



INTRODUCTION

HAVE YOU EVER BEEN OUT IN NATURE AND LOOKED UNDERNEATH A LOG, OR ROCK, AND SEEN ALL THE CRITTERS THAT CALL THAT PLACE HOME? HAVE YOU EVER WONDERED WHAT EXACTLY HAPPENS TO ALL THOSE LEAVES THAT FALL TO THE GROUND ON THE FOREST FLOOR? OR WHAT GOES ON IN A COMPOST PILE?

THERE'S A VERY SPECIAL TYPE OF CRITTER THAT'S INVOLVED WITH ALL OF THOSE THINGS AND WE CALL THEM

"DECOMPOSERS".

BUT WHAT IS A DECOMPOSER, AND WHAT EXACTLY IS IT THAT THEY DO? WITH THIS KIT YOU'LL LEARN ALL ABOUT SOME OF THE DIFFERENT SPECIES AND TYPES OF DECOMPOSERS, WHAT THEY DO, AND HOW THEY FIT INTO THE ECOSYSTEMS ALL AROUND US.

THIS KIT CONTAINS THREE FOLDERS LABELED

- 1. "WHO WE ARE"**
- 2. "WHERE WE LIVE" AND**
- 3. "WHAT WE DO"**

YOU'LL WORK YOUR WAY THROUGH THEM IN THAT ORDER, COMPLETING THE ACTIVITIES WITHIN AND CREATING A PICTURE OF YOUR OWN.

AFTER YOU'VE GONE THROUGH ALL THREE FOLDERS, YOU'LL FIND ONE FINAL WRAP-UP ON THE BACK OF THIS SHEET. YOU CAN ALSO FIND AN ANSWER SHEET THERE, BUT DON'T PEEK BEFORE YOU DO THE ACTIVITIES!

ALSO INCLUDED IS A GUIDE TO SOME VOCABULARY WORDS THAT MIGHT BE NEW TO YOU, IF YOU ENCOUNTER A WORD OR TERM YOU'VE NEVER HEARD BEFORE, CHECK THE PAGE AND SEE IF IT'S LISTED THERE.

**FOR THIS KIT YOU NEED: A PIECE OF PAPER AND SOME KIND OF WRITING UTENSIL
(COLORS IF YOU WANT).**

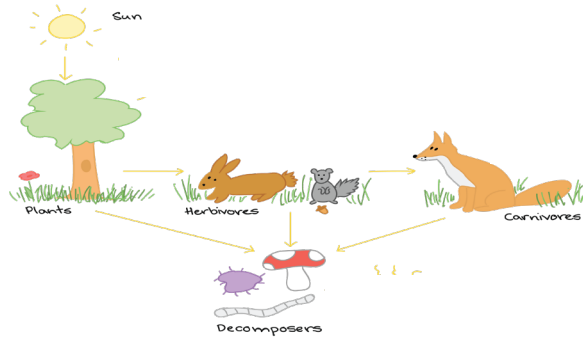
**NOW OPEN THE FOLDER LABELED "WHO WE ARE" AND
START YOUR INVESTIGATION!**



END

**ANSWER
KEY**

ONCE YOU'VE WORKED THROUGH ALL THREE SECTIONS AND ADDED WHAT YOU NEED TO YOUR POSTER/DRAWING, YOU MIGHT HAVE SOMETHING THAT LOOKS LIKE THIS



YOU SHOULD HAVE A PRETTY GOOD ILLUSTRATION OF HOW ENERGY MOVES THROUGH AN ECOSYSTEM, AND THE IMPORTANT ROLE THAT DECOMPOSERS PLAY IN ALL OF THAT!

FINAL QUESTIONS

BEFORE PUTTING THINGS AWAY, SEE IF YOU CAN ANSWER THESE FINAL QUESTIONS

1. COME UP WITH A HYPOTHESIS... WHAT WOULD HAPPEN IF WE TOOK OUT ALL OF THE DECOMPOSERS FROM AN ECOSYSTEM?
2. CAN YOU NAME A CRITTER/SOMETHING FROM EACH OF THE THREE CATEGORIES OF, "F", "B", AND "I"
3. TRUE OR FALSE: DECOMPOSERS WOULD FALL ABOVE PRIMARY CONSUMERS, BUT BELOW SECONDARY CONSUMERS ON A FOOD PYRAMID.
4. WHY CAN THE FLOW OF ENERGY IN AN ECOSYSTEM BE DESCRIBED AS A "CYCLE"?
5. WHERE DOES ALL ENERGY IN AN ECOSYSTEM START/BEGIN?

WHO:

CARDS (L-R):

TOP: EARTHWORM, SLUG, ANT
MIDDLE: SOWBUG, MILLIPEDE, MOLD
BOTTOM: MUSHROOM, SOIL
BACTERIUM, BEETLE

PYRAMID (TOP-BOTTOM):

TERTIARY CONSUMER, SECONDARY
CONSUMER,
PRIMARY CONSUMER
PRIMARY PRODUCER
SUN & DECOMPOSERS

Q1: FUNGUS, BACTERIA, INSECTS

Q2: SPECIES INTERACTION/
ORGANIZATION, ENERGY FLOW

WHERE:

ECOSYSTEM MATCHES: DUNG BEETLE/
DESERT

D.LARVAE/STREAM
TERMITE/SAVANNAH
ECHINODERM/KELP
F.MITE/COMPOST PILE

Q1:TRUE

Q2: MULTIPLE ANSWERS, EX;
BREAKING DOWN DEAD TREES

WHAT:

SOIL JARS: JAR №1 CONTAINS
HIGHER ORGANIC MATTER

Q1:WHEN ORGANIC MATERIALS, BREAK
DOWN, ROT

Q2: THEY DECOMPOSE, AND ARE
TAKEN BACK IN BY OTHER PLANTS,
THEN ANIMALS, AS NUTRIENTS

FINAL:

Q1: MULTIPLE ANSWERS, RESULT
WOULD BE NEGATIVE FOR ECOSYSTEM

Q2: MULTIPLE ANSWERS (SEE 'WHO
WE ARE')

Q3: FALSE

Q4: ENERGY GOES AROUND AND
AROUND, THINGS DIE, THEIR
NUTRIENTS RE-ENTER ECOSYSTEM (SEE
WHAT Q2:)

Q5: THE SUN

**MAKE SURE YOU'VE RETURNED ALL THE MATERIALS
TO WHERE THEY BELONG IN THE KIT
WHEN PACKING THINGS UP**



Vocabulary

- 1. DECOMPOSITION:** DECOMPOSITION IS THE PROCESS BY WHICH DEAD ORGANIC SUBSTANCES ARE BROKEN DOWN. THE STATE OR PROCESS OF ROTTING; DECAY.
 - 2. DECOMPOSER:** AN ORGANISM, ESPECIALLY A FUNGUS, SOIL BACTERIUM, OR INVERTEBRATE, THAT DECOMPOSES ORGANIC MATERIAL.
 - 3. TROPHIC LEVEL:** THE TROPHIC LEVEL OF AN ORGANISM IS THE POSITION IT OCCUPIES IN A FOOD WEB.
 - 4. FOOD CHAIN:** A FOOD CHAIN IS A SUCCESSION OF ORGANISMS THAT EAT OTHER ORGANISMS AND MAY, IN TURN, BE EATEN THEMSELVES.
 - 5. RECYCLE:** RECYCLING SOMETHING MEANS THAT IT HAS BEEN CONVERTED INTO SOMETHING NEW, OR REUSABLE.
 - 6. ENERGY:** YOU CAN THINK OF ENERGY AS ANOTHER WORD FOR POWER, OR THE ABILITY TO "DO WORK", OR TO CAUSE SOME KIND OF CHANGE. ENERGY CAN COME IN MULTIPLE FORMS, AND TRANSFER BETWEEN ORGANISMS.
 - 7. BACTERIA:** A TYPE OF SINGLE-CELLED MICROORGANISM
 - 8. ECOSYSTEM:** A BIOLOGICAL COMMUNITY OF INTERACTING ORGANISMS AND THEIR PHYSICAL ENVIRONMENT.
 - 9. ORGANIC (MATERIAL):** RELATED TO, OR COMING FROM, ONCE LIVING MATERIAL.
 - 10. COMPOST:** A COMBINATION OF DECAYED ORGANIC MATERIAL THAT CAN INCLUDE GRASS AND OTHER WOODY MASS, FRUITS, VEGETABLES AND SAWDUST ALONG WITH NON ORGANIC MATERIAL LIKE CARDBOARD AND PAPER. OFTEN USED AS A FERTILIZER FOR GARDENS.
 - 11. SEDIMENTARY (SOIL):** RELATIVE TO SOIL THAT CONTAINS MORE ORGANIC CONTENT, A SEDIMENTARY SOIL CONTAINS A HIGH AMOUNT OF MINERALS FROM THE WEATHERING OF ROCKS AND OTHER INORGANIC MATERIAL.
 - 12. PRODUCER:** PRODUCERS ARE PLANTS, WHICH CAN MAKE THEIR OWN FOOD BY TAKING SUNLIGHT AND USING THE ENERGY TO MAKE SUGAR THROUGH A PROCESS CALLED PHOTOSYNTHESIS.
 - 13. PHOTOSYNTHESIS:** THE PROCESS BY WHICH GREEN PLANTS AND SOME OTHER ORGANISMS USE SUNLIGHT TO SYNTHESIZE FOODS FROM CARBON DIOXIDE AND WATER.
 - 14. CONSUMER:** CONSUMERS IN A FOOD CHAIN ARE LIVING CREATURES THAT EAT OTHER ORGANISMS FOR THEIR ENERGY.
- HERBIVORE:** ONLY EATS PLANTS. **OMNIVORE:** EATS PLANTS OR MEAT. **CARNIVORE:** EATS MEAT

WHO WE ARE

INTRO

ALLOW ME TO INTRODUCE YOU TO THE FBI. NOT THE FBI YOU MIGHT BE THINKING OF, IN DARK SUITS AND SUNGLASSES, BUT THE FBI OF THE DECOMPOSER WORLD! FUNGUS, BACTERIA, AND INSECTS. THE FBI IS MADE UP OF THOUSANDS AND THOUSANDS OF DIFFERENT SPECIES THAT ALL PLAY A VERY IMPORTANT ROLE IN THE FUNCTION OF WHATEVER ECOSYSTEM THEY ARE A PART OF. SOME OF THEM MIGHT BE FAMILIAR FACES, BUT OTHERS MIGHT BE TOTALLY NEW TO YOU. FOLLOW THE DIRECTIONS AS YOU WORK THROUGH EACH OF THE ACTIVITIES BELOW.

ACTIVITY 1

- TAKE A LOOK AT THE STACK OF SPECIES CARDS THAT ARE INCLUDED IN THIS FOLDER.
- THEN, FIND THE PAGE THAT HAS A 3X3 GRID OF SQUARES.
- EACH ONE OF THESE SQUARES CONTAINS DESCRIPTIONS, TRAITS, OR CHARACTERISTICS THAT REFER TO ONE OF THE SPECIES ON A CARD.
- AS YOU READ THEM, TRY TO DECIDE WHICH CARD BELONGS WHERE AND STICK IT ON!

ACTIVITY 2

- FIND THE SHEET THAT HAS A PYRAMID ON IT.
- THIS IS A VERY SPECIAL KIND OF PYRAMID THAT WE CALL A 'TROPIC PYRAMID'.
- A TROPIC PYRAMID HELPS US ORGANIZE OUR SPECIES BY HOW THEY INTERACT WITH EACH OTHER. IT SHOWS US IN A SIMPLE WAY, HOW DIFFERENT SPECIES ARE ORGANIZED IN AN ECOSYSTEM.
- EACH LEVEL OF THE PYRAMID HAS ITS OWN NAME, AND EACH LEVEL HELPS PROVIDE ENERGY FOR THE LEVELS ABOVE IT THROUGH PREDATOR/PREY RELATIONSHIPS AS WELL AS OTHER PROCESSES.
- NOW BECOME A SCIENCE INVESTIGATOR. ON THE BACK OF THE SHEET THAT HAS THE PYRAMID, YOU'LL FIND THE INFORMATION YOU NEED TO PIECE TOGETHER AND UNDERSTAND WHAT EACH LEVEL OF THE PYRAMID INCLUDES AND MEANS.

WRAP UP QUESTIONS

BEFORE YOU MOVE ON TO THE NEXT SECTION, MAKE SURE YOU CAN ANSWER THESE QUESTIONS:

1. WHAT DOES FBI STAND FOR, WHEN TALKING ABOUT DECOMPOSERS?
2. WHAT DOES A TROPIC PYRAMID TELL US ABOUT THE SPECIES INCLUDED IN IT?

ONCE YOU'RE SURE YOU KNOW THE ANSWERS TO THOSE QUESTIONS, ON ONE SIDE OF THE PIECE OF PAPER YOU HAVE... COME UP WITH A LIST OF SPECIES YOU MIGHT FIND IN AN ECOSYSTEM NEAR YOU.

MAKE SURE TO INCLUDE: AT LEAST ONE TYPE OF SPECIES FROM EACH OF THE "TROPIC LEVELS" YOU LEARNED ABOUT, AND DON'T FORGET THE DECOMPOSERS!

NOW MOVE ON TO THE FOLDER LABELED "WHERE WE LIVE"



Slug



Earthworm



Sowbug



Mushroom



Ant



Soil Bacterium



Beetle



Mold



Millipede

- MY EXCRETED WASTE IS KNOWN AS 'CASTINGS'
- I BREATHE THROUGH MY SKIN
- I LOVE TO CONSUME SOIL

- I HAVE A SINGLE LUNG
- MY LIFESPAN IS ANYWHERE FROM 1 TO 6 YEARS
- ONE OF MY FAVORITE FOODS IS DECAYING VEGETATION

- THERE ARE MORE THAN 12,000 SPECIES OF ME ALL AROUND THE WORLD
- I PLAY AN IMPORTANT ROLE IN BREAKING DOWN WOOD AND OTHER TOUGH ORGANIC MATTER
- IT'S ESTIMATED THAT FOR EVERY 1 HUMAN ON EARTH, THERE ARE 1 MILLION OF ME

- I'M ACTUALLY FROM THE CRUSTACEAN FAMILY, WHICH MAKES ME RELATED TO LOBSTERS
- I'M NOT PICKY, I'LL EAT FUNGUS, ALGAE, BARK, WASTE FROM OTHER INVERTEBRATES, OR DECAYING ANIMALS

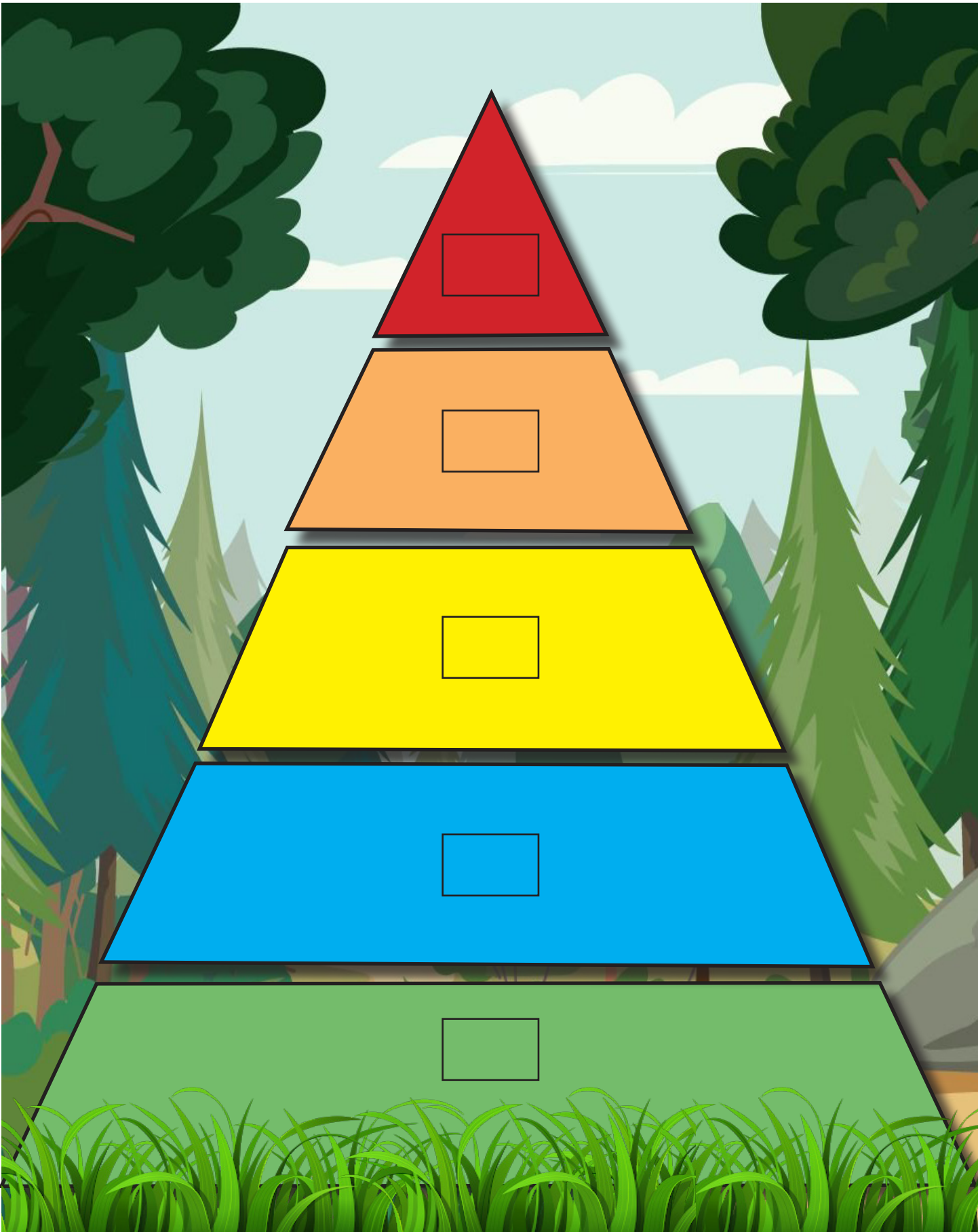
- I AM MOSTLY NOCTURNAL (ACTIVE AT NIGHT)
- DEAD PLANTS AND ANIMAL WASTE ARE SOME OF MY FAVORITE SNACKS
- I HAVE 6 BODY SEGMENTS WHEN I'M BORN

- I AM A TYPE OF FUNGI
- I SPREAD AND REPRODUCE BY RELEASING MILLIONS OF TINY SPORES
- YOU MIGHT FIND ME IN SOME DAMP CORNER OF YOUR HOME IF YOU'RE NOT CAREFUL!

- I AM A TYPE OF FUNGI
- I CAN BREAK DOWN ORGANIC MATTER BY RELEASING SPECIAL ENZYMES
- YOU MIGHT FIND ME ON THE FOREST FLOOR, ON A LOG, OR EVEN ON THE SIDE OF TREES

- SOMETIMES I'LL ATTACH MYSELF TO THE ROOTS OF CERTAIN PLANTS AND HELP THEM PROCESS NUTRIENTS
- I AM MICROSCOPIC
- IN 1 ACRE OF HEALTHY SOIL, YOU MIGHT BE ABLE TO FIND A TON OF ME (LITERALLY!)

- YOU MIGHT FIND ME FEEDING ON THE REMAINS OF A DEAD ANIMAL
- THERE ARE 86 DIFFERENT SPECIES OF ME IN WASHINGTON STATE ALONE!



Trophic Pyramid

A TROPHIC PYRAMID HELPS US ORGANIZE OUR SPECIES BY HOW THEY INTERACT WITH EACH OTHER. IT SHOWS US IN A SIMPLE WAY, HOW DIFFERENT SPECIES ARE ORGANIZED IN AN ECOSYSTEM.

AS YOU GO FROM THE BOTTOM UP ON A TROPHIC PYRAMID, YOU FIND LESS ORGANISMS IN EACH LEVEL. AS YOU MOVE UPWARD ON THE PYRAMID, THE ORGANISMS ON EACH LEVEL GET THEIR ENERGY FROM THE LEVELS BELOW THEM AS WELL.

1. HOW DO ORGANISMS GET ENERGY?

ONE WAY WE CLASSIFY THE SPECIES ON A TROPHIC PYRAMID IS AS A "PRODUCER", OR A "CONSUMER".

PRODUCERS ARE PLANTS. AS THE NAME SUGGESTS, THEY ARE ABLE TO "PRODUCE" THEIR OWN ENERGY, THEY DO SO THROUGH THE PROCESS OF PHOTOSYNTHESIS.

1. WHAT GIVES PLANTS THE POWER TO PERFORM PHOTOSYNTHESIS?

CONSUMERS, AS THE NAME SUGGESTS, NEED TO CONSUME SOME OTHER ORGANISM IN ORDER TO RECEIVE NUTRIENTS AND ENERGY.

IF SOMETHING IS A CONSUMER, WE CAN ORGANIZE IT EVEN FURTHER WITH THE CLASSIFICATION OF "PRIMARY" (HERBIVORES), "SECONDARY" (OMNIVORES OR CARNIVORES), AND "TERTIARY" (CARNIVORES, APEX PREDATORS).

OUR FRIENDS THE DECOMPOSERS ARE UNIQUE THOUGH. THEY'RE NOT PICKY ABOUT THE ORGANIC MATTER THEY BREAK DOWN OR CONSUME. IT COULD COME FROM ANY LEVEL OF THE PYRAMID. AND BY DOING SO, THEY PROVIDE ENERGY IN THE FORM OF NUTRIENTS IN THE SOIL FOR PRODUCERS.

WITH THE INFORMATION ABOVE, USE THE LABELS PROVIDED TO LABEL EACH LEVEL OF THE PYRAMID

BONUS: THINK ABOUT THE FOLLOWING SPECIES, AND WHERE THEY WOULD BELONG



TERTIARY CONSUMER

SECONDARY CONSUMER

PRIMARY CONSUMER

PRIMARY PRODUCER

THE SUN & DECOMPOSERS

WHERE WE LIVE

INTRO

NOW YOU KNOW A BIT ABOUT WHO WE ARE, IT'S TIME TO LEARN MORE ABOUT WHERE YOU MIGHT FIND US.

IN NATURE, DECOMPOSERS ARE MOSTLY FOUND ON THE GROUND OR IN THE TOP LAYER OF SOIL. IN A FOREST YOU MIGHT FIND THEM UNDER LEAVES OR LOGS. CERTAIN TYPES OF MUSHROOMS YOU MIGHT EVEN FIND CLIMBING UP THE SIDE OF TREES! YOU'LL FIND A HIGH DENSITY OF DECOMPOSERS IN A COMPOST PILE, AND IN JUST ONE TEASPOON OF SOIL, THERE CAN BE UP TO ONE BILLION SOIL BACTERIUM.

SO AS YOU CAN SEE, DECOMPOSERS ARE ABUNDANT, RESILIENT, AND FIND A WAY TO SURVIVE IN A NUMBER OF PLACES. ANYWHERE THAT HAS ORGANIC MATERIAL TO BE BROKEN DOWN, YOU CAN FIND SOME KIND OF DECOMPOSER!

ACTIVITIES 1 & 2

1. WHILE DECOMPOSERS ARE ABUNDANT IN MANY PLACES, THEY ARE STILL OFTEN HARD TO FIND AND SEE BECAUSE OF THEIR SMALL SIZE AND TENDENCY TO ENJOY DIGGING INTO, AND UNDER DIFFERENT LAYERS OF THINGS. THE FIRST ACTIVITY ON THE BACK OF THIS PAGE CHALLENGES YOU TO FIND ALL THE DECOMPOSERS YOU CAN HIDDEN IN THE COMPOST PILE.

2. AS WE'VE LEARNED, DECOMPOSERS ARE IMPORTANT IN EVERY ENVIRONMENT, EVEN SOME YOU MIGHT NOT EXPECT. SOME HAVE BECOME VERY SPECIALIZED IN HOW THEY BEHAVE TO SURVIVE THE ENVIRONMENT THEY ARE IN. THE SECOND ACTIVITY ON THE BACK OF THIS SHEET ASKS YOU TO TRY AND MATCH THE DECOMPOSER SPECIALIST SPECIES TO THE ENVIRONMENT YOU THINK YOU MIGHT FIND THEM.

WRAP UP QUESTIONS






BEFORE YOU MOVE ON TO THE NEXT SECTION, MAKE SURE YOU CAN ANSWER THESE QUESTIONS:

1. TRUE OR FALSE: YOU CAN FIND SOME KIND OF DECOMPOSER IN NEARLY EVERY ECOSYSTEM
2. WHAT IS ONE FUNCTION CARRIED OUT BY DECOMPOSERS YOU MIGHT FIND IN THE FORESTS AROUND SPOKANE?

ONCE YOU'RE SURE YOU KNOW THE ANSWERS TO THOSE QUESTIONS, ON THE BLANK SIDE OF THE PAPER YOU HAVE, DRAW AN ECOSYSTEM! AND USE THE LIST OF SPECIES YOU CAME UP WITH IN THE LAST SECTION TO POPULATE YOUR DRAWING ONCE YOU'VE COMPLETED IT.

NOW MOVE ON TO THE FOLDER LABELED "WHAT WE DO"

CAN YOU FIND...

-  x2
-  x3
-  x4
-  x3
-  x6



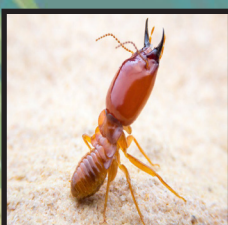
DUNG BEETLE



DRAGONFLY LARVAE



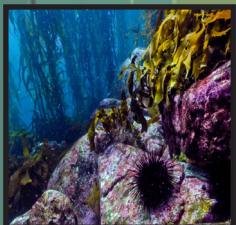
TERMITE



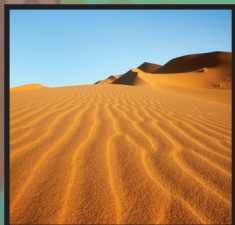
ECHINODERM FAMILY



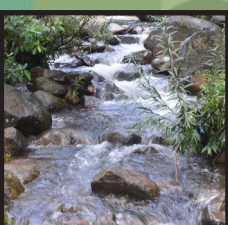
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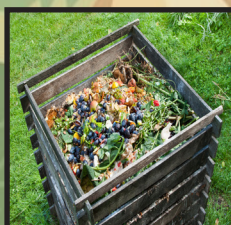
KELP FOREST



DESERT



STREAM



COMPOST PILE



AFRICAN SAVANNAH

WHAT WE DO

INTRO

NOW YOU KNOW WHAT KIND OF SPECIES ARE DECOMPOSERS, AND YOU KNOW WHAT KIND OF ECOSYSTEMS YOU MIGHT FIND THEM IN.

NOW IT'S TIME TO LEARN ABOUT WHAT THEY DO THAT GIVES THEM THEIR NAME!

DECOMPOSITION IS THE PROCESS WHERE DEAD ORGANIC MATTER BREAKS DOWN, ROTS, OR DECAYS. THIS COULD BE LEAVES OR LOGS ON A FOREST FLOOR, OR A BANANA PEEL IN YOUR COMPOST BIN. THIS PROCESS HAPPENS NATURALLY (HAVE YOU EVER LEFT A FRUIT OR VEGETABLE OUT FOR TOO LONG?) BUT DECOMPOSERS ARE THE HELPERS IN NATURE THAT PUSH THIS PROCESS ALONG

ACTIVITY 1

TAKE A LOOK AT THE SHEET LABELED "DECOMPOSITION TIMELINE". ON THE BACK SIDE OF THE PAPER WHERE YOU HAVE BEEN WRITING, NUMBER 1-5 AND RECORD YOUR GUESSES FOR THE FOLLOWING QUESTION: HOW LONG DOES IT TAKE EACH OF THOSE ITEMS TO DECOMPOSE? ONCE YOU'VE RECORDED ALL YOUR GUESSES, REMOVE THE SLIDER TO REVEAL THE ANSWER ONE ITEM AT A TIME, AND SEE HOW CLOSE YOU WERE! DID ANYTHING SURPRISE YOU?

ACTIVITY 2

TAKE A LOOK AT THE TWO CONTAINERS OF SOIL PROVIDED. ONE OF THEM IS HIGH IN ORGANIC CONTENT, WHILE THE OTHER IS MORE SEDIMENTARY. CAN YOU TELL WHICH IS WHICH JUST BY LOOKING AT THEM? THINK ABOUT THAT QUESTION, AND COME UP WITH A THEORY FOR WHY YOU THINK THAT IS. HOW MIGHT DECOMPOSERS FIT INTO THAT HYPOTHESIS?

**ON THE BACK OF YOUR SHEET OF PAPER, USE THIS FORMAT TO WRITE DOWN YOUR THEORY:
I THINK THAT JAR NUMBER... IS [HIGHER/LOWER] IN ORGANIC CONTENT BECAUSE...**

BONUS ACTIVITY

NOW LET'S TAKE A LOOK AT OUR OWN SOIL! TURN TO THE BACK OF THIS SHEET FOR INSTRUCTIONS

WRAP UP QUESTIONS

BEFORE YOU MOVE ON, MAKE SURE YOU CAN ANSWER THESE QUESTIONS:

- 1. WHAT DOES IT MEAN TO DECOMPOSE?**
- 2. HOW DO DEAD PLANTS GET RECYCLED INTO THEIR ECOSYSTEM?**

ONCE YOU'RE SURE YOU KNOW THE ANSWERS TO THOSE QUESTIONS, LOOK AT YOUR PAPER WHERE YOU HAVE AN ECOSYSTEM FULL OF CRITTERS DRAWN, AND ADD ARROWS TO SHOW HOW ENERGY FLOWS BETWEEN THE LIVING THINGS IN YOUR DRAWING.

DRAW ARROWS THAT SHOW HOW ENERGY GOES FROM ONE THING TO ANOTHER AS THEY INTERACT WITH EACH OTHER. MAKE AS MANY CONNECTIONS AS YOU CAN! DON'T FORGET ABOUT WHERE PLANTS GET THEIR ENERGY AND NUTRIENTS FROM.

NOW RETURN TO THE BACK SIDE OF THE "INTRO" WORKSHEET

WHAT DOES MY SOIL LOOK LIKE?

[WITH YOUR PARENTS' OR SUPERVISOR'S PERMISSION], TAKE ONE OF THE PROVIDED TROWELS AND GO DIG OUT A SMALL SAMPLE OF THE SOIL IN YOUR OWN YARD, AT A NEARBY PARK, OR OTHER OUTDOOR SPACE.

DID YOU KNOW YOU CAN TELL A LOT ABOUT A SOIL JUST BY LOOKING AT ITS COLOR? THE COLOR OF SOIL CAN GIVE US HINTS AS TO HOW THE SOIL WAS FORMED, AND WHAT MATERIAL IT IS LARGELY MADE UP OF.

GENERALLY, A DARKER COLOR SOIL TELLS US THAT THERE IS A HIGH PRESENCE OF DECOMPOSED ORGANIC MATERIAL. "HUMUS" IS THE WORD WE USE FOR THIS DECOMPOSED ORGANIC MATTER IN SOIL.



ANOTHER THING SCIENTISTS PAY ATTENTION TO IS THE TEXTURE OF THE SOIL. A SOIL MIGHT BE CONSIDERED MORE SEDIMENTARY, OR SANDY, IF THERE ARE LARGER PIECES OF MINERALS OR WEATHERED ROCKS PRESENT.

ANOTHER THING YOU MAY ENCOUNTER IS SOIL THAT CONTAINS A HIGH AMOUNT OF CLAY. CLAY PARTICLES ARE VERY FINE, AND WHEN WET BECOME ALMOST STICKY AND MOLDABLE



LOOK AT, AND FEEL THE SOIL YOU HAVE DUG UP, AND WRITE DOWN SOME OBSERVATIONS ABOUT IT ON YOUR PAPER

DECOMPOSITION TIMELINE

BANANA PEEL



TEA BAG



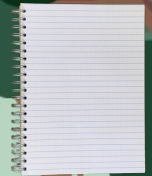
PLASTIC WATER BOTTLE


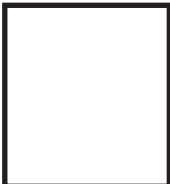
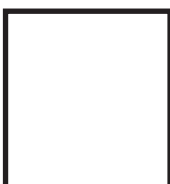




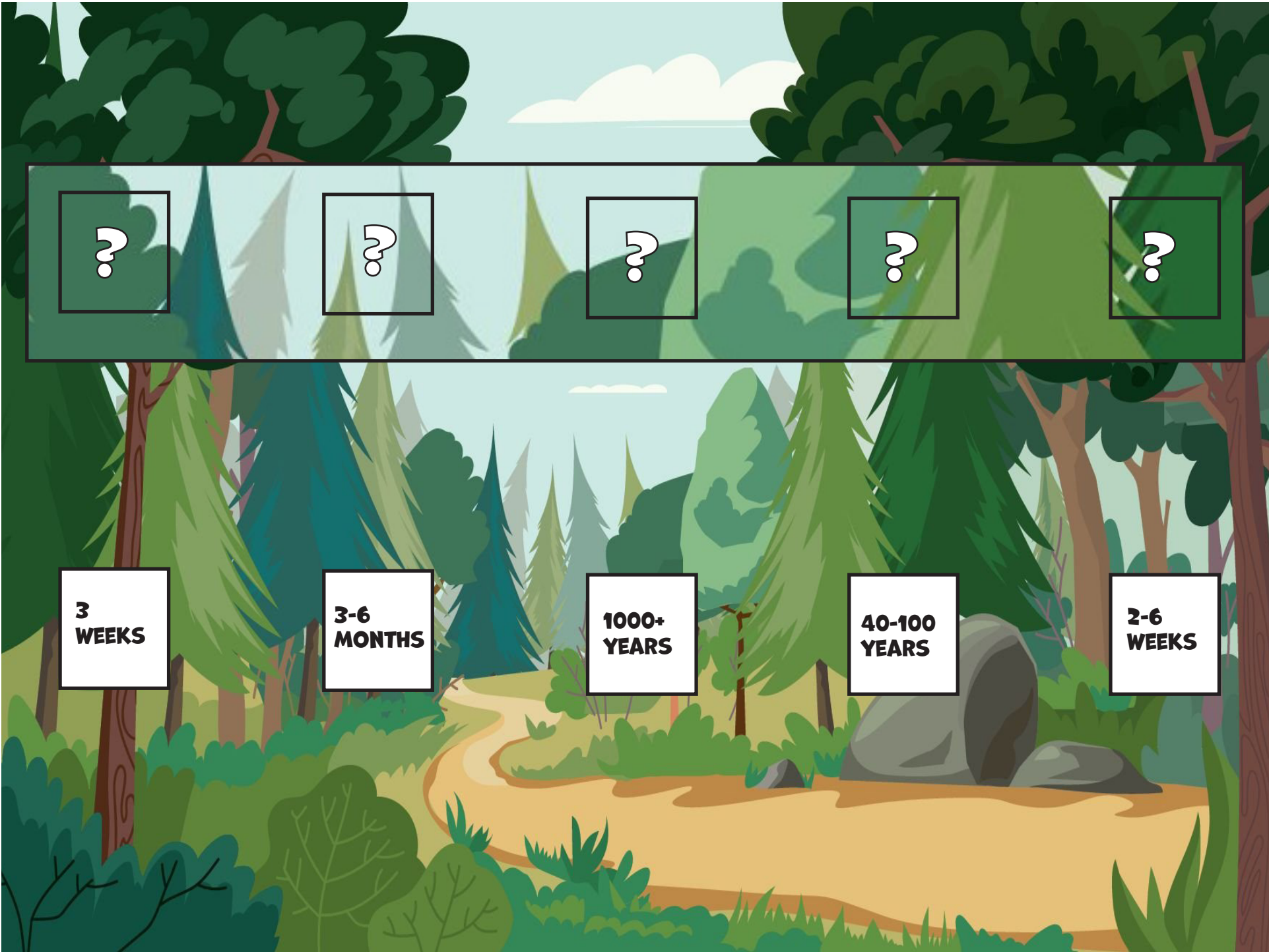
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PAPER



				
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**3
WEEKS**

**3-6
MONTHS**

**1000+
YEARS**

**40-100
YEARS**

**2-6
WEEKS**