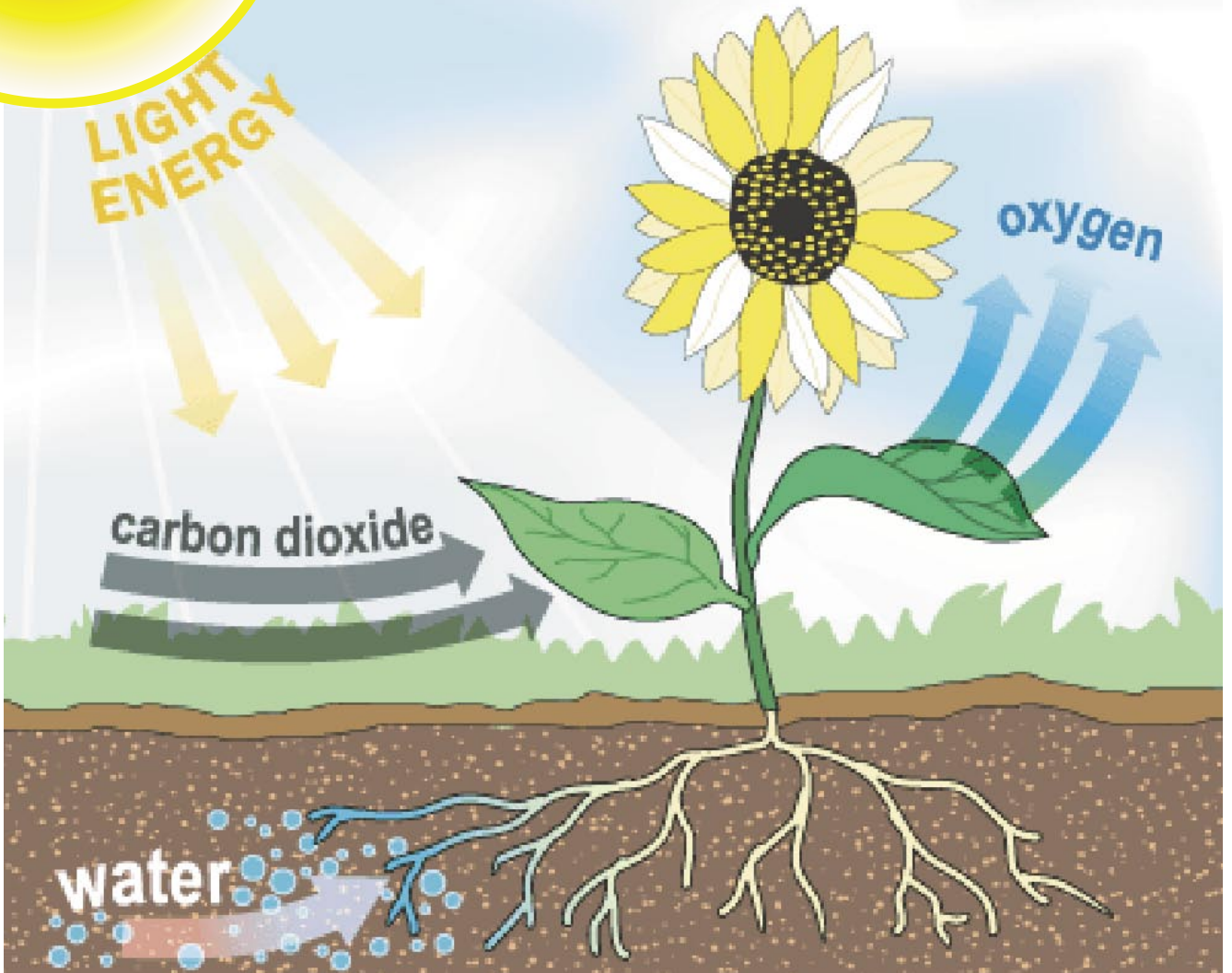
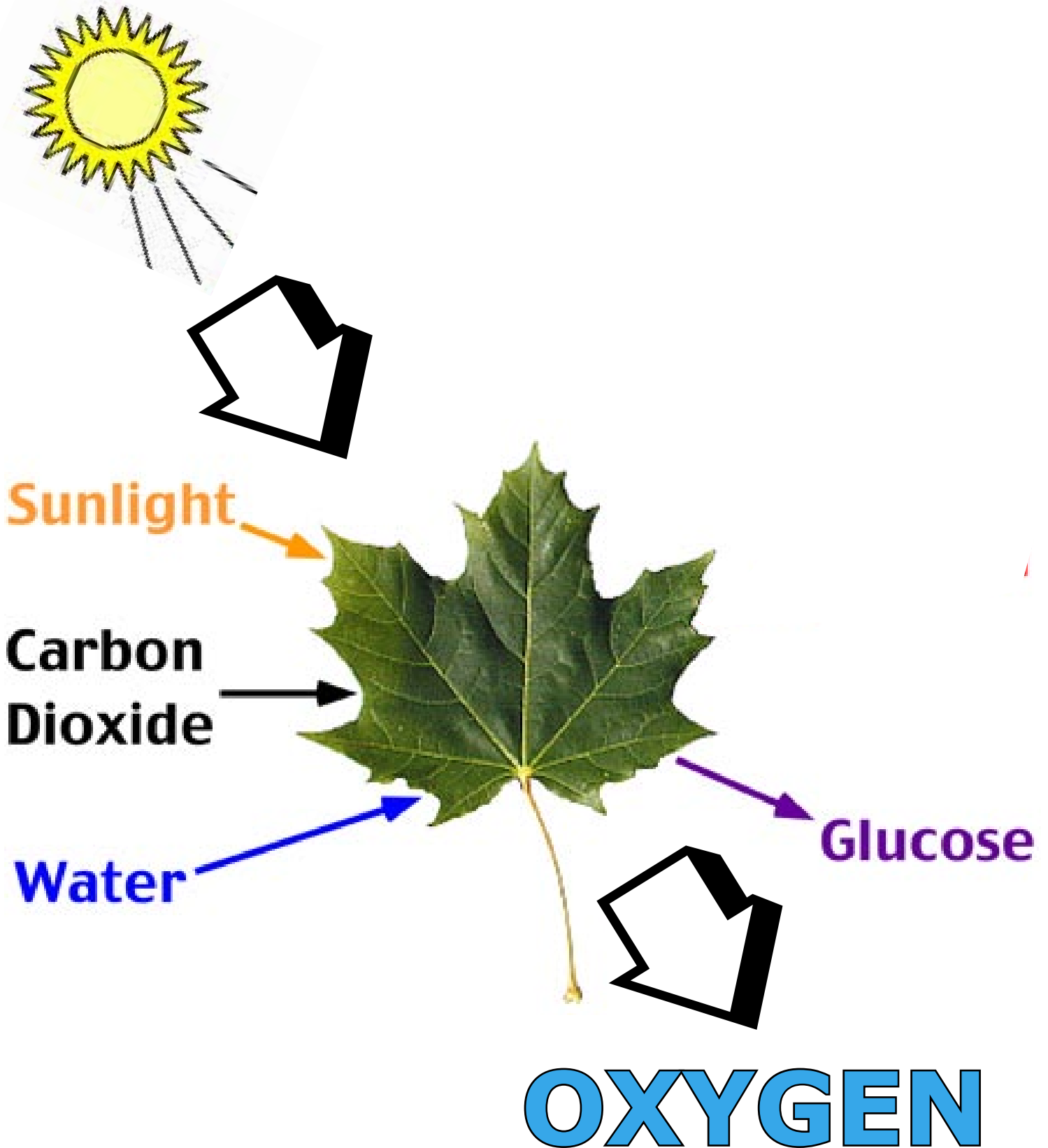


Basic Photosynthesis





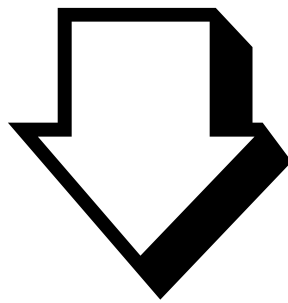
(CARBON DIOXIDE = the air we breath out)

- Plants use sunlight to turn water and carbon dioxide into oxygen and glucose.

Photosynthesis

(“putting together with light”)

- When plants turn water and carbon dioxide into oxygen and sugar.



Chlorophyll

=

GREEN

- Gives plants their green color.



**During
winter
the trees
will rest,
and
chlorophyll
disappears
from the
leaves.**



The bright reds and purples we see in leaves are made mostly in the fall. In some trees, like maples, glucose is trapped in the leaves after photosynthesis stops.



Yum!



We all enjoy the colors of autumn leaves. Did you ever wonder how and why a fall leaf changes color? Why a maple leaf turns bright red? Where do the yellows and oranges come from? To answer those questions, we first have to understand what leaves are and what they do.

Leaves are nature's food factories. Plants take water from the ground through their roots. They take a gas called carbon dioxide from the air. Plants use sunlight to turn water and carbon dioxide into oxygen and glucose. Oxygen is a gas in the air that we need to breathe. Glucose is a kind of sugar. Plants use glucose as food for energy and as a building block for growing. The way plants turn water and carbon dioxide into oxygen and sugar is called photosynthesis. That means "putting together with light." A chemical called chlorophyll helps make photosynthesis happen. Chlorophyll is what gives plants their green color.

During winter, there is not enough light or water for photosynthesis. The trees will rest, and live off the food they stored during the summer. They begin to shut down their food-making factories. The green chlorophyll disappears from the leaves. As the bright green fades away, we begin to see yellow and orange colors. Small amounts of these colors have been in the leaves all along. We just can't see them in the summer, because they are covered up by the green chlorophyll.

FALL LEAF PRINTS:

MATERIALS: large fresh leaves (Not dried), glass plate, soft rollers, hard rollers, toothpicks, cotton balls, small cups for water, white paper

SET UP: (20 minutes)

Two square plates per table, (one bright color, one dark), 6 or so leaves per table
yellow, green
yellow, red
orange, blue
light brown, purple

STEPS: (20 minutes)

“WHAT IS A MIRROR IMAGE?”

1. Roll out brightest ink on plate with soft roller
2. lay leaf in middle face down, blocking out ink
3. place paper over top, and second blotter sheet on top of that, roll with hard roller
4. gently peel off paper from corner
5. gently peel off leaf by stem
6. Roll out darkest ink on a 2nd plate, press new leaf into ink, and remove by stem
7. Place this inked leaf face down on the print they just made
Cover with clean sheet and gently roll with hard roller again
Gently peel off leaf
8. Reveal a two-color leaf print with contrast!

DISCUSS reverse shapes, “PRINT WILL BE A MIRROR IMAGE”

STEPS: (20 minutes)

1. Re-roll the plates with light ink coverage
Ask kids to “MAKE A PICTURE” on their plate
2. Hand out toothpicks, encourage kids to draw with them. “ADD LOTS OF DETAIL”
3. Hand out cotton balls brushes, water, show how they can remove, ink in areas and add new marks
4. Assist with painting leaves and making a second print

CLEAN-UP (15 minutes)

