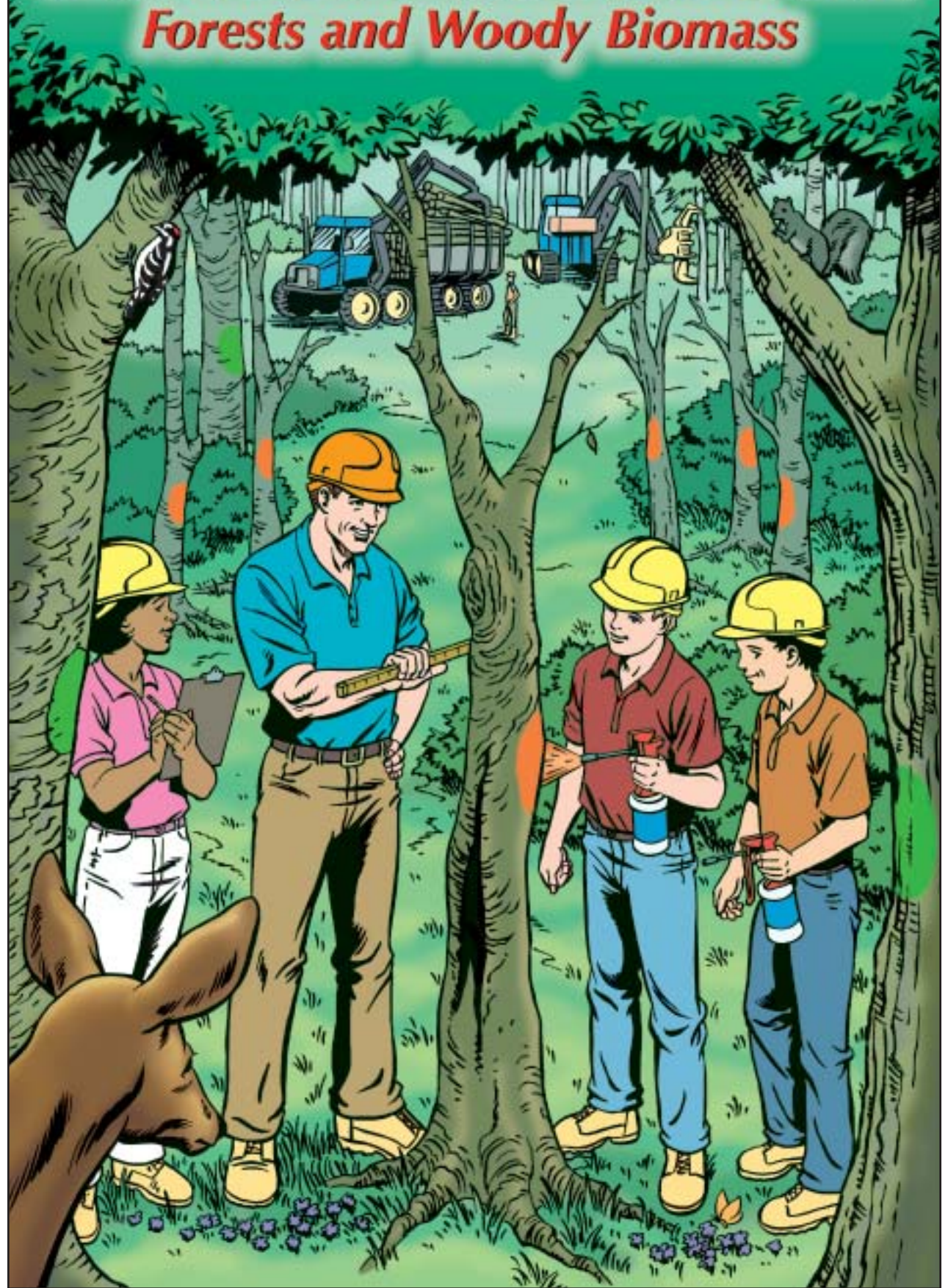


The Hidden Treasure provides an engaging and educational story for children in late elementary to middle school to help them understand that forest renewal improves the health of forests and provides biomass for many productive uses. It illustrates how wood biomass will play an important role in our nation's future, including energy security through the production of biofuels, biochemicals, and other sources of energy.

The

HIDDEN TREASURE

Forests and Woody Biomass





A forest is a living treasure!

The trees in forests give us many products that improve our lives. We use forest products for food, building material, furniture, and paper.



A living forest gives us many other riches. Forests help clean and improve the quality of our air. They clean and store water. They help keep soil resources healthy. Forests also provide habitat for wild animals.



Forests also give us a place to enjoy nature. They are a place where we can hike, ride, and camp. They offer us a quiet haven in our busy lives.

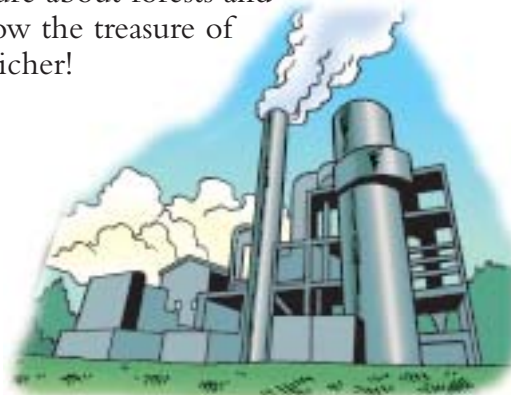
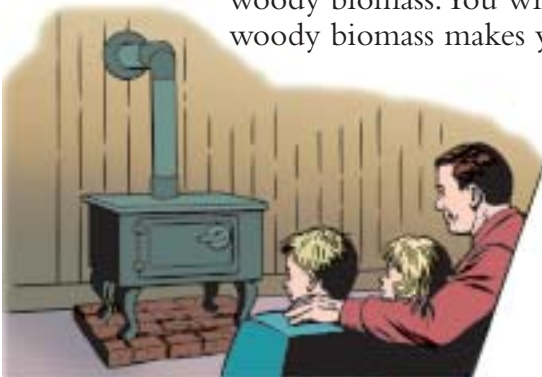
As we learn more about caring for forests, we keep finding new treasures. When we restore neglected or overgrown forests, we remove dead or unhealthy trees and other plants. We call this wood, branches, needles, leaves, and other material **woody biomass**.



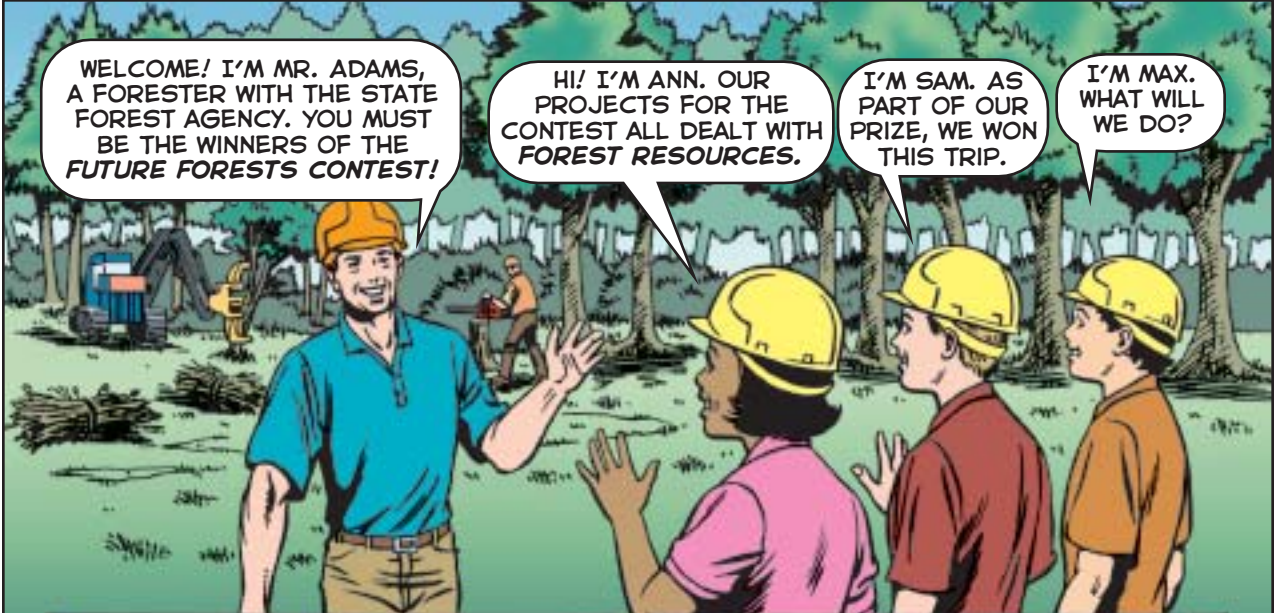
Woody biomass can be used for building material, plastics, and paper. It can provide heat and produce electrical energy. Woody biomass can even give us liquid fuel to power engines. We keep finding new products and services from this valuable resource.



Enjoy reading this adventure about forests and woody biomass. You will learn how the treasure of woody biomass makes your life richer!



For information on how to obtain more copies of this booklet, and for related educational resources, please visit:
www.nacdnet.org/education/hiddentreasure




WELCOME! I'M MR. ADAMS, A FORESTER WITH THE STATE FOREST AGENCY. YOU MUST BE THE WINNERS OF THE FUTURE FORESTS CONTEST!

HI! I'M ANN. OUR PROJECTS FOR THE CONTEST ALL DEALT WITH FOREST RESOURCES.

I'M SAM. AS PART OF OUR PRIZE, WE WON THIS TRIP.

I'M MAX. WHAT WILL WE DO?




WE'LL TRAVEL TO DIFFERENT FORESTS AROUND THE COUNTRY. WE'LL LEARN ABOUT THE FUTURE OF FORESTS AND SEE NEW WAYS THEY ARE HELPING US.



PART OF OUR TRIP WILL BE A HUNT FOR A HIDDEN TREASURE!

WHAT KIND OF TREASURE?

I CAN'T TELL YOU YET. BUT I'LL NEED YOUR HELP FINDING IT!



WE'RE HELPING THE OWNERS OF THIS PRIVATE LAND RENEW THE HEALTH OF THIS FOREST. THINNING TREES AND BRUSH CAN HELP THE HEALTH OF THE FOREST. ALL THE MATERIAL HARVESTED WILL BE MADE INTO USEFUL PRODUCTS. CAN YOU NAME SOME?

LUMBER FOR BUILDING MATERIALS.

WOOD FOR FURNITURE.

PULP, THE THICK LIQUID WHICH MAKES PAPER.

ALL OF YOU ARE RIGHT. LARGE TREES PROVIDE ALL THOSE PRODUCTS AND MORE. BUT WE ARE ALSO USING ALL THE **WOODY BIOMASS** WE REMOVE.



BIOMASS MEANS MATERIAL THAT COMES FROM LIVING THINGS, OR ORGANIC MATTER. BIOMASS COMES FROM RENEWABLE SOURCES LIKE CROPS AND FORESTS. **WOODY BIOMASS** DESCRIBES WOOD, BRANCHES, NEEDLES, AND LEAVES FROM TREES AND OTHER WOODY PLANTS. MY SCIENCE PROJECT EXPLORED NEW WAYS PEOPLE ARE USING WOODY BIOMASS FOR PAPER, BUILDING MATERIALS, AND ENERGY.

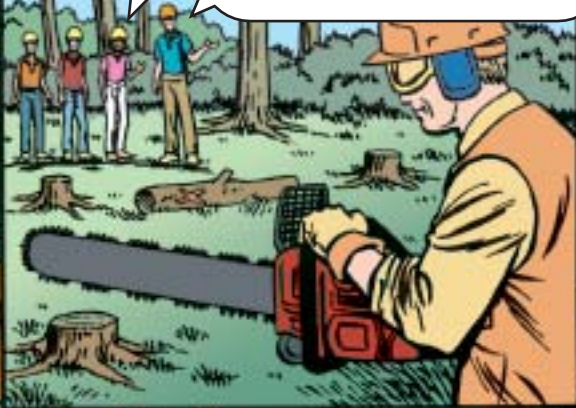


LARGER TREES DO HAVE GREAT ECONOMIC VALUE. BUT WE ARE ALSO LEARNING TO GET REAL VALUE FROM WOODY BIOMASS.



CUTTING DOWN ALL THESE TREES LOOKS PRETTY SEVERE.

SOMETIMES RENEWING A FOREST INVOLVES REMOVING THE RESULTS OF YEARS OF NEGLECT. BUT EVERY STEP OF THE PROCESS IS CAREFULLY PLANNED AND CONTROLLED.



WE ARE SELECTIVELY THINNING TREES AND BRUSH. THIS ALLOWS THE REMAINING TREES MORE ROOM TO GROW. THE FOREST WILL GROW HEALTHIER AND BE LESS VULNERABLE TO UNCONTROLLED WILDFIRES. NOW LET'S VISIT ANOTHER PART OF THE FOREST.

WE CARRIED OUT THE SAME RENEWAL PROCESS YOU JUST SAW ON THIS PART OF THE FOREST ABOUT FIVE YEARS AGO.

WOW! ALL THE TREES HERE LOOK SO HEALTHY!

A LOT OF WILDLIFE LIVES HERE!



CAREFUL FOREST **MANAGEMENT**, INCLUDING SELECTIVE THINNING, HELPS KEEP FORESTS HEALTHY. MUCH OF THIS MIMICS NATURE'S OWN SELECTION PROCESSES. THIS INCREASES THE GREAT BENEFITS WE RECEIVE FROM FORESTS. CAN YOU NAME SOME WAYS THAT FORESTS HELP US?



FORESTS HELP **CLEAN AIR** AND ADD **OXYGEN** TO THE ATMOSPHERE. THEY HOLD **SOIL** AND IMPROVE THE QUALITY OF **SOIL RESOURCES**.

PLANTS AND SOIL IN FORESTS COLLECT AND STORE RAIN WATER. WATER THAT PASSES THROUGH LAYERS OF SOIL IN FORESTS IS CLEANED BY THE PROCESS OF **PERCOLATION**.

FORESTS PROVIDE **HABITAT** FOR WILDLIFE. HABITAT IS THE AREA THAT PROVIDES FOOD, WATER, SHELTER, AND SPACE FOR ANIMALS TO LIVE.



SOME PEOPLE DON'T LIKE CUTTING **ANY** TREES.

FORESTS NEED CARE TO STAY HEALTHY. THAT SOMETIMES INCLUDES SELECTIVELY REMOVING TREES AND BRUSH. TODAY'S FORESTERS ARE TRAINED TO MANAGE FORESTS TO KEEP THEM HEALTHY, WHILE PROVIDING THE IMPORTANT FOREST PRODUCTS WE ALL NEED.

WE'VE FOUND THAT NOT ONLY CAN WE USE FOREST RESOURCES SO THEY **CONTINUE** TO PROVIDE THEIR RICHES, BUT ALSO THAT FORESTS **NEED** THAT CARE TO STAY HEALTHY!

WE ALL USE PRODUCTS THAT COME FROM FORESTS. AND WE ALL BENEFIT FROM HOW FORESTS **IMPROVE** OUR ENVIRONMENT.

WE NEED TO KEEP FORESTS **HEALTHY** SO WE CAN ENJOY THOSE BENEFITS IN THE **FUTURE**.



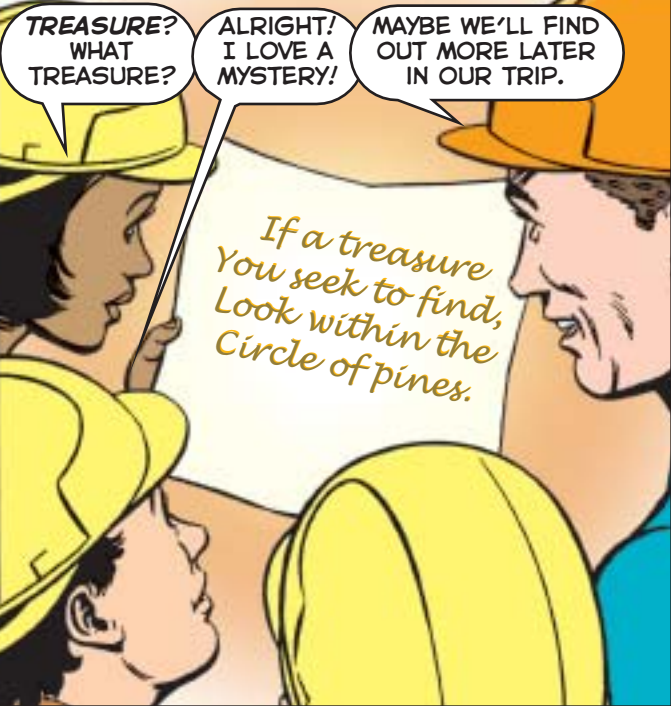
WHAT IS THAT GOLDEN BOX DOING HERE?

WHY DON'T YOU LOOK INSIDE?

TREASURE? WHAT TREASURE?

ALRIGHT! I LOVE A MYSTERY!

MAYBE WE'LL FIND OUT MORE LATER IN OUR TRIP.



*If a treasure
You seek to find,
Look within the
Circle of pines.*



WE'RE READY FOR THE NEXT STOP ON OUR TRIP.

WE'LL TRAVEL TO DIFFERENT FORESTS ACROSS THE COUNTRY!

I'VE NEVER SEEN THIS KIND OF PLANE BEFORE.

IT'S A NEW DESIGN. WE'LL LEARN MORE ABOUT IT DURING OUR TRIP.



FORESTS ARE COMPLEX COMMUNITIES OF TREES, OTHER PLANTS, AND ANIMALS.

FORESTS ARE SOME OF THE UNITED STATES' MOST VALUABLE RESOURCES.

FORESTS ARE VITAL FOR OUR QUALITY OF LIFE. THEY IMPROVE AIR QUALITY AROUND LIVING AREAS.

THEY COLLECT, CLEAN, AND STORE WATER FOR USE BY URBAN AREAS.

THEY GIVE US QUIET PLACES TO ENJOY NATURE, WHERE WE CAN PAUSE AND REFLECT DURING OUR BUSY LIVES.



BUT FORESTS NEED TO BE MANAGED SO THEY STAY HEALTHY. TO LEARN MORE, LET'S MEET MR. CHEE AND MS. TAYLOR.

WELCOME TO OUR WESTERN FOREST!



YOU'LL SEE HOW WE'RE RENEWING THE FOREST THAT SURROUNDS OUR COMMUNITY.

A HEALTHY FOREST REDUCES THE RISK OF FIRE DAMAGE TO OUR TOWN.

FOR YEARS PEOPLE HAVE PUT OUT NATURAL WILDFIRES AND ALLOWED BRUSH AND SMALL TREES TO GROW THICK HERE.

THIS CREATES A **LADDER** OF FUEL FROM THE FLOOR TO THE TOP OF THE FOREST.

WHEN FIRES START IN A DENSE AND OVERGROWN FOREST LIKE THIS, FUEL LADDERS LET FIRE CLIMB INTO THE TOPS OF TREES. THESE INTENSE WILDFIRES CAN RAGE OUT OF CONTROL, DESTROYING FORESTS AND THREATENING PEOPLE AND HOMES.



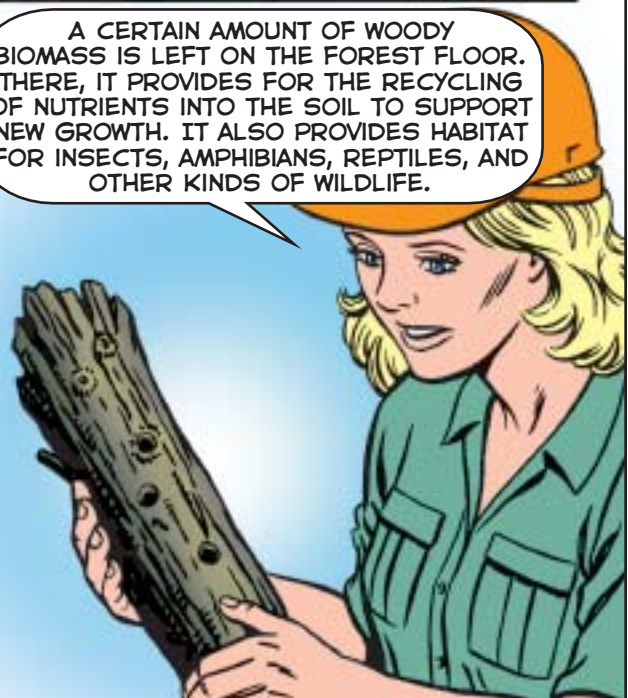
MY SCIENCE PROJECT STUDIED FOREST COMMUNITIES AND HOW TO KEEP THEM HEALTHY.

I LEARNED THAT FOREST MANAGEMENT INCLUDING CAREFUL THINNING, NOT ONLY HELPS MAINTAIN THE HEALTH OF FOREST TREES, BUT IT ALSO IMPROVES THE HABITAT FOR WILDLIFE.



AS PART OF THE FOREST RENEWAL, WE'RE REMOVING BRUSH AND MANY SMALL OR DEAD TREES THAT CREATE A LADDER OF FUEL.

A CERTAIN AMOUNT OF WOODY BIOMASS IS LEFT ON THE FOREST FLOOR. THERE, IT PROVIDES FOR THE RECYCLING OF NUTRIENTS INTO THE SOIL TO SUPPORT NEW GROWTH. IT ALSO PROVIDES HABITAT FOR INSECTS, AMPHIBIANS, REPTILES, AND OTHER KINDS OF WILDLIFE.



WE TRY TO USE AS MUCH OF WHAT WE REMOVE AS POSSIBLE. MUCH OF THE LARGER TIMBER CAN BE USED.

IN THE PAST, A LOT OF WOODY BIOMASS LIKE THIS WAS NOT USED EFFECTIVELY. BUT NOT TODAY!

WE'RE LEARNING MANY VALUABLE USES FOR WOODY BIOMASS. AND WE NEED TO DEVELOP *NEW* METHODS TO EFFECTIVELY USE THIS FOREST RESOURCE. THEN WE WILL HAVE STRONG REASONS AND GOOD REWARDS FOR KEEPING FORESTS HEALTHY!

HERE IS AN EXPERIMENTAL ELECTRIC POWER PLANT. IT IS FUELED BY WOODY BIOMASS FROM THE SURROUNDING FOREST.

MY SCIENCE PROJECT EXPLORED WAYS TO GENERATE ELECTRICITY USING WOODY BIOMASS. SOME COMMUNITIES CAN GENERATE POWER FROM THEIR OWN HEALTHY FORESTS.

WE COMPLETED THE RENEWAL PROCESS ON THIS SECTION OF FOREST SEVERAL YEARS AGO. WE'VE HAD FEWER WILDFIRES HERE, AND THE ONES THAT DID BREAK OUT WERE LESS INTENSE AND MORE EASILY CONTROLLED.

SEE HOW *HEALTHY* THE TREES LOOK? AND WILDLIFE HERE HAS BECOME MORE NUMEROUS AND DIVERSE.

HEY LOOK! A CIRCLE OF PINE TREES!

JUST LIKE THE CLUE SAID!

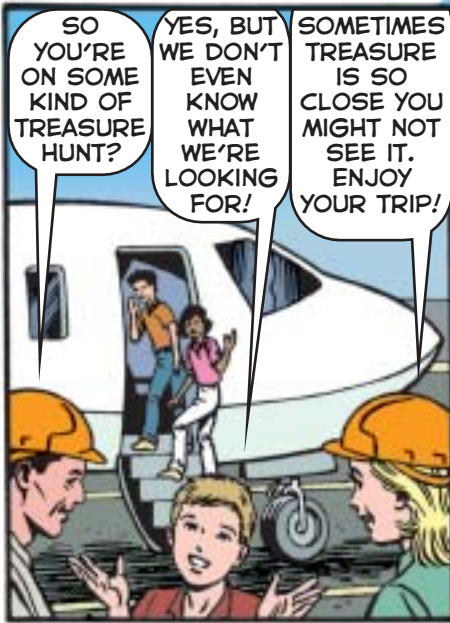
THERE'S ANOTHER GOLD BOX INSIDE!

ANOTHER CLUE!

*To gain riches
You can share,
Look beneath the
Big Green Bear.*

HUH? *BIG GREEN BEAR?*

HOW ARE WE SUPPOSED TO FIND *THAT*?



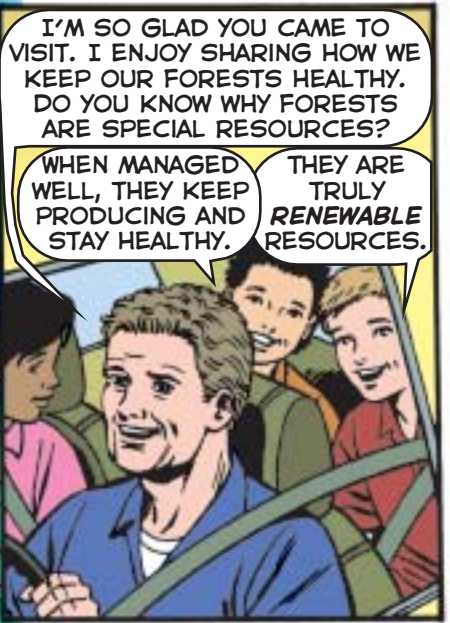
SO YOU'RE ON SOME KIND OF TREASURE HUNT?

YES, BUT WE DON'T EVEN KNOW WHAT WE'RE LOOKING FOR!

SOMETIMES TREASURE IS SO CLOSE YOU MIGHT NOT SEE IT. ENJOY YOUR TRIP!



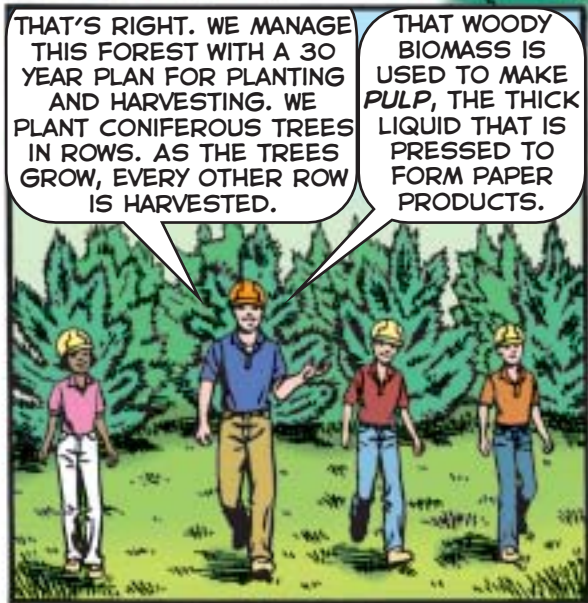
NOW WE'LL HEAD TO THE SOUTHEAST. WE'LL MEET MR. VOLKS. HE HELPS MANAGE A LARGE FOREST PLANTATION.



I'M SO GLAD YOU CAME TO VISIT. I ENJOY SHARING HOW WE KEEP OUR FORESTS HEALTHY. DO YOU KNOW WHY FORESTS ARE SPECIAL RESOURCES?

WHEN MANAGED WELL, THEY KEEP PRODUCING AND STAY HEALTHY.

THEY ARE TRULY **RENEWABLE** RESOURCES.

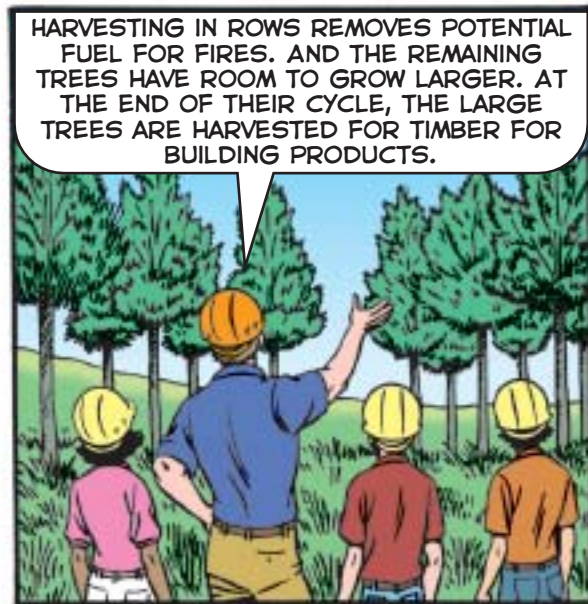


THAT'S RIGHT. WE MANAGE THIS FOREST WITH A 30 YEAR PLAN FOR PLANTING AND HARVESTING. WE PLANT CONIFEROUS TREES IN ROWS. AS THE TREES GROW, EVERY OTHER ROW IS HARVESTED.

THAT WOODY BIOMASS IS USED TO MAKE **PULP**, THE THICK LIQUID THAT IS PRESSED TO FORM PAPER PRODUCTS.



WE'RE ALSO FINDING WAYS TO USE WOODY BIOMASS TO PRODUCE **PLASTICS** THAT CAN BE MOLDED INTO USEFUL PRODUCTS. MOST PLASTIC TODAY IS MADE FROM OIL. BUT WOODY BIOMASS WILL BECOME MORE IMPORTANT AS A SOURCE OF PLASTICS.



HARVESTING IN ROWS REMOVES POTENTIAL FUEL FOR FIRES. AND THE REMAINING TREES HAVE ROOM TO GROW LARGER. AT THE END OF THEIR CYCLE, THE LARGE TREES ARE HARVESTED FOR TIMBER FOR BUILDING PRODUCTS.

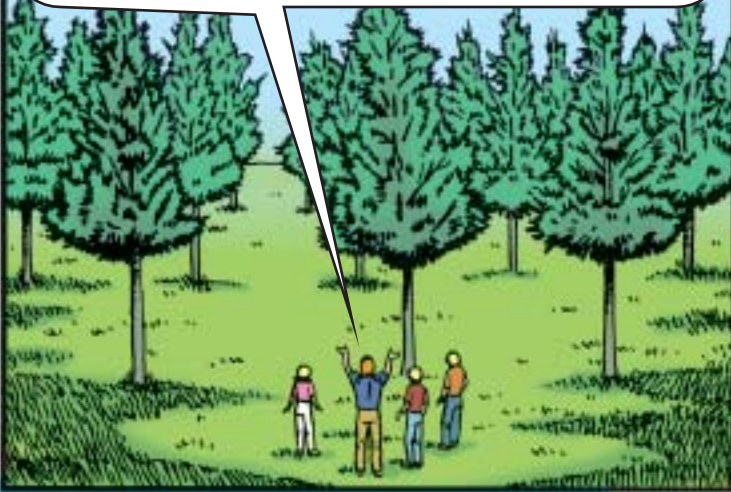


FORESTS ARE AMAZING RESOURCES!

THEY KEEP GROWING AND GIVING US USEFUL PRODUCTS!

THAT'S RIGHT. BUT FORESTS ALSO GIVE US MANY OTHER BENEFITS BESIDES PRODUCTS.

GROWING FORESTS REMOVE **CARBON DIOXIDE** FROM THE ATMOSPHERE AND ADD LIFE-GIVING **OXYGEN**. MANY SCIENTISTS THINK THIS CAN HELP KEEP OUR CLIMATE STABLE AND LIVABLE.



THESE VITAL BENEFITS ARE GREATEST IN CAREFULLY MANAGED FORESTS. WHEN FORESTS ARE CARELESSLY REMOVED, THEIR BENEFITS **DISAPPEAR**. WHEN THEY ARE ALLOWED TO BECOME DENSE AND OVERGROWN, THEIR BENEFITS **DECREASE**. WE'RE USING **SUSTAINABLE** METHODS TO KEEP FORESTS **PRODUCTIVE** AND **HEALTHY**.



WHILE MUCH OF THE FORESTS WE MANAGE ARE CONIFEROUS CROP TREES, WE MAINTAIN AREAS OF HARDWOOD FORESTS. SOME OF THESE TREES HAVE REAL CHARACTER, LIKE THAT OLD ONE WE CALL "THE BEAR."

THE **GREEN BEAR!**

EXCUSE US, MR. VOLKS!

WE'RE ON A TREASURE HUNT!

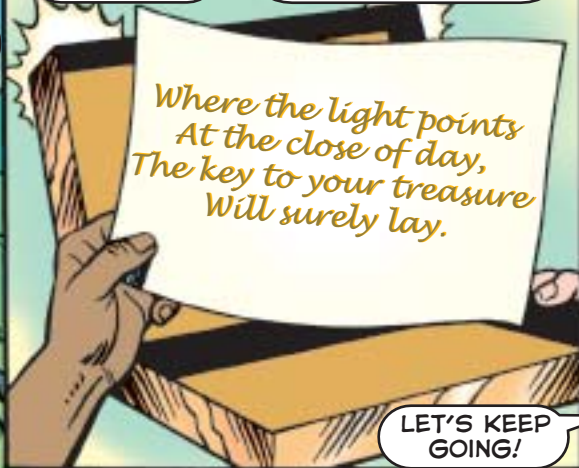


ANOTHER **GOLD BOX!** WITH ANOTHER **MESSAGE!**

THE MORE WE LEARN ABOUT **WOODY BIOMASS**, THE CLOSER WE GET TO THE **TREASURE!**

*Where the light points
At the close of day,
The key to your treasure
Will surely lay.*

LET'S KEEP GOING!



FAREWELL! THINK ABOUT THE FUTURE OF FORESTS. REMEMBER, IF YOU KEEP THEM HEALTHY, THEY WILL KEEP GIVING TO YOU!

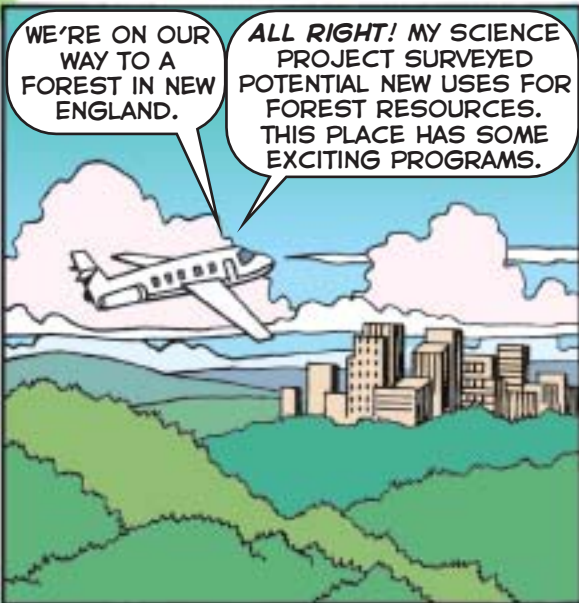
THANKS, MR. VOLKS!

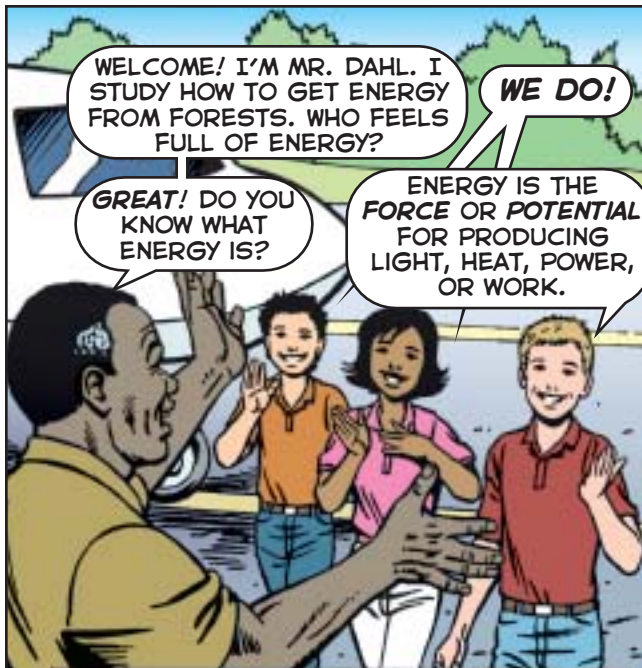
BYE!



WE'RE ON OUR WAY TO A FOREST IN NEW ENGLAND.

ALL RIGHT! MY SCIENCE PROJECT SURVEYED POTENTIAL NEW USES FOR FOREST RESOURCES. THIS PLACE HAS SOME EXCITING PROGRAMS.



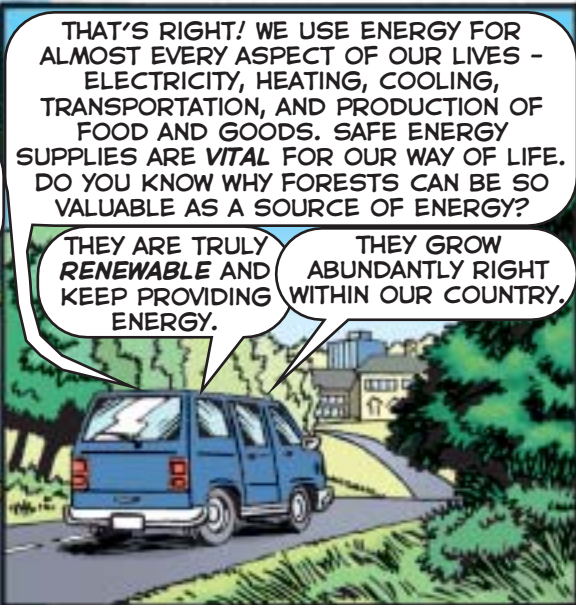


WELCOME! I'M MR. DAHL. I STUDY HOW TO GET ENERGY FROM FORESTS. WHO FEELS FULL OF ENERGY?

WE DO!

GREAT! DO YOU KNOW WHAT ENERGY IS?

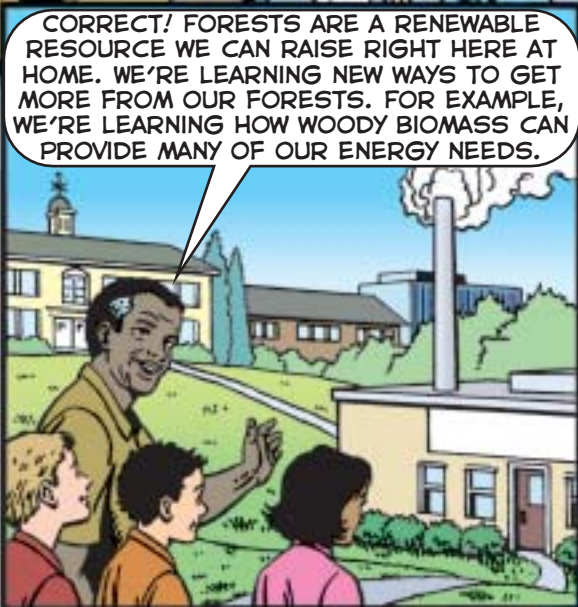
ENERGY IS THE FORCE OR POTENTIAL FOR PRODUCING LIGHT, HEAT, POWER, OR WORK.



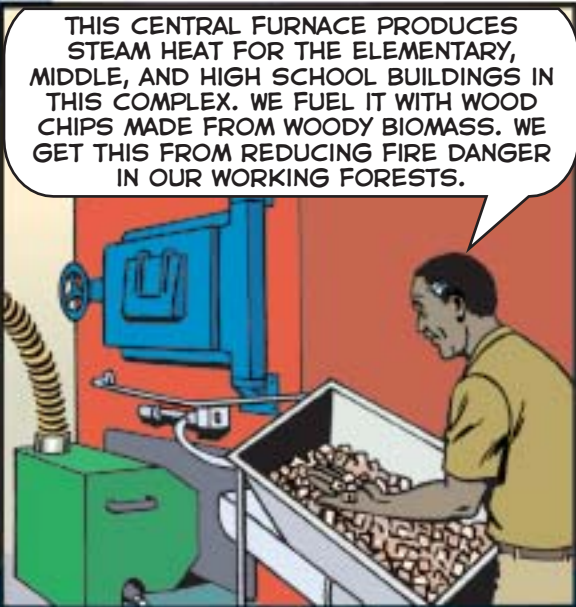
THAT'S RIGHT! WE USE ENERGY FOR ALMOST EVERY ASPECT OF OUR LIVES - ELECTRICITY, HEATING, COOLING, TRANSPORTATION, AND PRODUCTION OF FOOD AND GOODS. SAFE ENERGY SUPPLIES ARE VITAL FOR OUR WAY OF LIFE. DO YOU KNOW WHY FORESTS CAN BE SO VALUABLE AS A SOURCE OF ENERGY?

THEY ARE TRULY RENEWABLE AND KEEP PROVIDING ENERGY.

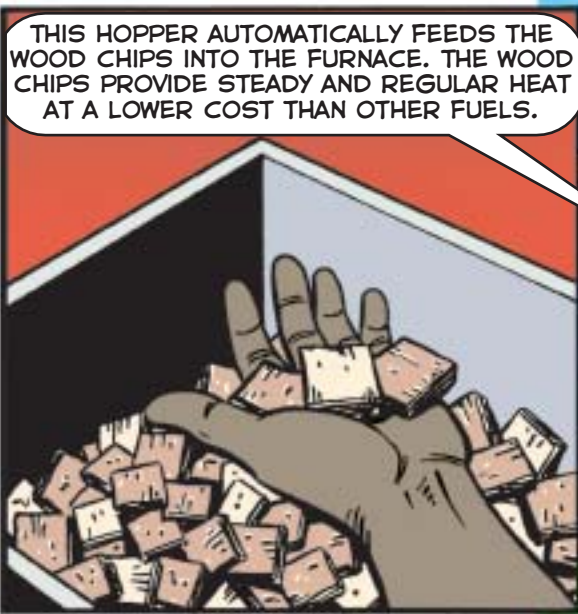
THEY GROW ABUNDANTLY RIGHT WITHIN OUR COUNTRY.



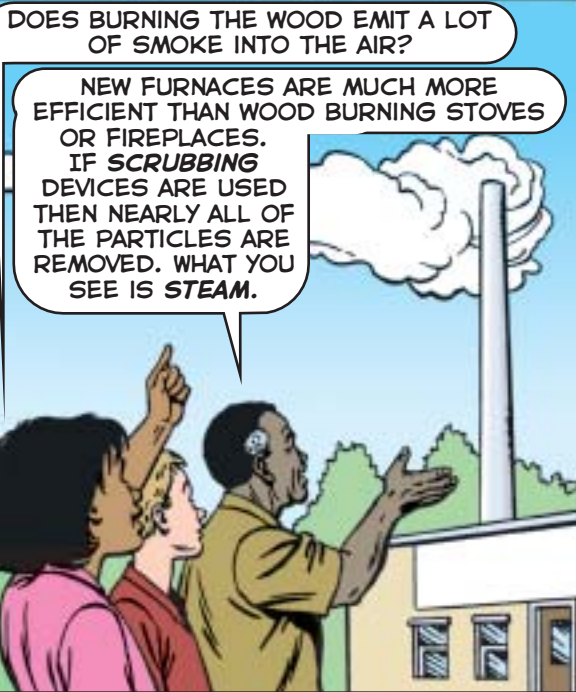
CORRECT! FORESTS ARE A RENEWABLE RESOURCE WE CAN RAISE RIGHT HERE AT HOME. WE'RE LEARNING NEW WAYS TO GET MORE FROM OUR FORESTS. FOR EXAMPLE, WE'RE LEARNING HOW WOODY BIOMASS CAN PROVIDE MANY OF OUR ENERGY NEEDS.



THIS CENTRAL FURNACE PRODUCES STEAM HEAT FOR THE ELEMENTARY, MIDDLE, AND HIGH SCHOOL BUILDINGS IN THIS COMPLEX. WE FUEL IT WITH WOOD CHIPS MADE FROM WOODY BIOMASS. WE GET THIS FROM REDUCING FIRE DANGER IN OUR WORKING FORESTS.



THIS HOPPER AUTOMATICALLY FEEDS THE WOOD CHIPS INTO THE FURNACE. THE WOOD CHIPS PROVIDE STEADY AND REGULAR HEAT AT A LOWER COST THAN OTHER FUELS.



DOES BURNING THE WOOD EMIT A LOT OF SMOKE INTO THE AIR?

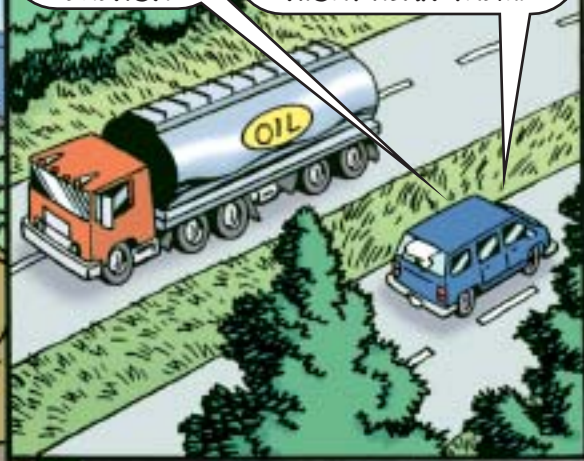
NEW FURNACES ARE MUCH MORE EFFICIENT THAN WOOD BURNING STOVES OR FIREPLACES. IF SCRUBBING DEVICES ARE USED THEN NEARLY ALL OF THE PARTICLES ARE REMOVED. WHAT YOU SEE IS STEAM.

WOODY BIOMASS WILL BECOME MORE IMPORTANT FOR PRODUCING HEAT. IT WORKS ESPECIALLY WELL FOR GROUPS OF BUILDINGS LIKE SCHOOLS AND OFFICES THAT ARE HEATED BY A **CENTRAL FURNACE**.



MOVING FUEL LIKE OIL AND COAL ADDS A LOT TO THE COST OF ENERGY.

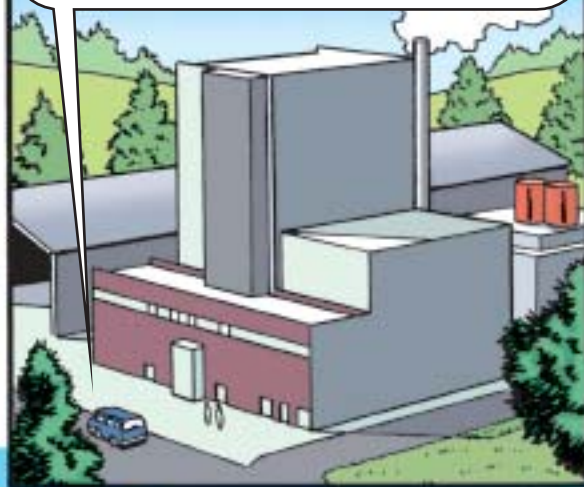
LOCAL FORESTS CAN PROVIDE WOODY BIOMASS TO SUPPLY ENERGY FOR HEAT, ELECTRICITY, AND FUEL FOR COMMUNITIES RIGHT NEAR THEM.



COMMUNITIES ACROSS THE COUNTRY WILL SEE REAL VALUE IN KEEPING LOCAL FOREST RESOURCES **HEALTHY AND GROWING**.

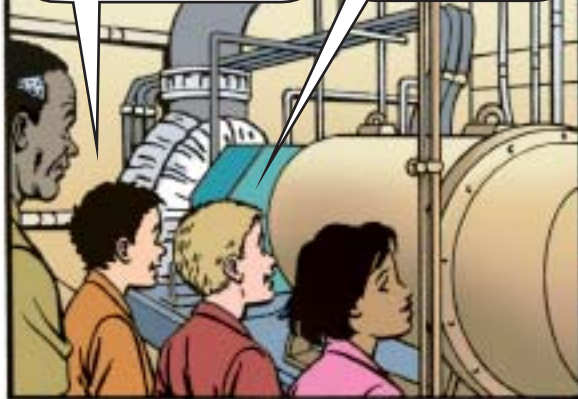


THIS IS AN EXPERIMENTAL **ELECTRICAL GENERATION PLANT**. SCIENTISTS HERE ARE STUDYING HOW TO USE WOODY BIOMASS TO GENERATE **ELECTRIC POWER**.



WOW! THAT WILL BE FANTASTIC. THERE ARE SO MANY FINANCIAL AND ENVIRONMENTAL COSTS OF USING FUELS FROM SOURCES THAT ARE NOT RENEWABLE.

IT WILL BE GREAT TO PRODUCE POWER FROM A RENEWABLE RESOURCE WITHIN OUR OWN COUNTRY!



NOW I WANT TO SHOW YOU YOUNG PEOPLE A PIECE OF FORESTED LAND THAT I OWN.



THIS AREA OF FOREST IS SCHEDULED FOR THINNING. THESE TREES WILL PROVIDE LUMBER FOR BUILDING HOMES. THE WOODY BIOMASS FROM THIS LAND WILL HELP PROVIDE HEAT FOR THE SCHOOLS.



THIS AREA OF LAND WAS THINNED SEVERAL YEARS AGO. NOW IT IS GROWING STRONG TREES THAT WILL PROVIDE MORE BENEFITS IN THE FUTURE.

HOW DO YOU KNOW HOW TO USE YOUR FOREST WISELY?



I'VE WORKED CLOSELY WITH MY STATE FORESTER AND OTHER LOCAL CONSERVATION OFFICIALS TO PLAN AND CARRY OUT A STEWARDSHIP PLAN FOR MY LAND. ANY LANDOWNER WHO WANTS TO LEAVE A LEGACY FOR FUTURE GENERATIONS SHOULD PLAN FOR THE PROPER USE OF FORESTS IN THEIR CARE.



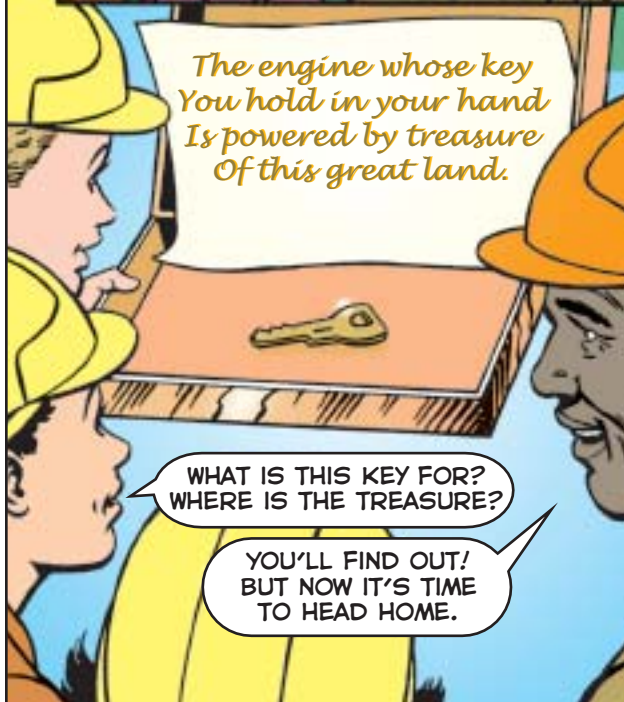
LOOK! "WHERE THE LIGHT POINTS AT THE END OF THE DAY!"

JUST LIKE THE CLUE SAID!

LET'S GO SEE!



*The engine whose key
You hold in your hand
Is powered by treasure
Of this great land.*



FINDING NEW SOURCES OF ENERGY IS ONE OF TODAY'S MOST IMPORTANT CHALLENGES.

THAT'S WHY WE'RE ALL EXPLORING THE POTENTIAL OF WOODY BIOMASS. IT CAN PROVIDE RENEWABLE, CLEAN, AND AFFORDABLE SOURCES OF ENERGY.



WHAT IS THIS KEY FOR? WHERE IS THE TREASURE?

YOU'LL FIND OUT! BUT NOW IT'S TIME TO HEAD HOME.

WE'RE EVEN LEARNING WAYS THAT BIOMASS CAN PRODUCE LIQUID FUELS. THESE *BIO-FUELS* CAN BE USED IN ENGINES INSTEAD OF PETROLEUM PRODUCTS.

IS THAT REALLY POSSIBLE?

SURE! LET ME SHOW YOU SOMETHING.



THAT'S FUNNY. I CAN'T FIND THE KEY TO THE AIRPLANE. DID ANYONE SEE A KEY?

JUST THIS KEY WE FOUND IN THE FOREST.

HMM... LET'S TRY IT.



IT FITS THE PLANE!

I DON'T GET IT!

WHERE'S THE TREASURE?



THIS PLANE ON WHICH WE'VE BEEN FLYING ALL DAY IS VERY SPECIAL. IT USES A NEW FUEL DERIVED FROM WOODY BIOMASS!



WOW! PRODUCTS AND PAPER...

...HEAT, ELECTRICITY, LIQUID FUEL...

WOODY BIOMASS IS THE REAL *HIDDEN TREASURE!*

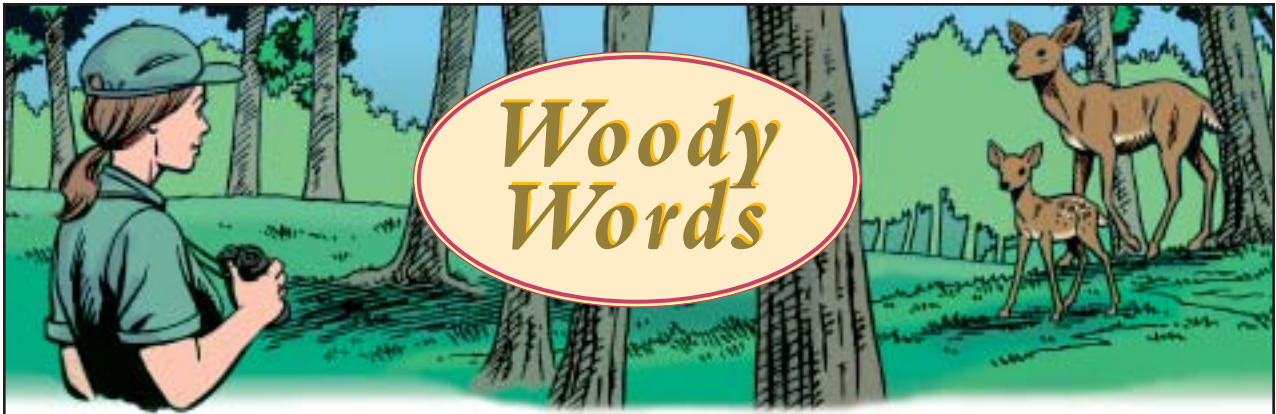


WE'RE JUST STARTING TO LEARN ABOUT THE POTENTIAL RICHES FROM FORESTS AND WOODY BIOMASS.

EVERYONE SHOULD LEARN MORE ABOUT FORESTS IN THEIR AREA.

KEEPING FORESTS HEALTHY AND PRODUCTIVE THROUGH STUDY, PLANNING, AND CAREFUL MANAGEMENT CAN KEEP PROVIDING US RICHES FOR THE FUTURE!

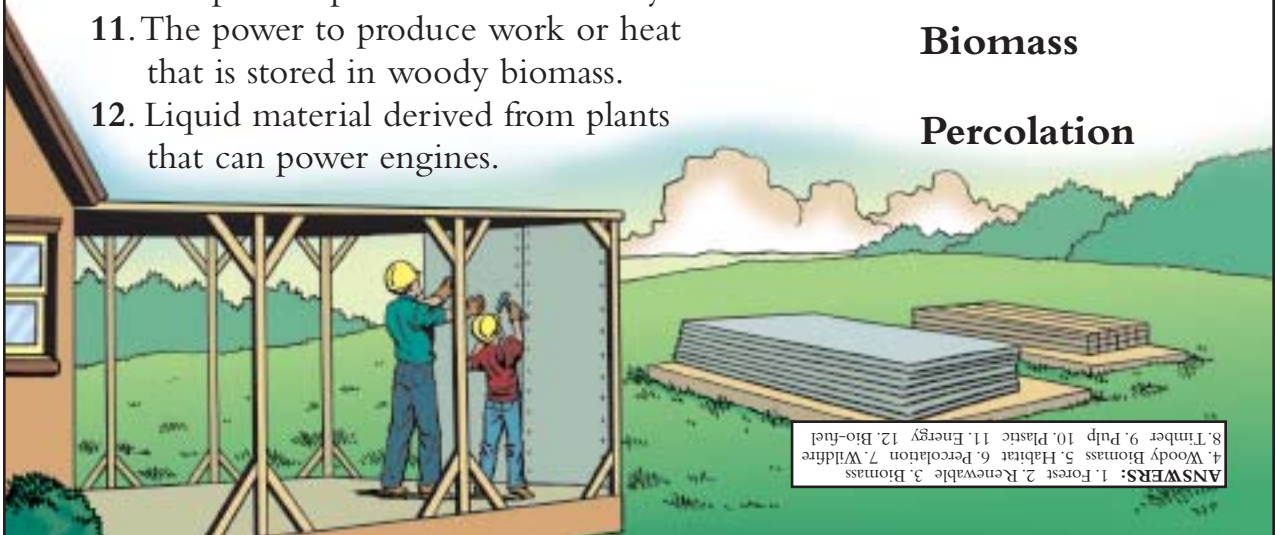




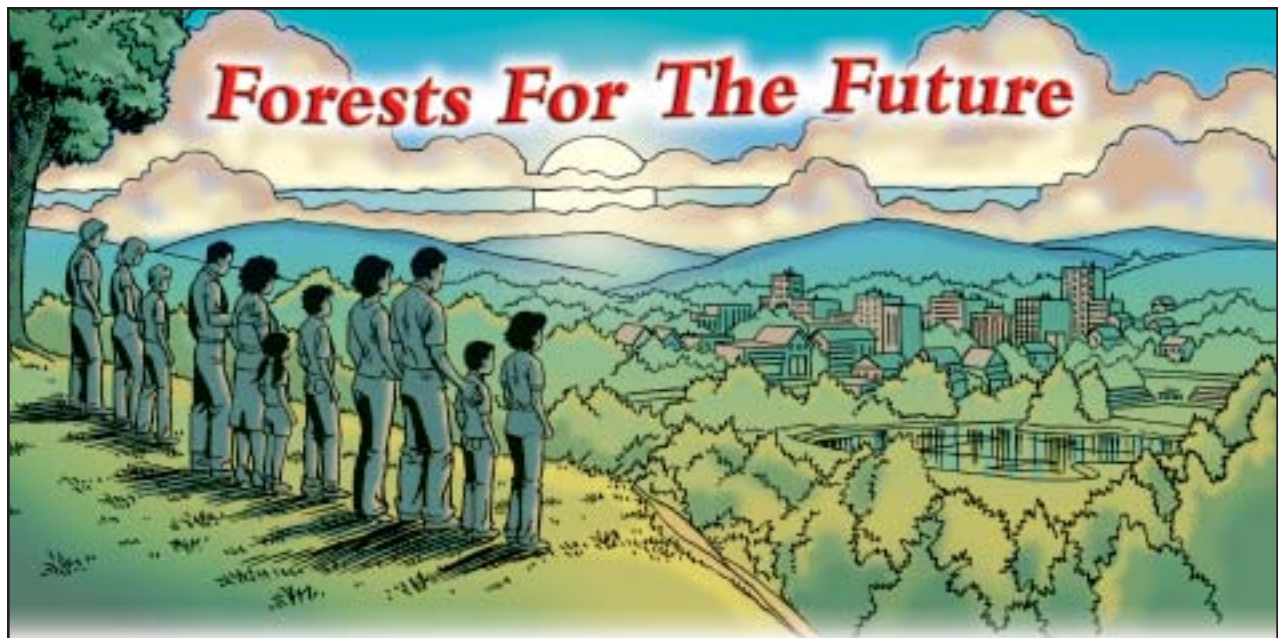
Woody Words

Read each sentence that describes forest resources and the products and services we get from them. Draw a line from each sentence to the word or phrase it describes.

- | | |
|---|----------------------|
| 1. A community of living plants and animals dominated by large trees. | Plastic |
| 2. The term that describes resources like forests that can be used again and again. | Bio-fuel |
| 3. Organic material we get from renewable resources like crops and forests. | Forest |
| 4. Material from forests that includes wood, branches, leaves, needles, and other woody material. | Energy |
| 5. A place that provides food, shelter, water, and space for an animal to live. | Timber |
| 6. The process by which water is cleaned as it passes through layers of soil in forests. | Woody Biomass |
| 7. Uncontrolled burning fed by dead wood and ladders of fuels in forests. | Renewable |
| 8. Wood from forests that is used for building products. | Pulp |
| 9. Thick liquid material made from wood that is pressed into paper. | Wildfire |
| 10. Moldable material that can be made of compounds produced from woody biomass. | Habitat |
| 11. The power to produce work or heat that is stored in woody biomass. | Biomass |
| 12. Liquid material derived from plants that can power engines. | Percolation |



ANSWERS: 1. Forest 2. Renewable 3. Biomass
4. Woody Biomass 5. Habitat 6. Percolation 7. Wildfire
8. Timber 9. Pulp 10. Plastic 11. Energy 12. Bio-fuel



Forests For The Future

What do I see when I look from above
On the forests I've studied and grown to love?

Habitat for animals to grow and live
Is one of the riches that forests give.

The lumber and furniture forests share
Help make homes for us and for those whom we care.

Paper from forests helps us share what we know.
As our knowledge increases, the forests still grow.

Fuel for heat and for engines of power
Comes from within the forests' great bowers.

Peaceful places where we can reflect,
As the wonders of nature we learn to respect.

All of these treasures we'll surely share
If for all our forests we wisely care.



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