Damien,
Now that's a really big word – *coniferous*. So it looks like already you know a lot. You know that coniferous (ko-NIF-ur-us) trees are the ones that have their seeds in cones and usually have needles.
Here's a news flash for you: Some conifers do lose their needles in the fall. Trees like the Dawn Redwood turn color and drop needles every autumn.
But I think you're asking about most pines and evergreens. The reason they stay green is their chemical factories don't need that much power to make food. If that doesn't make sense, read on.

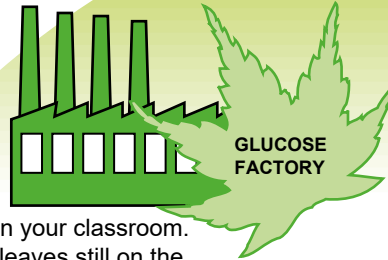
Beakman
Beakman Place

experiment #1

Leaf Collecting

WHAT YOU NEED: An active imagination - patience

WHAT TO DO: Soon, the leaves will begin to change from green to lots of other colors. Before that happens, pick different kinds of leaves. Pick green needles, too. Hang them up in your classroom. Just about the time you forget they're there, the leaves still on the trees will start changing color. Collect the same kinds of leaves and needles. Compare them with the older dried leaves.



SO WHAT:

Lots of people think that leaves change color when they dry out. But that's not true. The leaves and needles you picked first are still green even though they are very dry.

Imagine your leaves are chemical factories. They all use sunlight as their power. What they do is make glucose, a kind of sugar. It's food. When the factory is on, the leaves are green. When the factory shuts down, the color green is pulled out of the leaf, and the other colors can then be seen.



Electronic color separations by MarinStat, Mill Valley, CA