

ACTIVITY BOOK #3

PLANTS OF THE CREEKS



AS YOU GET OUT AND EXPLORE MAKE SURE YOU HAVE EVERYTHING YOU'LL NEED FOR YOUR ADVENTURE! HERE ARE SOME IDEAS OF THINGS TO BRING WITH YOU:



Binoculars Compass Water Backpack Sunscreen

And, don't forget to grab a buddy for extra fun and always tell an adult where you are going!

DID YOU KNOW?

The native Miwok and Pomo tribe made highly prized baskets out of a grass like plant found locally in our creeks called sedge.

Willow trees are believed to be the original source of aspirin and pain relief. Salicylic acid found in the bark has very strong pain relief and anti-inflammatory properties.

Cattails are beneficial because they naturally filter pollution out of the water through their roots and stems.

CREEK PROTECTOR SCAVENGER HUNT

Can you find and identify plants that are commonly found in our waterways and are important to fish and local ecosystems?

Circle the items you find:



Gall



Acorn



Fallen Tree



Bunch Grass

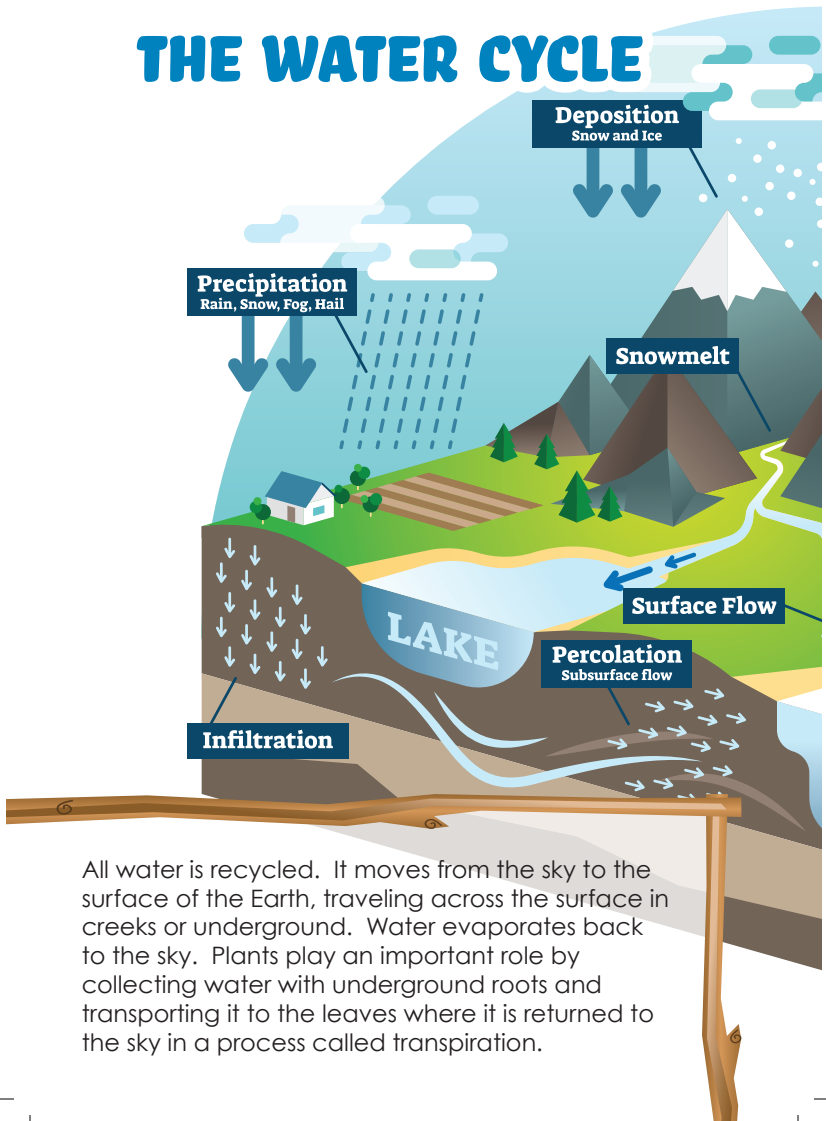


Golden Poppy

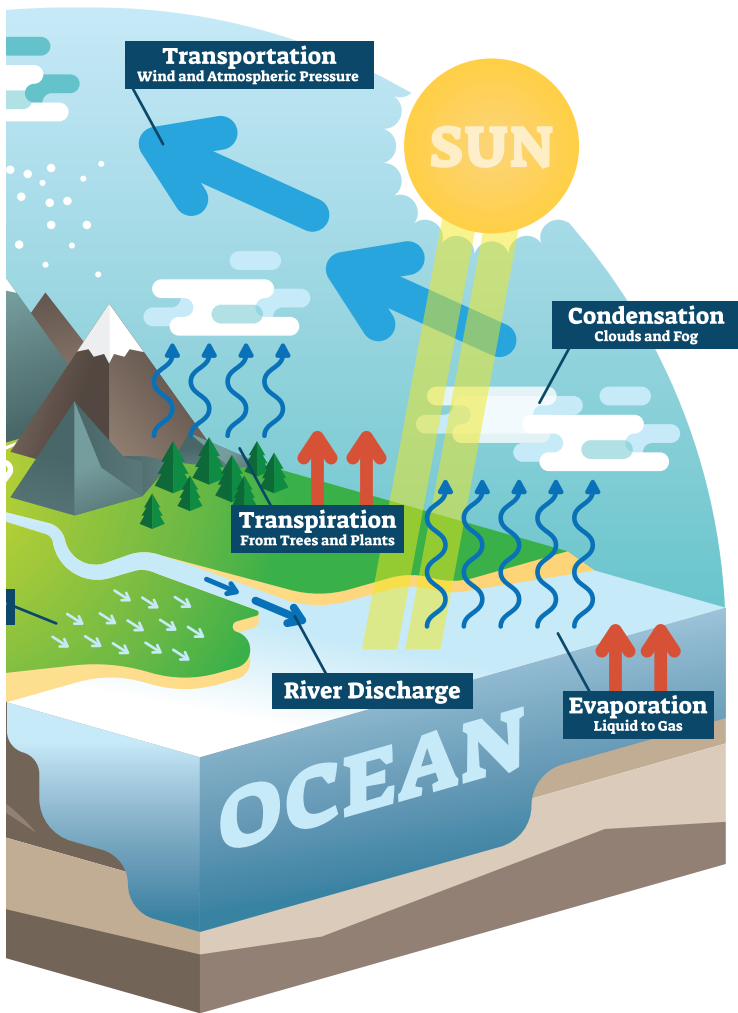


Willow Tree

THE WATER CYCLE



All water is recycled. It moves from the sky to the surface of the Earth, traveling across the surface in creeks or underground. Water evaporates back to the sky. Plants play an important role by collecting water with underground roots and transporting it to the leaves where it is returned to the sky in a process called transpiration.



PLANTS!!!

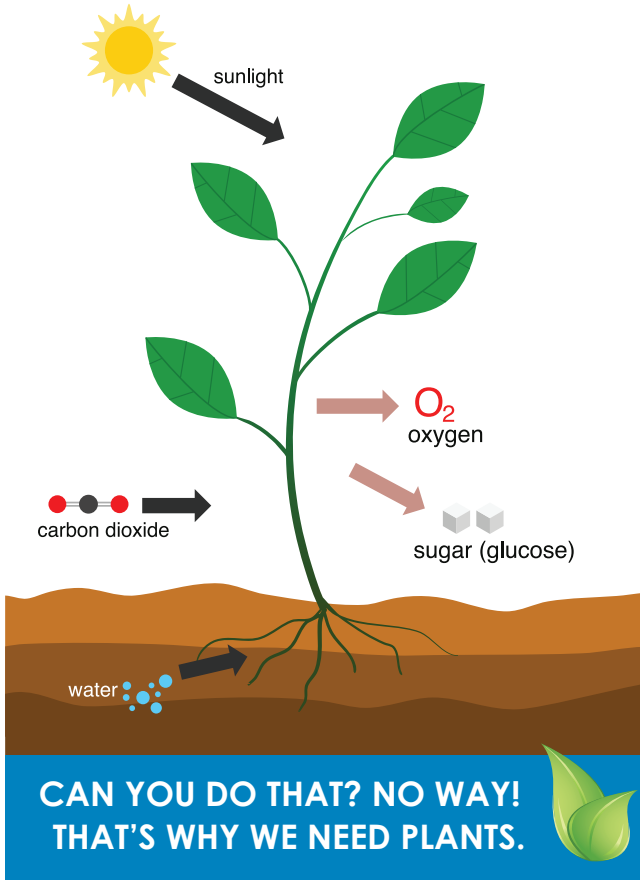


Plants don't run, jump, or fly like animals so sometimes we forget how cool they are.

They are super important! Plants provide us with food, fiber, shelter, medicine, and fuel.

Plants make food. The process is called photosynthesis. Plants breathe in air and turn it into a food! They also exhale oxygen. That's what we breathe!

HERE'S HOW PHOTOSYNTHESIS WORKS:



PURPOSEFUL PARTS

WATER VAPOR LOST
FROM LEAF PORES
IN TRANSPIRATION

WATER TRAVELS UP
THROUGH PLANT

WATER ABSORBED
BY ROOTS

Roots take up water and minerals from the soil. They also anchor the plant. Have you pulled weeds and seen the roots?

Stems move water up to the leaves and sugar made in the leaves is transported throughout the plant.

Leaves are where photosynthesis happens. When water transported from the roots to the leaves is released, it is called transpiration.

EXPERIMENT!



PLACE A STALK OF CELERY IN A GLASS OF WATER WITH FOOD COLORING

YOU WILL BE ABLE TO SEE THE DYED WATER AS IT TRAVELS UP THE STEM AND TO THE LEAVES

TRY THIS EXPERIMENT WITH DIFFERENT COLORS!

PLANTS DON'T HAVE BRAINS OR MUSCLES, BUT THEY CAN DEFEND THEMSELVES!

Draw a line from each defense to a picture of the plant.

Stinging (needle-like hairs inject acid which burns)

Spines (sharp points growing from leaves)

Chemical (may taste bad, make you sick or itch)

Thorns (pointy branches or stems)

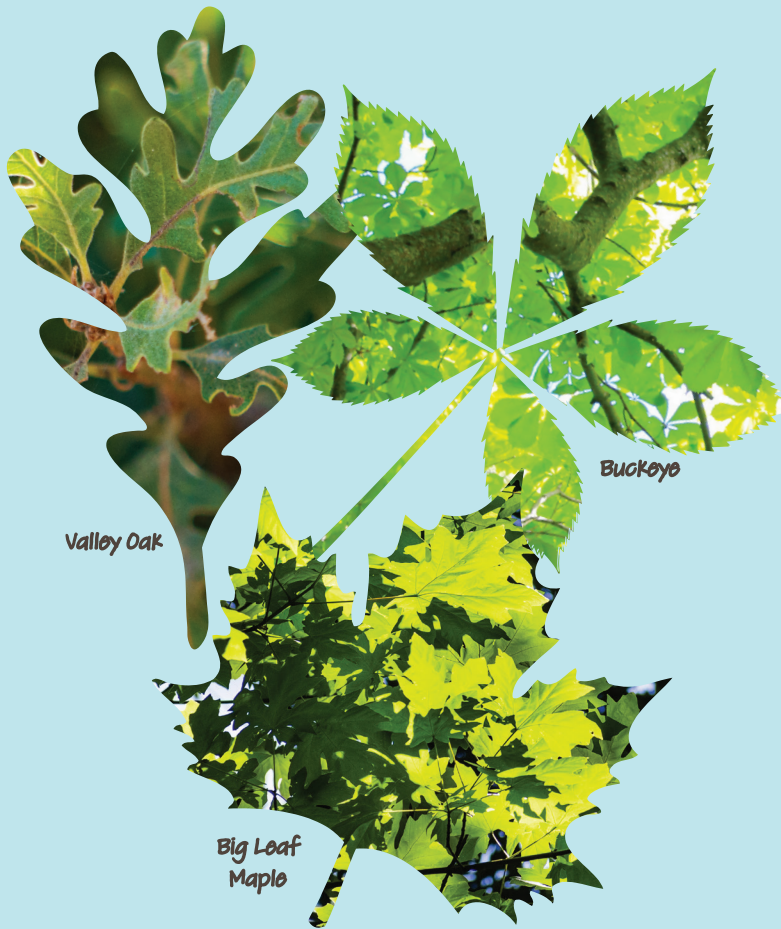


Answers:
Bull Thistle - spines
Hawthorn - thorns
Poison Oak - chemical
Stinging Nettle - stinging

Roses, like this California wild rose, don't have thorns. Their defenses are called prickles because they grow from the skin of the plant. Think of them as razor-sharp freckles!



TREES IDENTIFICATION GUIDE



Valley Oak

Buckeye

*Big Leaf
Maple*

Valley Oak Trees

Valley Oaks are the most common oak trees along our creeks. Look for leaves that have lobes resembling hills and valleys (just like the name!)

Buckeye Trees

Buckeye trees have a leaf with 5 leaflets that look like fingers. This shape is called palmate (like a hand!) The leaves drop during the summer to save water loss. If the outside layer (seed coat) is peeled away the seed is shiny and brown like a deer buck's eye.



Buckeye Seeds

Big Leaf Maple

The leaves turn very colorful in the fall. You can extract maple syrup from the sap of this tree but not nearly as much as the sugar maple that grows on the east coast.

GETTING AROUND

Seeds have a baby plant inside ready to grow. How do seeds move away from the parent plant so they'll have more room to grow?

MATCH EACH PICTURE WITH THESE CHOICES:

hitchhiker



through the gut



on the breeze



forgetful squirrel!





Answers:
Elderberry - through the gut
Box Elder - hitchhiker
Cattails - on the breeze
Cocklebur - hitchhiker
Acorns from Oak - forgetful squirrel
Dandelion - on the breeze

PRESSING ISSUE!

Press leaves or flowers between the pages of a book. Pressed plants are beautiful and can be used to decorate cards or create art.



WHAT IN THE WORLD IS THAT?

Galls can be found on many types of plants but particularly on oak trees. The gall pictured here is created when a tiny wasp (not the kind that sting you) nibbles on the stem of an oak branch. The oak grows this "ball" to protect itself, but the wasp uses the gall to lay its eggs inside the protective chamber. Look for tiny holes, showing where a baby wasp came out.



DID YOU KNOW?

Different types of insects make different shaped galls.



ACROSS:

- 4. Energy needed for photosynthesis
- 7. Catches sunlight
- 8. Gas required by plants to make food

DOWN:

- 1. Part of a plant that takes up water
- 2. Part of a plant that makes a seed
- 3. Grows into a new plant
- 5. Type of woody plant that can grow very tall
- 6. Plants drink this liquid
- 9. Animals need to breathe this gas

WORD LIST:

- Oxygen
- Roots
- Tree
- Leaf
- Carbon dioxide
- Water
- Sunlight
- Flower
- Seed

CREEK PROTECTOR

FIELD GUIDE #3 PLANTS OF THE CREEKS

CERTIFICATE OF ACHIEVEMENT

I _____,

promise to help protect storm drains, creeks, and rivers to help preserve nature and fun activities we enjoy on the water. I will show others how small changes can make a big impact and will keep having fun exploring the outdoors.

Creeks and rivers are ours to protect!

