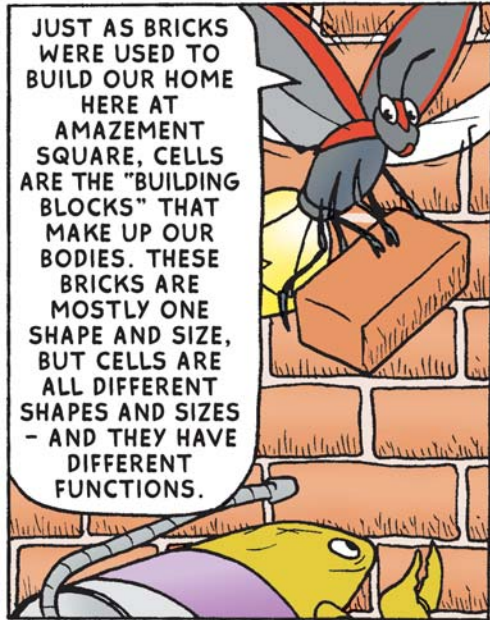


HEY, CHECK THIS OUT, LIGHTNING. THERE IS SOMETHING MOVING AROUND IN THIS THING.

IF WE'RE MADE UP OF SO MANY OF THESE LITTLE GUYS, HOW COME I HAVE NEVER SEEN THEM ON ME BEFORE??

THERE SURE IS — THOSE ARE CALLED CELLS. ALL LIVING THINGS ARE MADE UP OF THOUSANDS OF CELLS.

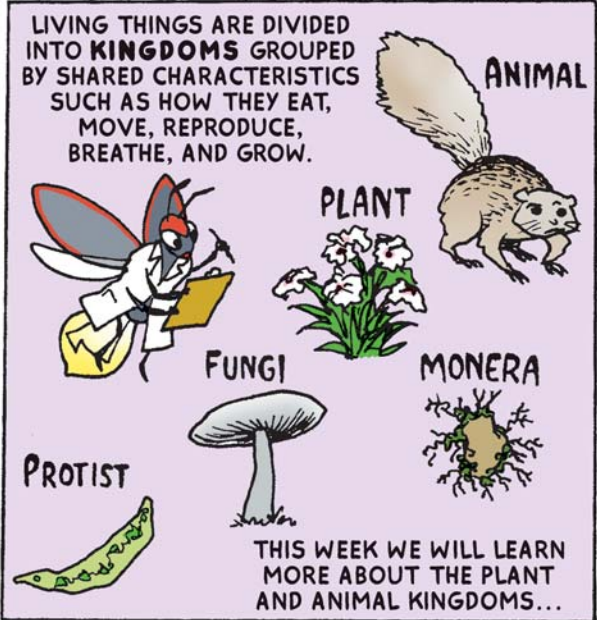
CELLS ARE VERY TINY, SCORPY. WE CAN'T SEE THEM WITH JUST OUR EYES. WE NEED A MICROSCOPE TO SEE THEM.



JUST AS BRICKS WERE USED TO BUILD OUR HOME HERE AT AMAZEMENT SQUARE, CELLS ARE THE "BUILDING BLOCKS" THAT MAKE UP OUR BODIES. THESE BRICKS ARE MOSTLY ONE SHAPE AND SIZE, BUT CELLS ARE ALL DIFFERENT SHAPES AND SIZES - AND THEY HAVE DIFFERENT FUNCTIONS.



HOW CAN WE EVER POSSIBLY LEARN ABOUT EVERY CELL IN EXISTENCE IF EVERYTHING THAT IS LIVING IS MADE UP OF THEM?!



LIVING THINGS ARE DIVIDED INTO **KINGDOMS** GROUPED BY SHARED CHARACTERISTICS SUCH AS HOW THEY EAT, MOVE, REPRODUCE, BREATHE, AND GROW.

ANIMAL

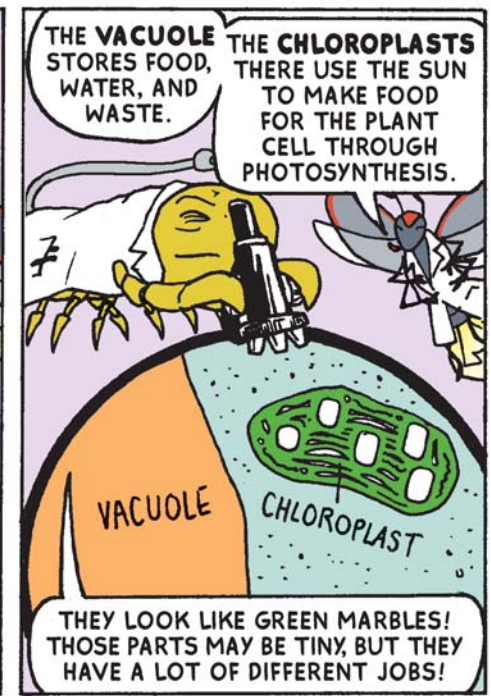
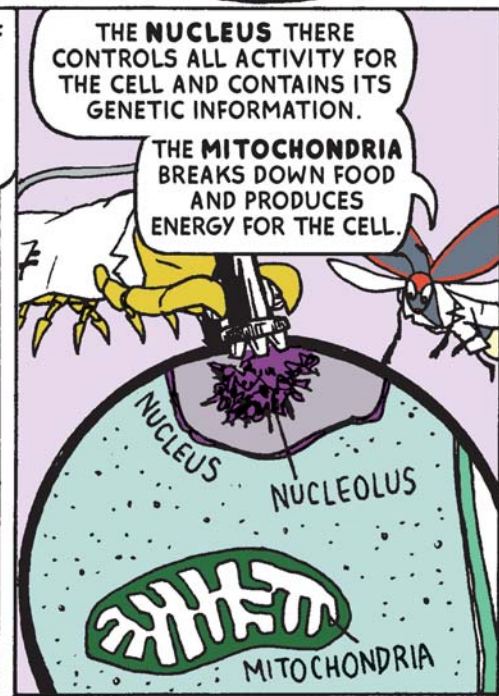
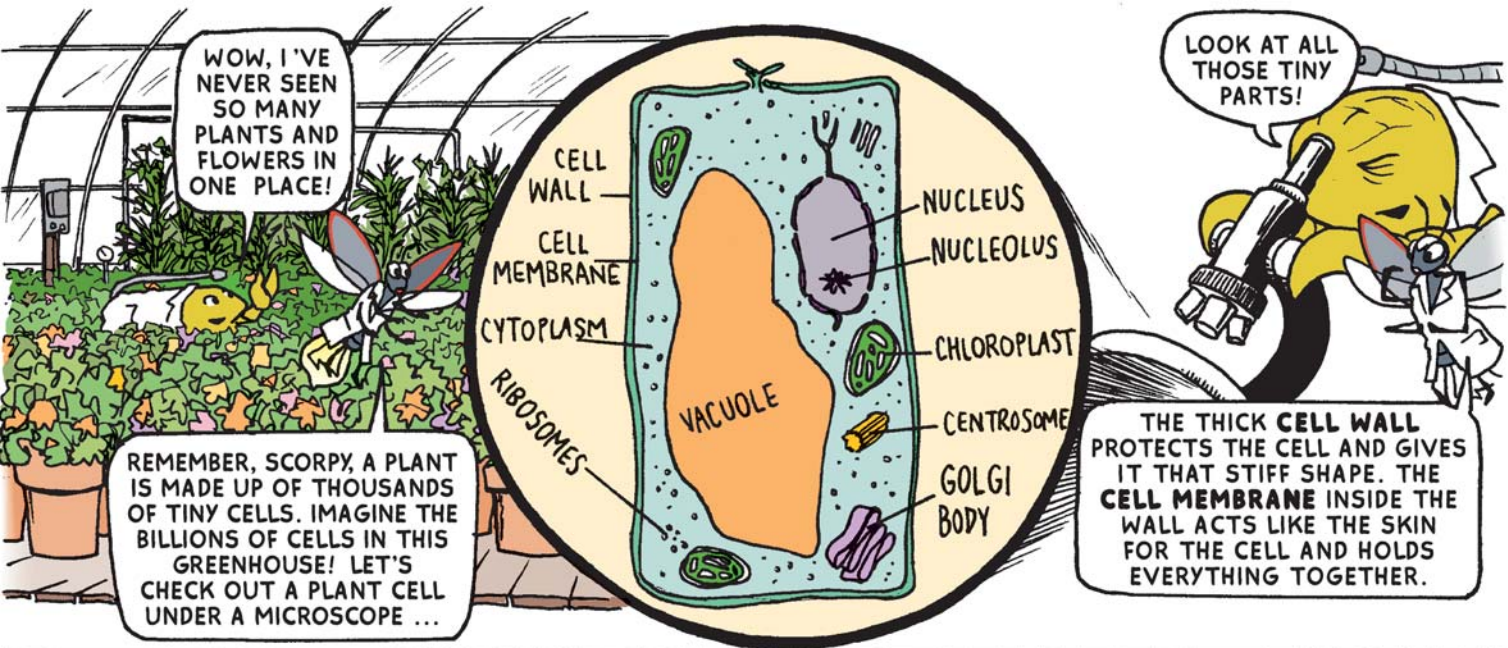
PLANT

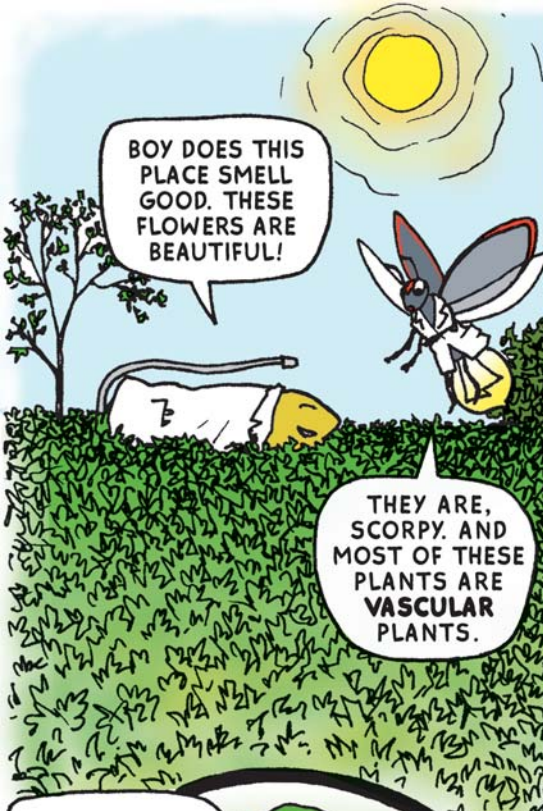
FUNGI

MONERA

PROTIST

THIS WEEK WE WILL LEARN MORE ABOUT THE PLANT AND ANIMAL KINGDOMS...





BOY DOES THIS PLACE SMELL GOOD. THESE FLOWERS ARE BEAUTIFUL!

THEY ARE, SCORPY. AND MOST OF THESE PLANTS ARE **VASCULAR** PLANTS.



"VASCULAR?" YOU MEAN THEY HAVE VEINS?

SORT OF. THEY HAVE TWO SYSTEMS OF TUBES THAT RUN THROUGH THEIR LEAVES, STEMS, AND ROOTS.



AUXILIARY BUD

LEAF

VASCULAR TISSUE

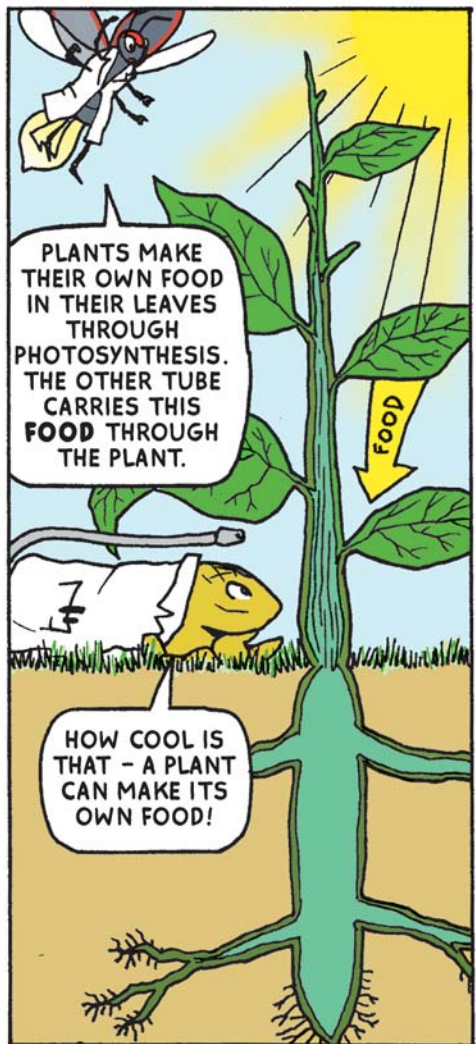
LATERAL ROOT

PRIMARY ROOT

ONE TUBE ALLOWS **WATER** AND MINERALS THAT WERE ABSORBED BY THE ROOTS TO BE TRANSFERRED THROUGHOUT THE PLANT.

AAHH, THE PLANT AND I BOTH LIKE TO DRINK LOTS OF WATER!

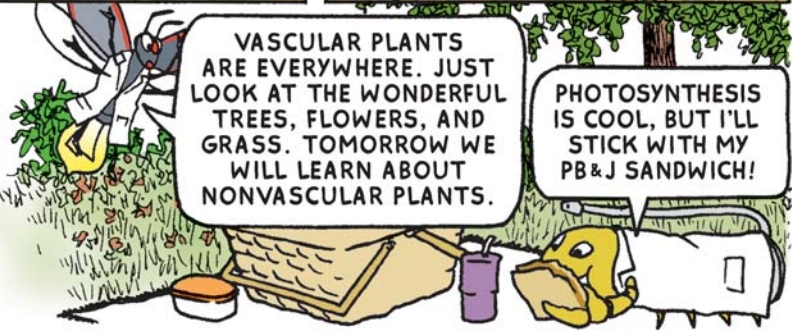
WATER



PLANTS MAKE THEIR OWN FOOD IN THEIR LEAVES THROUGH PHOTOSYNTHESIS. THE OTHER TUBE CARRIES THIS **FOOD** THROUGH THE PLANT.

HOW COOL IS THAT - A PLANT CAN MAKE ITS OWN FOOD!

FOOD



VASCULAR PLANTS ARE EVERYWHERE. JUST LOOK AT THE WONDERFUL TREES, FLOWERS, AND GRASS. TOMORROW WE WILL LEARN ABOUT NONVASCULAR PLANTS.

PHOTOSYNTHESIS IS COOL, BUT I'LL STICK WITH MY PB&J SANDWICH!

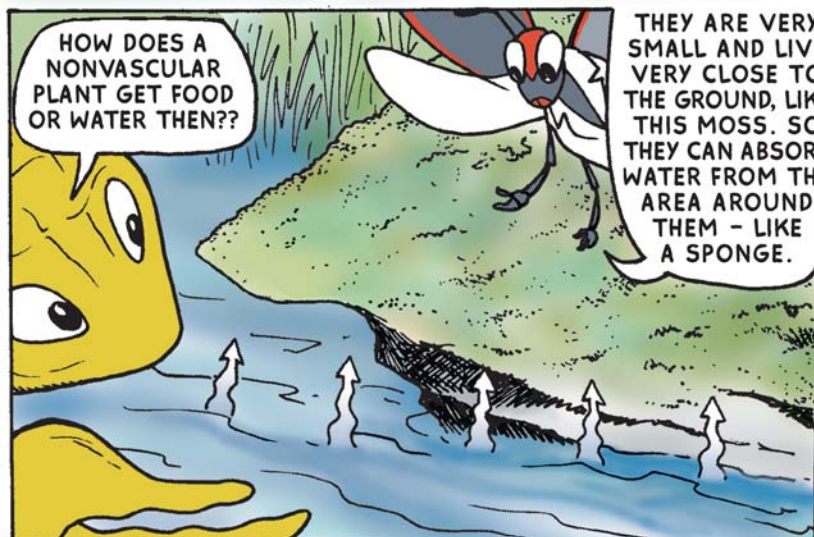


BOY, THAT MUST HAVE BEEN SOME RAINSTORM. LOOK AT ALL THE WATER STILL AROUND.

THIS AREA IS CALLED A **WETLAND**, SCORPY. IT IS WET HERE ALL THE TIME.

LOOK AT ALL OF THESE **NONVASCULAR** PLANTS!

NONVASCULAR PLANTS DO NOT HAVE ROOTS, LEAVES, OR STEMS TO TRANSPORT FOOD AND WATER.



HOW DOES A NONVASCULAR PLANT GET FOOD OR WATER THEN??


THEY ARE VERY SMALL AND LIVE VERY CLOSE TO THE GROUND, LIKE THIS MOSS. SO THEY CAN ABSORB WATER FROM THE AREA AROUND THEM - LIKE A SPONGE.



HEY, SCORPY, CHECK OUT THIS LIVERWORT! IT IS ALSO NONVASCULAR AND USES PHOTOSYNTHESIS.

"LIVERWORT?" THAT SOUNDS GROSS!!

LIVERWORT ALSO GROWS LOW TO THE GROUND IN DARK, DAMP AREAS.



IT STILL SOUNDS LIKE IT WOULD BE MUCH HARDER TO GET FOOD AND WATER THAT WAY. I'M GLAD I DON'T HAVE TO WORK THAT HARD TO SURVIVE.

SURE - AS AN ANIMAL, YOU HAVE A LOT TO BE THANKFUL FOR. WE'LL LEARN ABOUT YOUR SPECIAL ANIMAL KINGDOM TOMORROW!

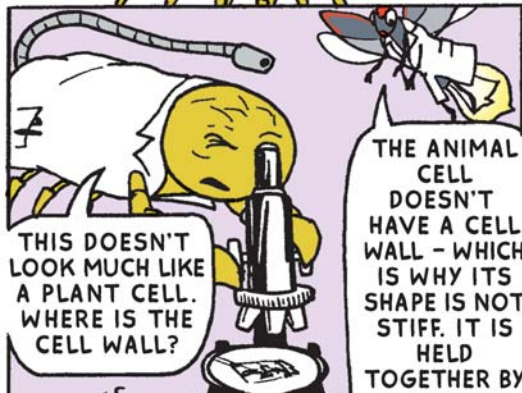


ZOO

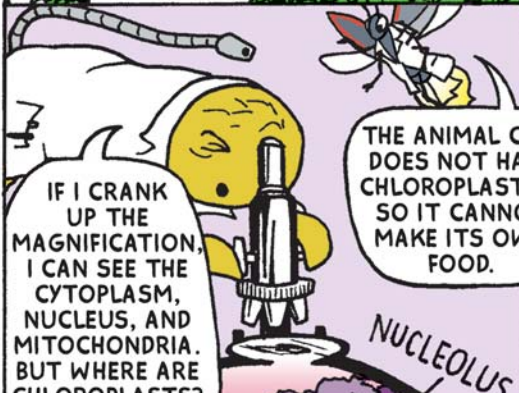
I LOVE VISITING THE ZOO. ANIMALS ARE SO FASCINATING!

WE CAN LEARN A LOT FROM ANIMALS, SCORPY. ANIMALS HAVE CELLS SIMILAR TO PLANTS.

LET'S TAKE A LOOK ...



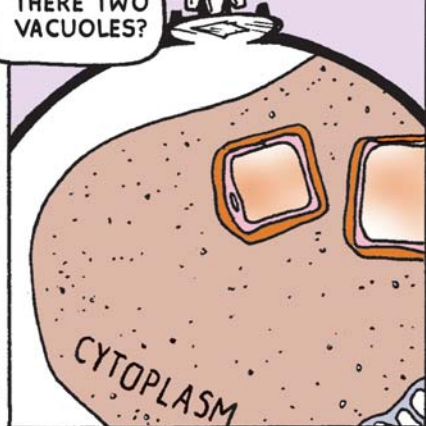
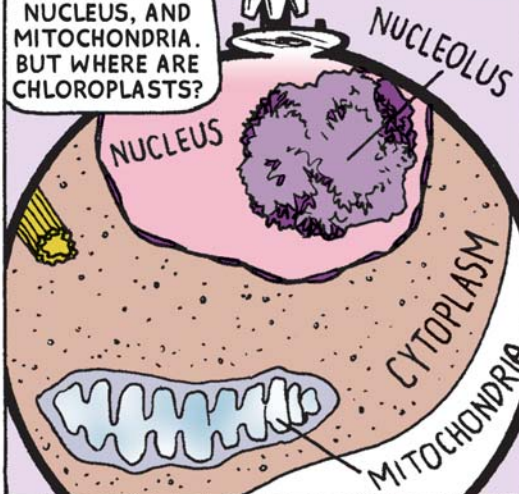
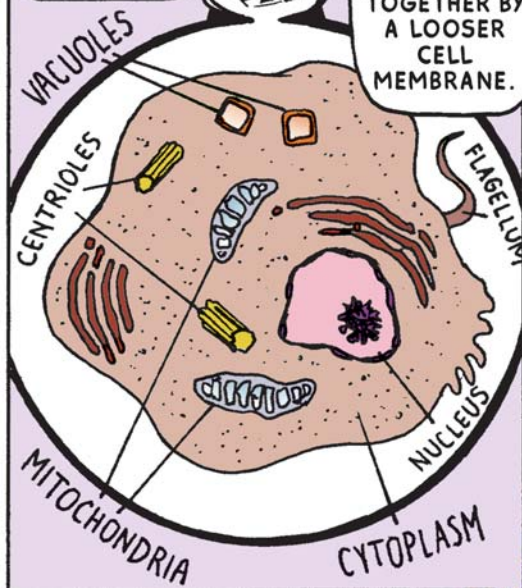
THE ANIMAL CELL DOESN'T HAVE A CELL WALL - WHICH IS WHY ITS SHAPE IS NOT STIFF. IT IS HELD TOGETHER BY A LOOSER CELL MEMBRANE.



THE ANIMAL CELL DOES NOT HAVE CHLOROPLASTS - SO IT CANNOT MAKE ITS OWN FOOD.

HEY, ARE THERE TWO VACUOLES?

THERE SURE ARE - ISN'T THAT AMAZING!!



NOW THAT WE KNOW ALL ABOUT ANIMAL CELLS, LET'S VISIT THE REST OF THE ANIMALS!

NEXT: FISH! BIRDS! AND AMPHIBIANS!!