

SPARK SQUAD

A STORY FROM THE NATIONAL RENEWABLE ENERGY LABORATORY

VOLUME 2



The NREL logo features a stylized sun icon to the left of the letters "NREL".

NREL

energysaver
for kids



U.S. DEPARTMENT OF
ENERGY

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A BRIEF INTRODUCTION TO

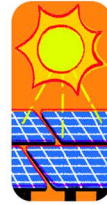
ENERGY



HI! I'M POWER OFFICER GINA AND I'M HERE TO TALK ABOUT ENERGY!



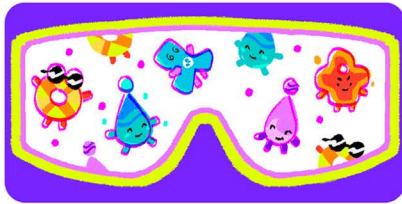
WE USE ENERGY TO POWER ALMOST EVERYTHING IN OUR LIVES!



ENERGY COMES FROM ALL DIFFERENT KINDS OF PLACES



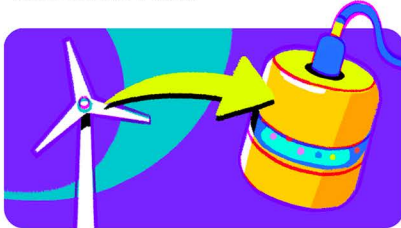
POWER OFFICERS AND THE SPARK SQUAD USE SPECIAL GOGGLES TO SEE ENERGY AS...



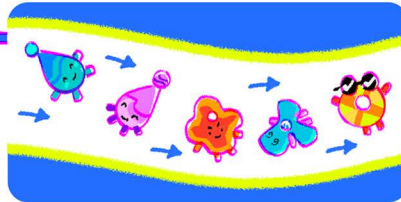
JOULES!



THE JOULES ARE PLAYFUL AND FULL OF ENERGY! WE USUALLY FIND THEM ENJOYING VARIOUS OUTDOOR ACTIVITIES



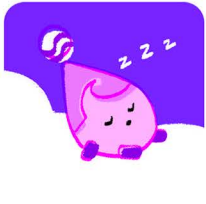
USING GENERATORS SUCH AS WIND TURBINES, WE CAN CAPTURE THESE JOULES IN BATTERIES AND STORE THEIR ENERGY TO USE LATER!



WHEN WE'RE READY TO USE THE ENERGY FROM THE JOULES, THEY TRAVEL THROUGH WIRES...



AND USE THEIR ENERGY AND EXCITEMENT TO POWER OUR DEVICES!



ONCE A JOULE HAS BEEN USED TO POWER SOMETHING, IT GETS REALLY TIRED...



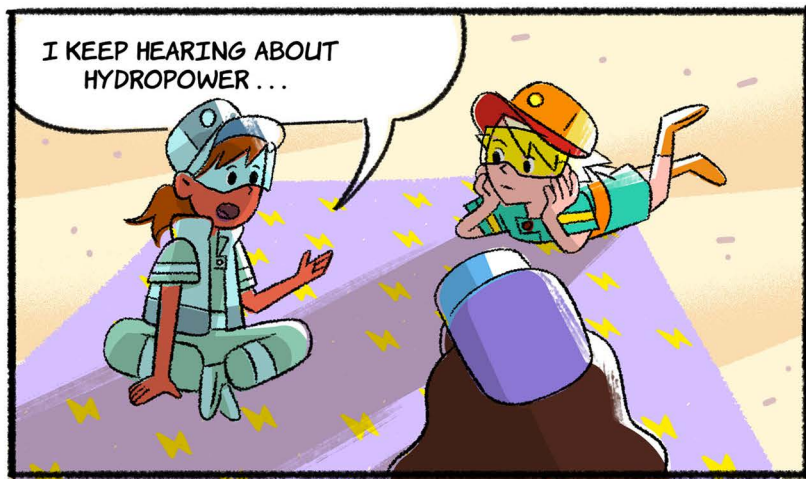
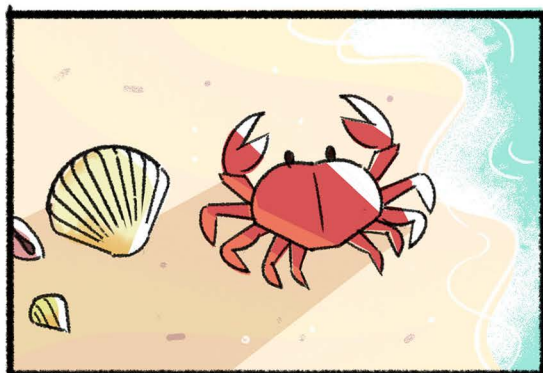
BUT AFTER A REST, THE JOULE RETURNS TO DOING WHAT IT LOVES TO DO!

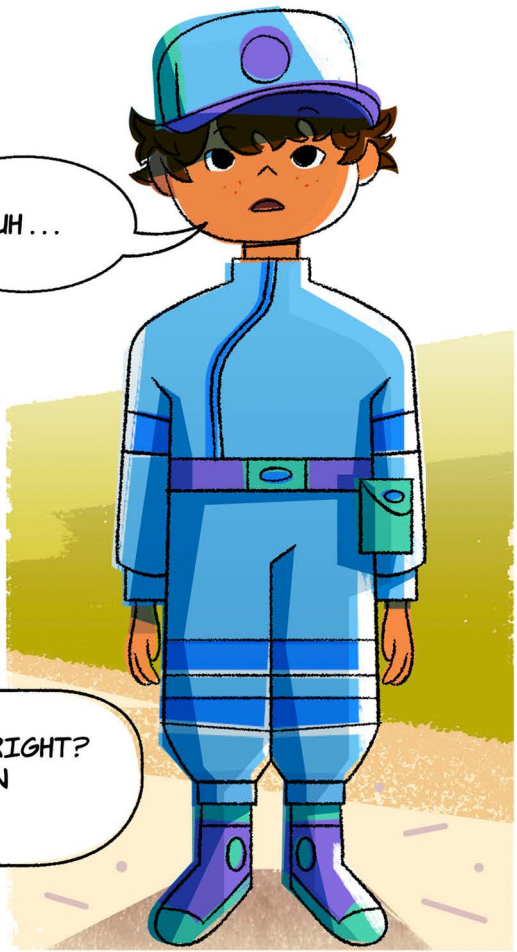


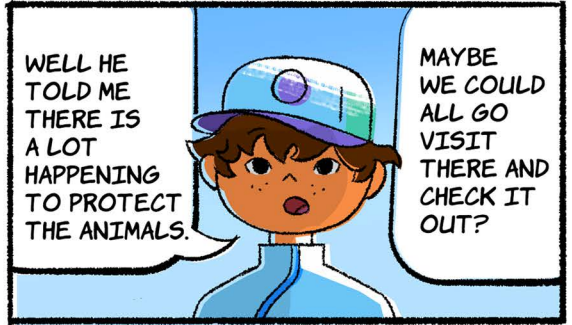
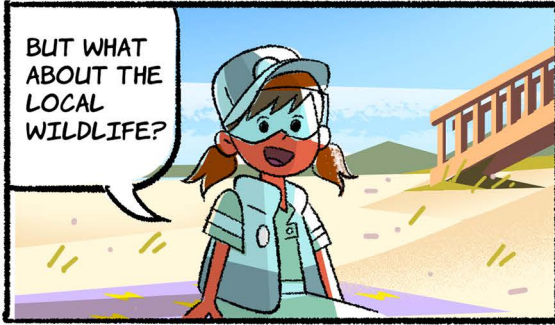
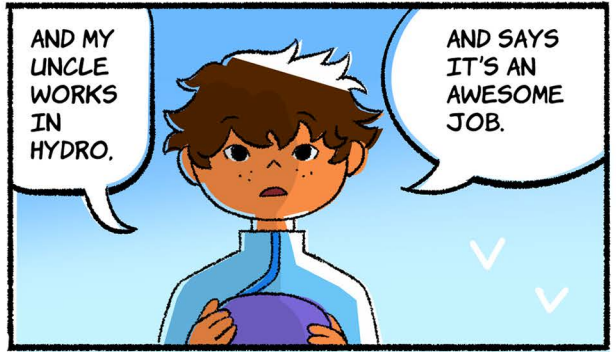
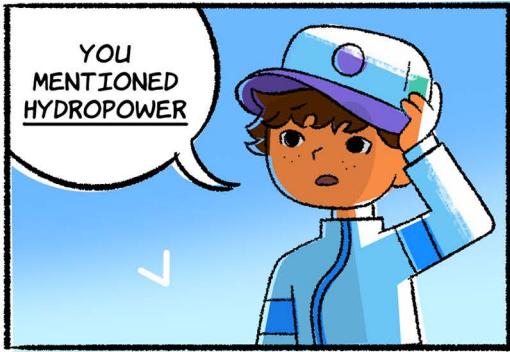
THEN THE WHOLE PROCESS CAN START AGAIN!



IF YOU THINK YOU WOULD LIKE TO LEARN MORE ABOUT ENERGY AND JOULES, CONSIDER JOINING THE SPARK SQUAD!



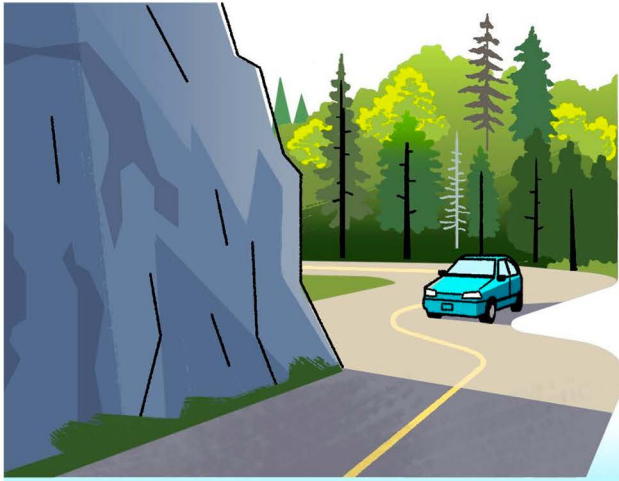


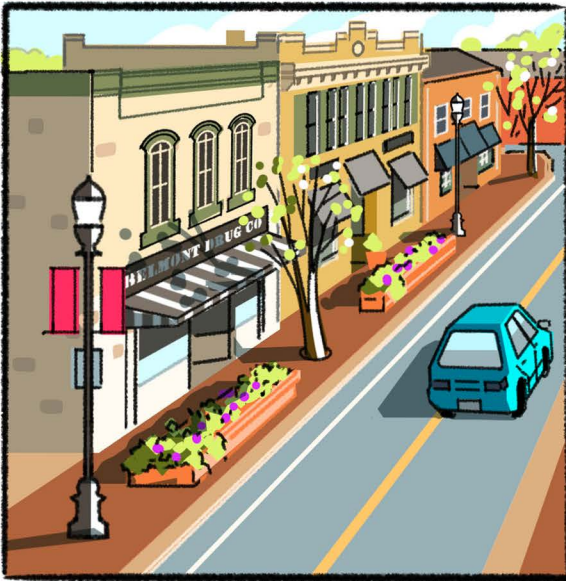


ROAD TRIP!



AND SO... THE SPARK SQUAD SET OUT TO RUSSELL DAM AND LAKE!

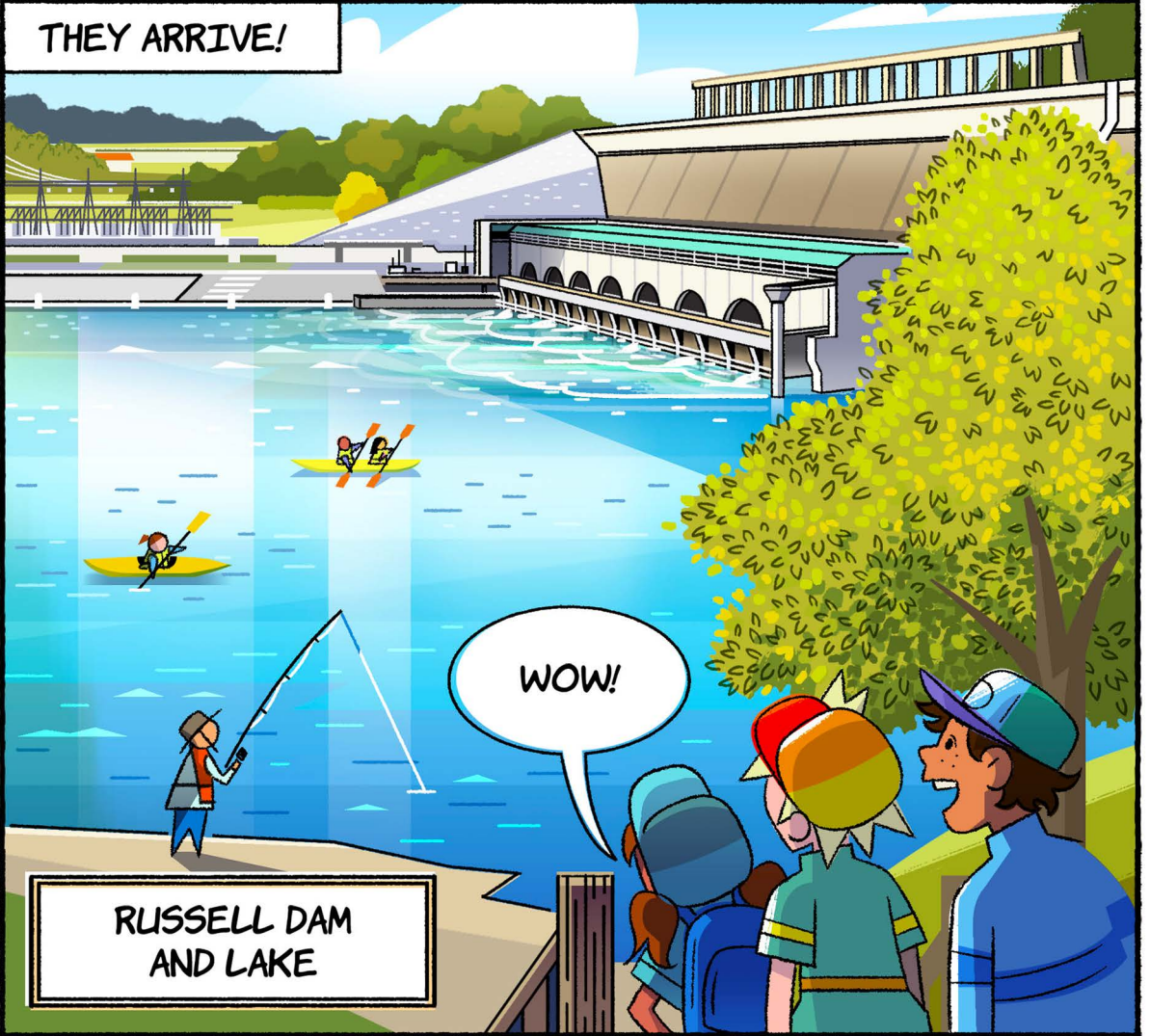




FINALLY ...

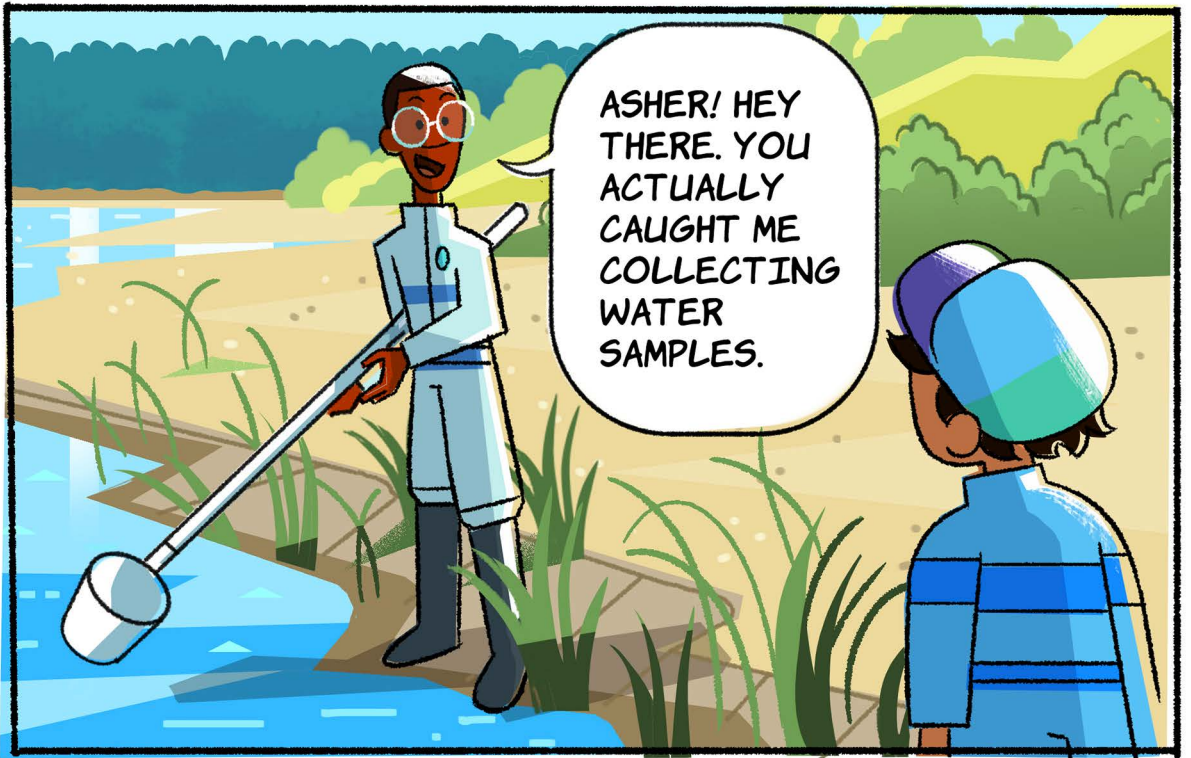


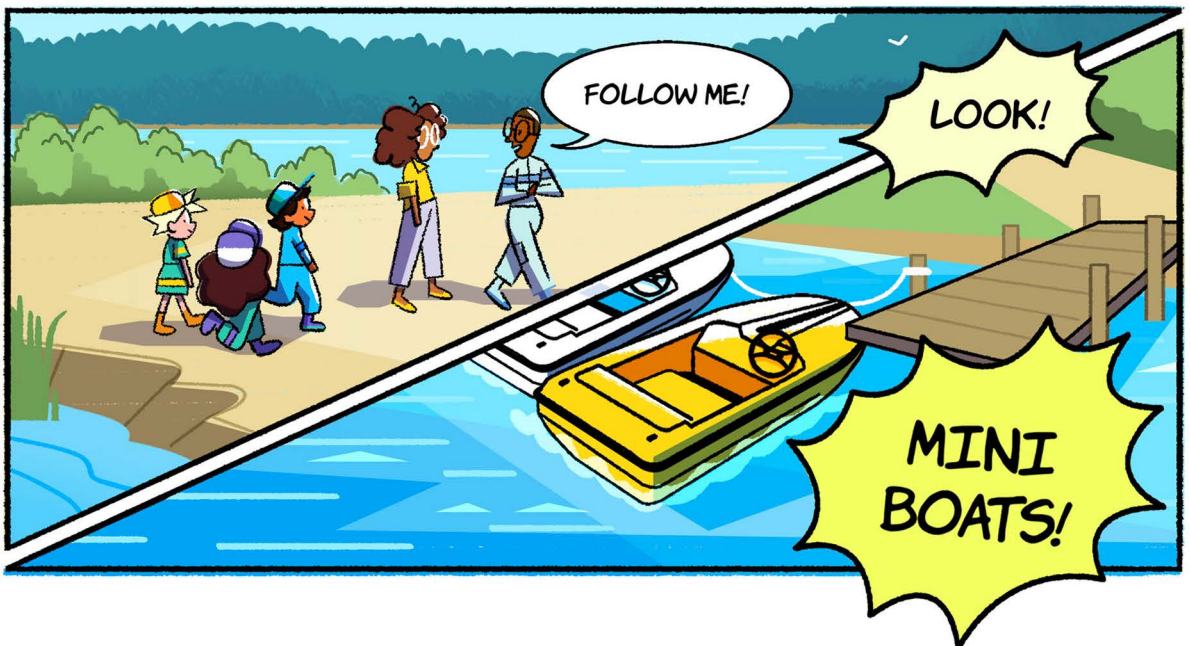
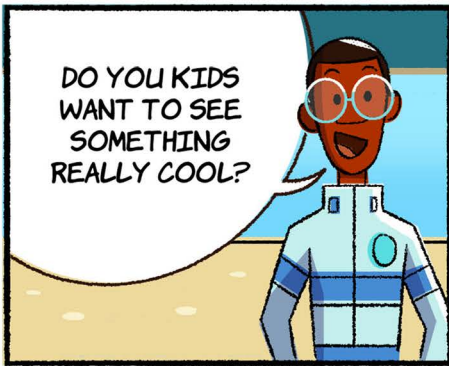
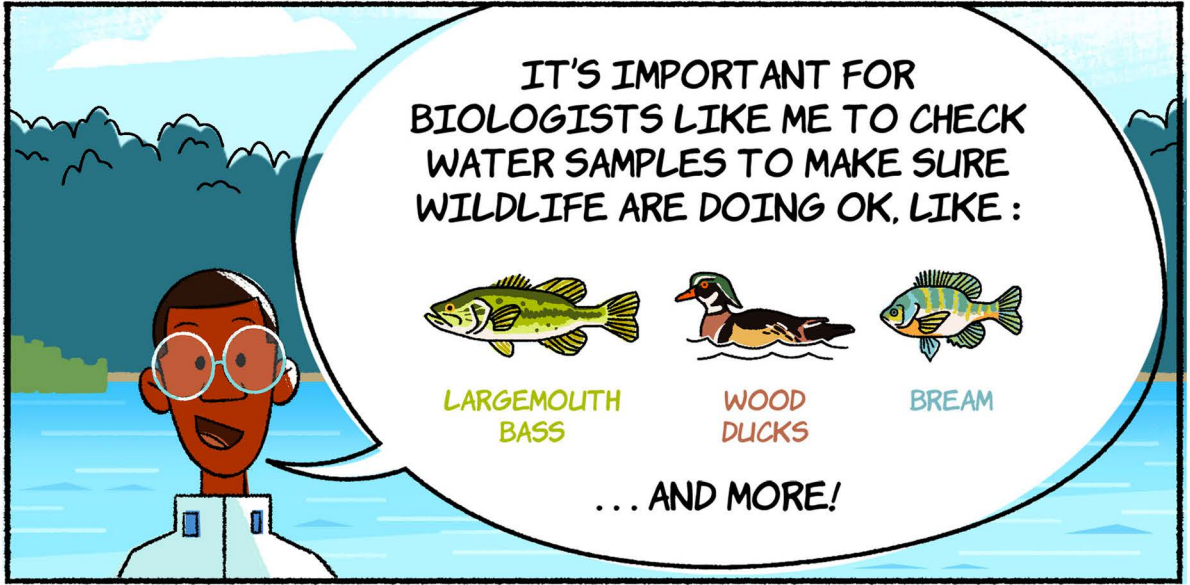
THEY ARRIVE!

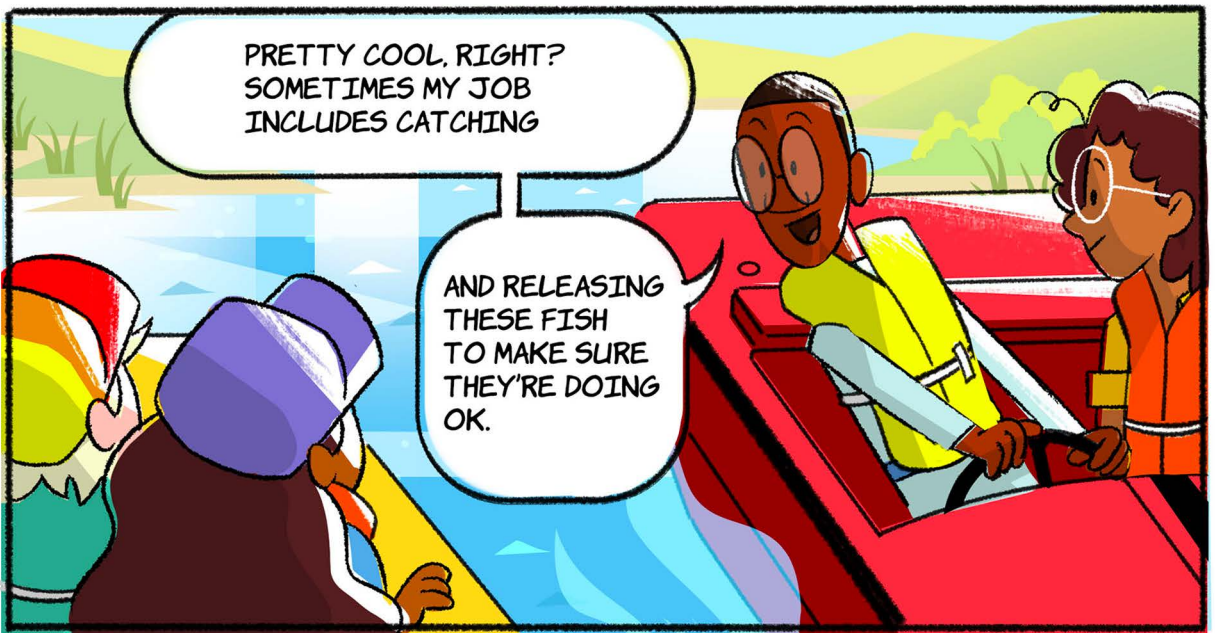


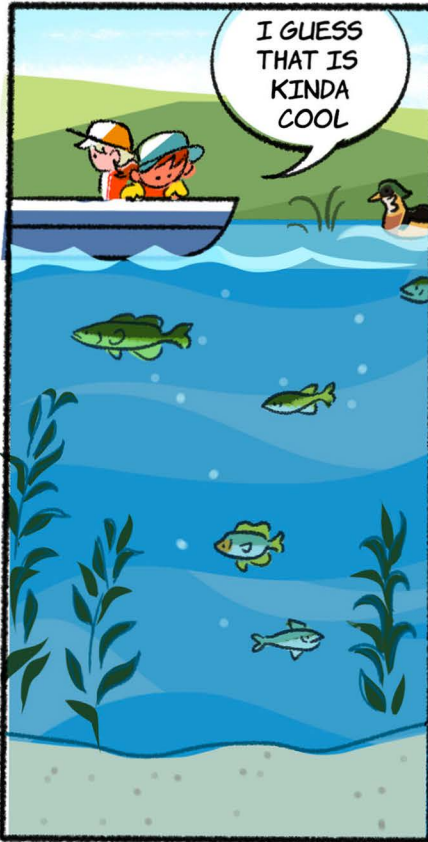
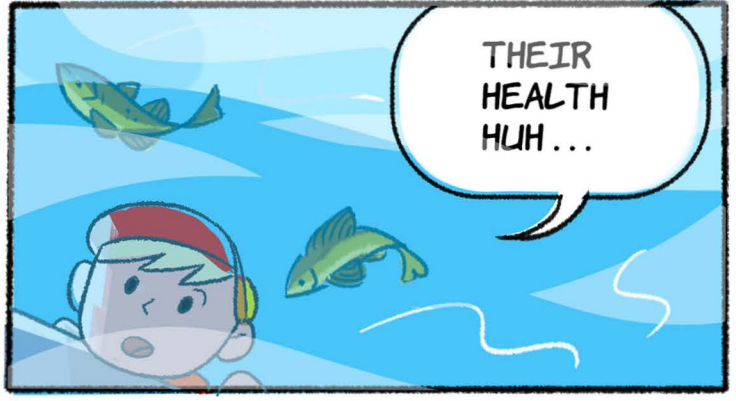
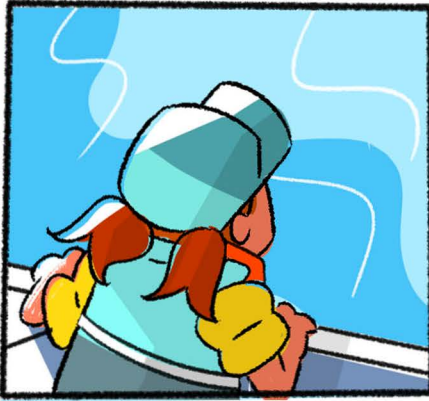
WOW!

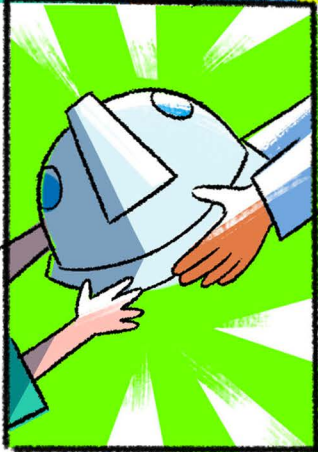
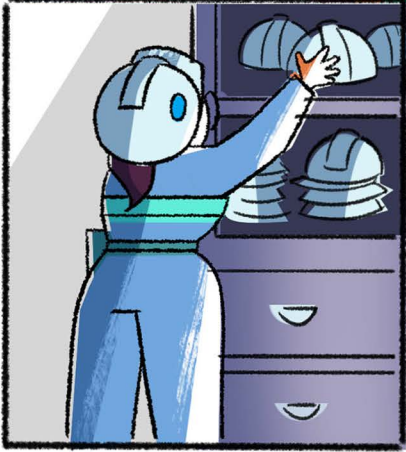
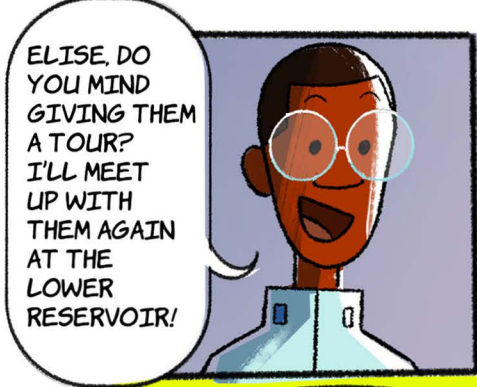
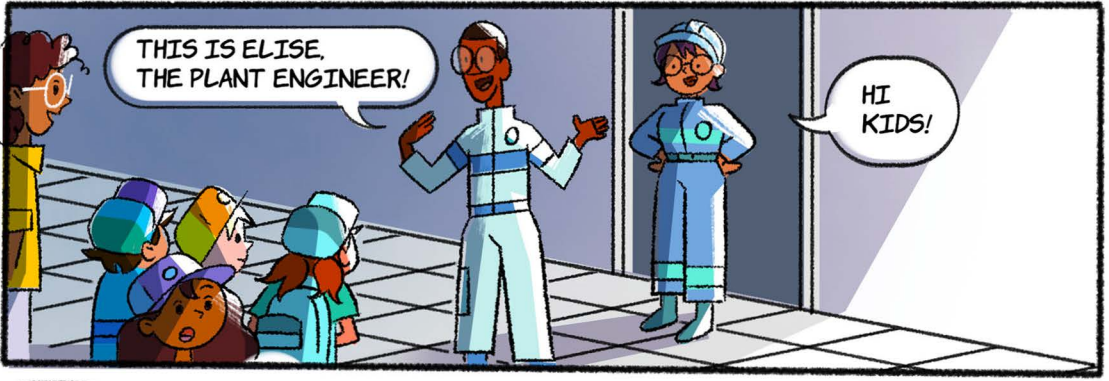
RUSSELL DAM
AND LAKE

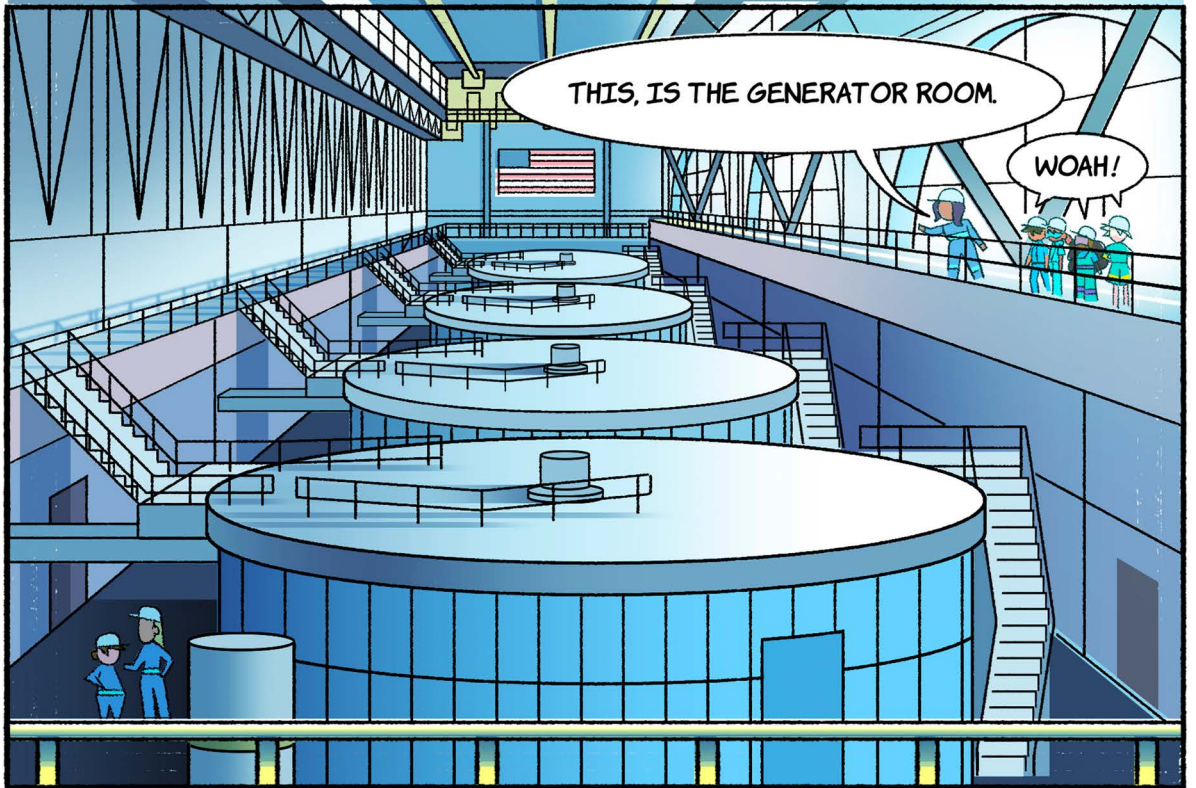
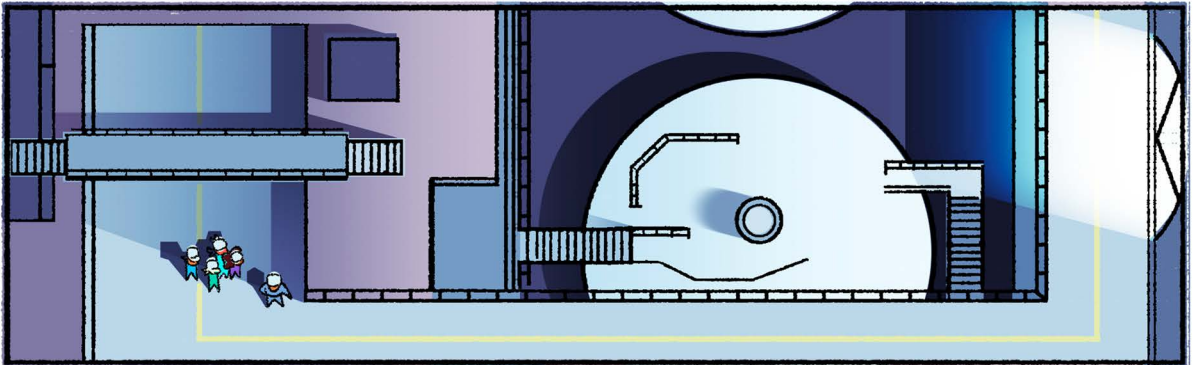
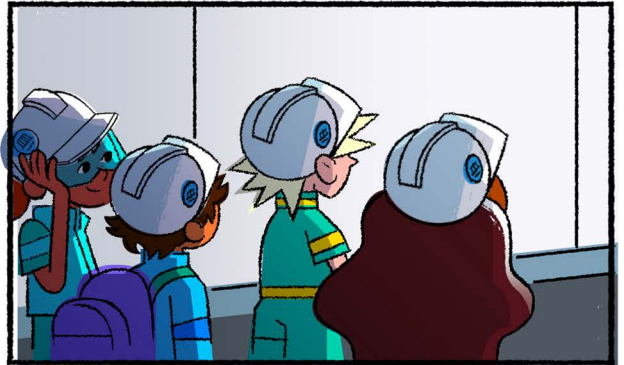


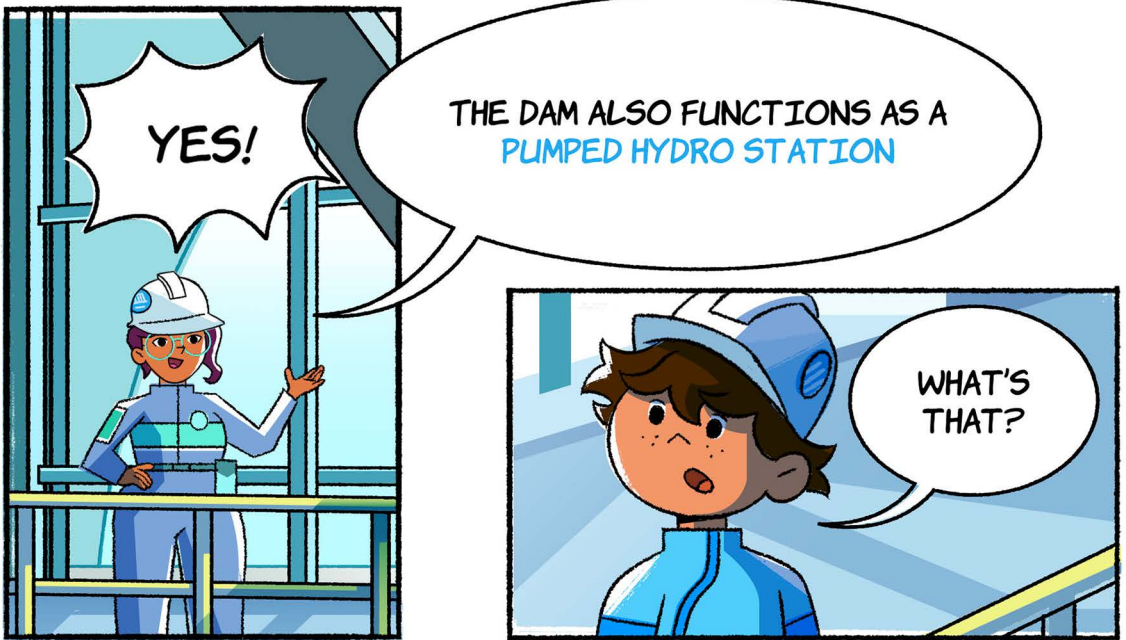
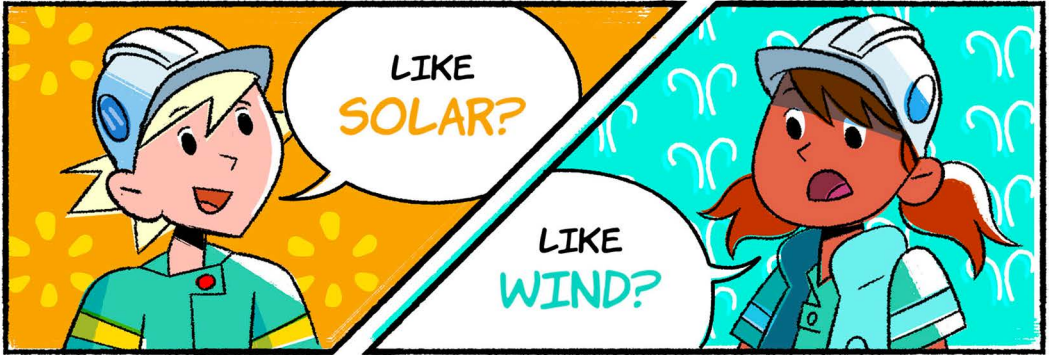
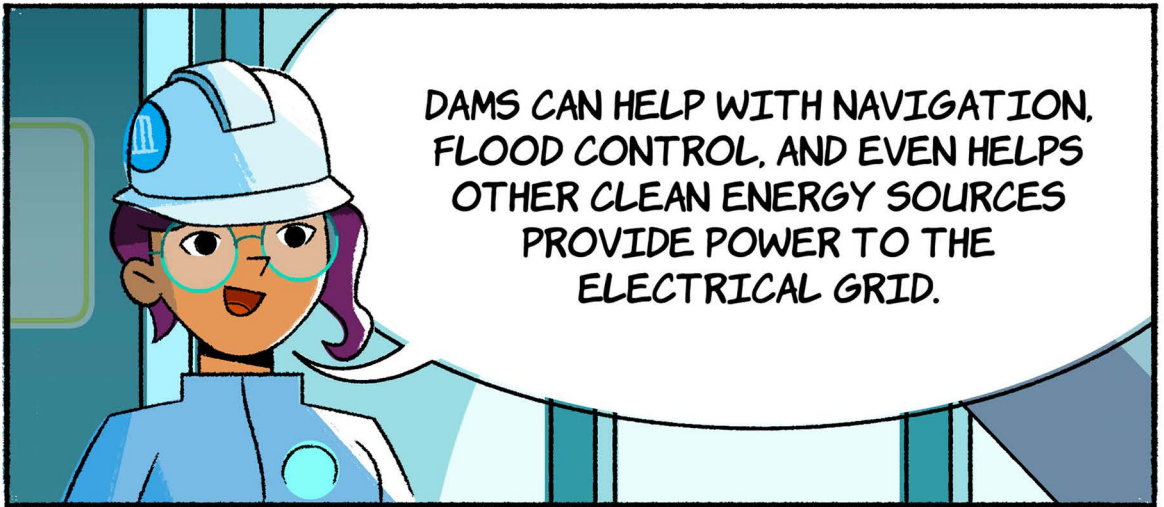








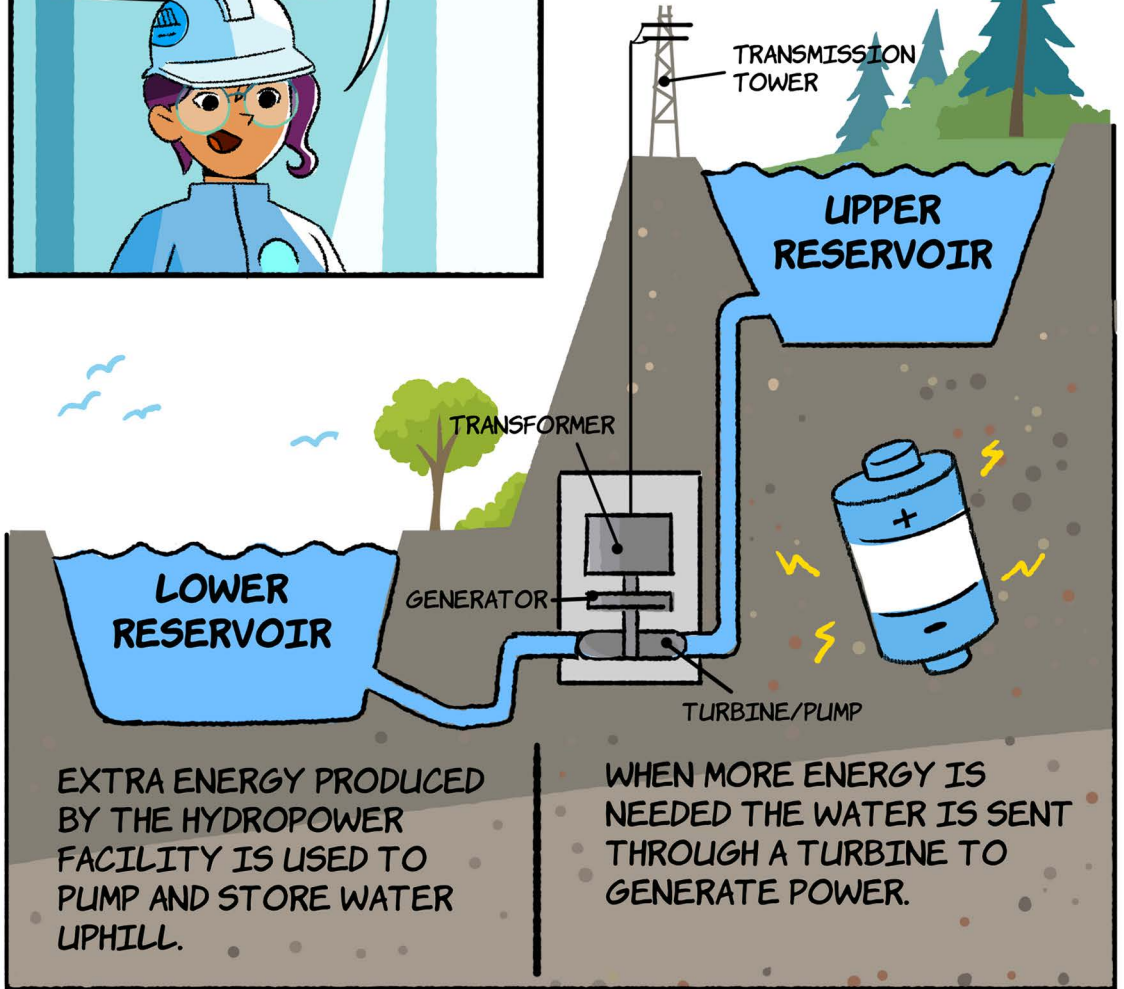




GOOD QUESTION!



PUMPED HYDROPOWER IS LIKE A GIANT BATTERY.



EXTRA ENERGY PRODUCED BY THE HYDROPOWER FACILITY IS USED TO PUMP AND STORE WATER UPHILL.

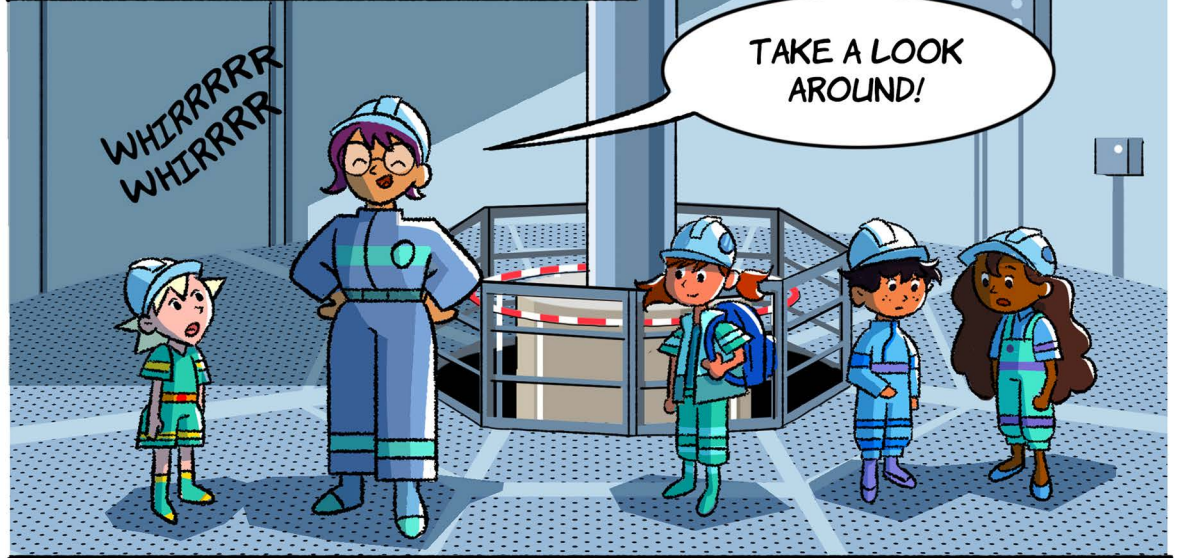
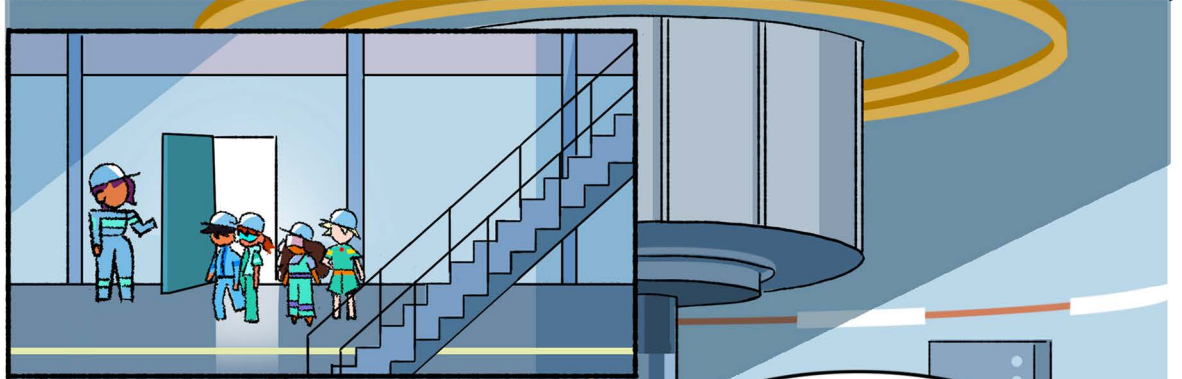
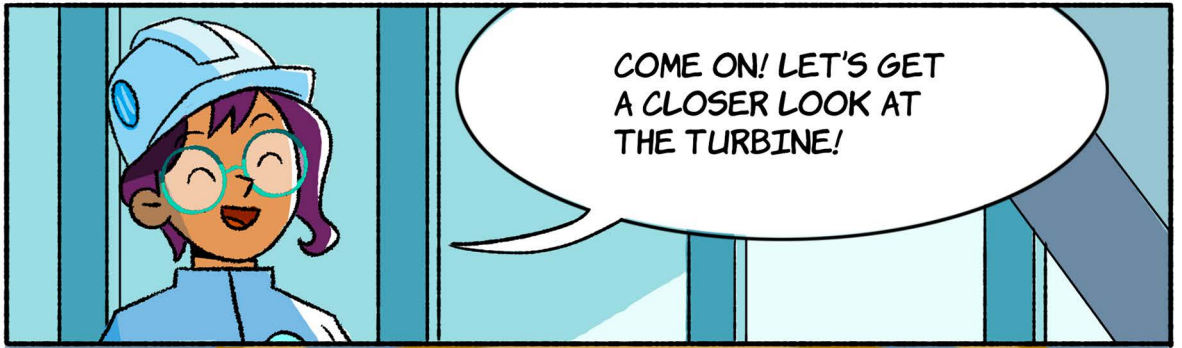
WHEN MORE ENERGY IS NEEDED THE WATER IS SENT THROUGH A TURBINE TO GENERATE POWER.

GEE, THAT WOULD HAVE COME IN HANDY WHEN THE LIGHTHOUSE WENT OUT DURING THE STORM LAST TIME!



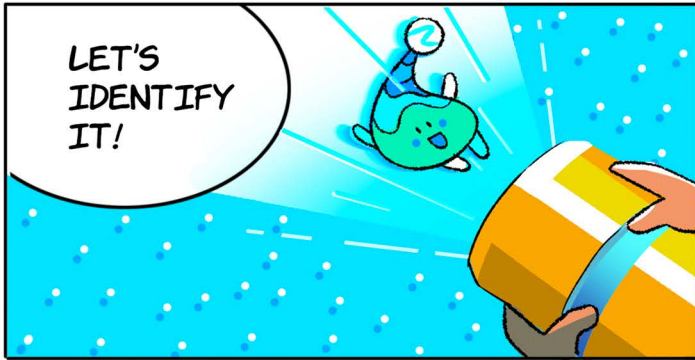
TRUE

THAT DEFINITELY WOULD HAVE SAVED US A LOT OF TROUBLE!

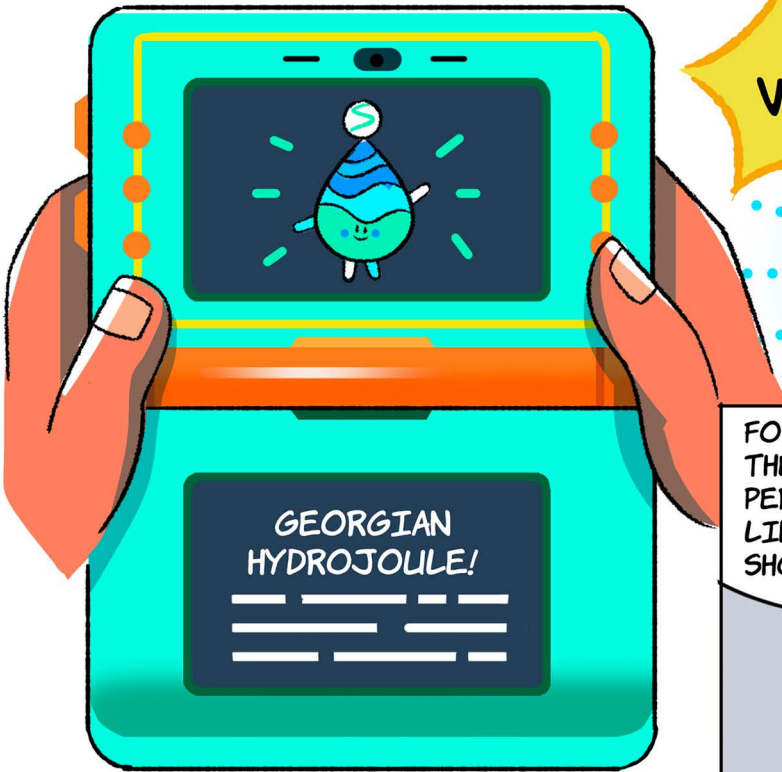




WAIT I SEE SOMETHING..



LET'S IDENTIFY IT!

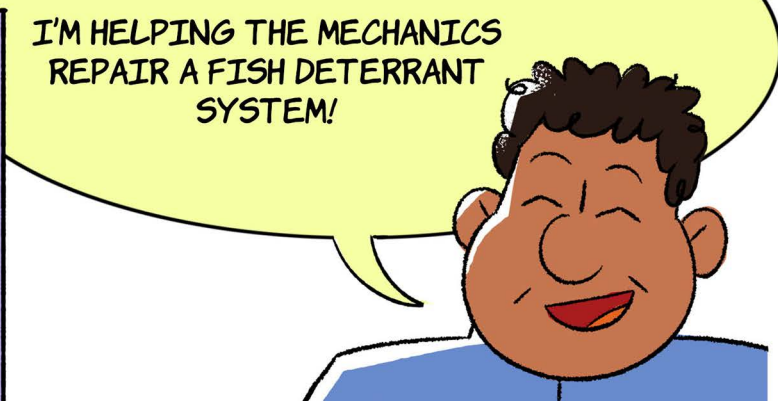
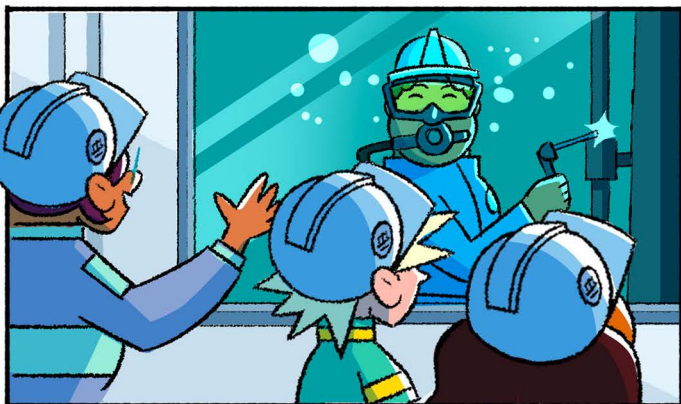
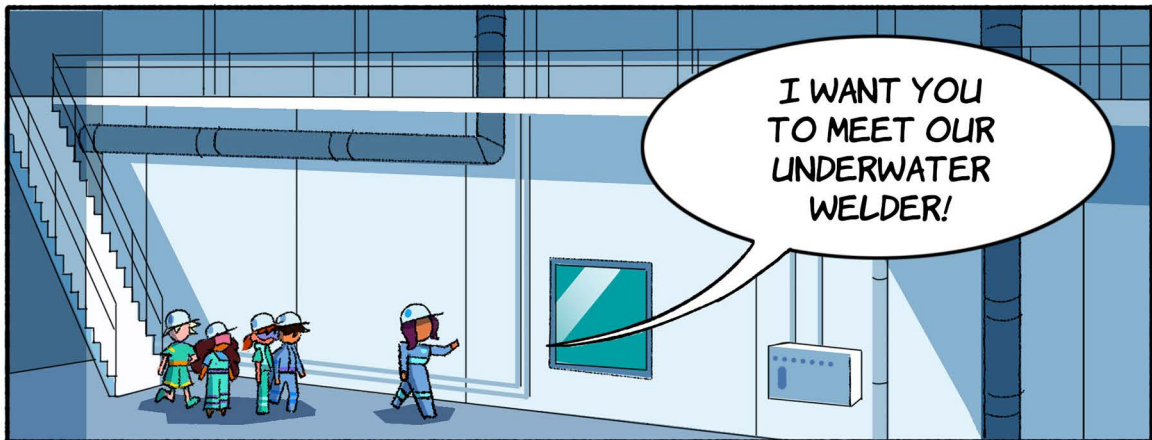


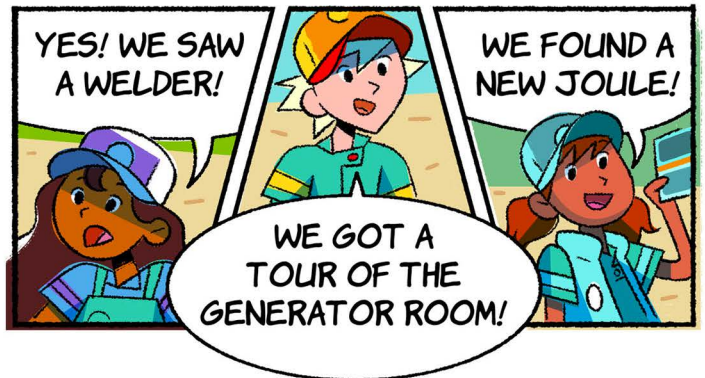
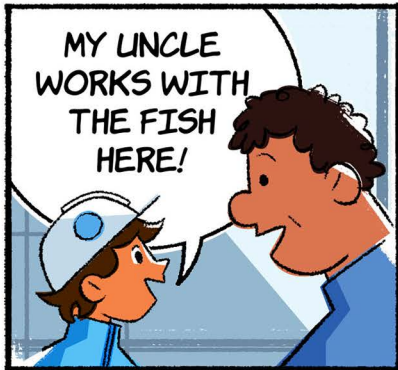
WOW!

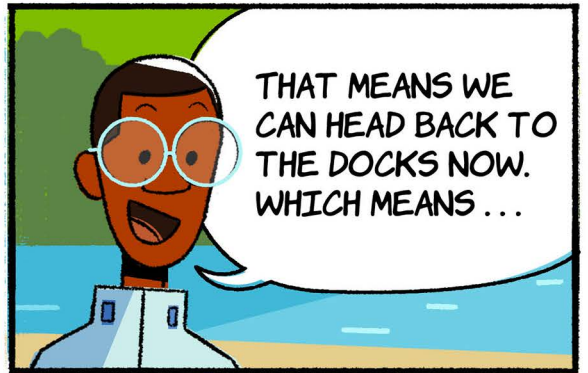
A NEW JOLLE!!



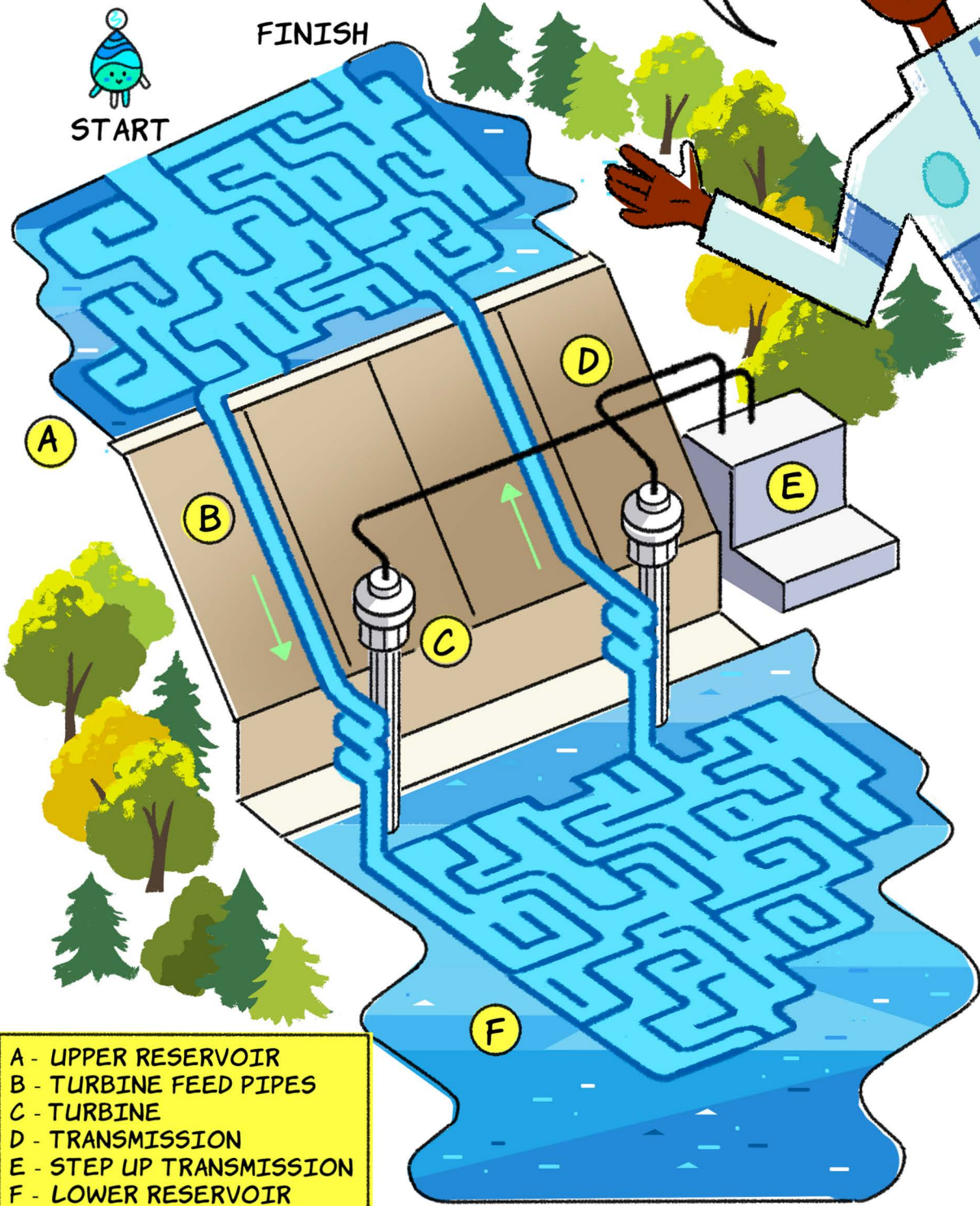
FOLLOW ME!
THERE'S ONE MORE
PERSON I'D
LIKE TO
SHOW YOU!





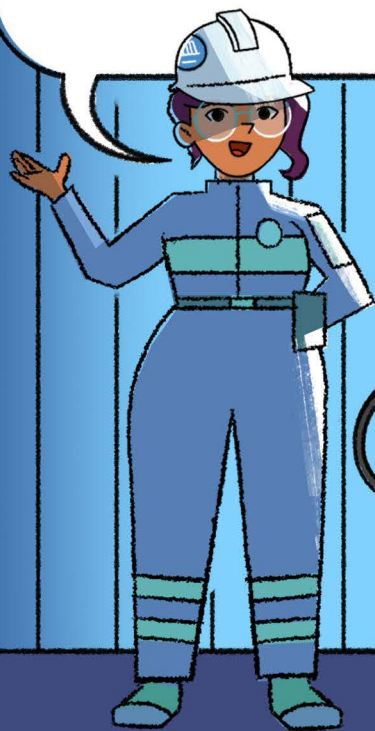


CAN YOU HELP OUR JOULE FIND ITS WAY DOWN AND BACK UP THE DAM?



- A - UPPER RESERVOIR
- B - TURBINE FEED PIPES
- C - TURBINE
- D - TRANSMISSION
- E - STEP UP TRANSMISSION
- F - LOWER RESERVOIR

THE SPARK SQUAD IS BACK! JASMINE, ARIA, AND THOMAS MAY KNOW A THING OR TWO ABOUT WAVE, WIND, AND SOLAR ENERGY, BUT THEIR NEW FRIEND ASHER IS HERE TO DROP SOME KNOWLEDGE ABOUT HYDROPOWER. PUT ON YOUR HARD HATS AND JOIN ASHER AND THE REST OF THE GANG ON A TOUR AROUND A HYDROPOWER FACILITY. HERE, THEY MEET PROFESSIONALS WHO TEACH THE SPARK SQUAD HOW A DAM OPERATES, CAPTURES HYDROJOULES, HELPS THE ENVIRONMENT, AND EVEN WORKS IN TANDEM WITH OTHER ENERGY SOURCES. OPEN THE FLOODGATES OF KNOWLEDGE!



READ MORE ENERGIZING ADVENTURES FROM THE SPARK SQUAD

SCAN TO VISIT THE SPARK SQUAD WEBSITE

