



FOR KIDS

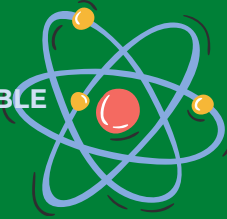
DISCUSSION

WHAT TYPES OF WATER
DO YOU KNOW?

WHAT POLLUTES
WATER?

IS IT POSSIBLE THAT
THE WATER CAN CLEAN
ITSELF IN
THE NATURE?

WATER PURIFICATION IS THE
PROCESS OF REMOVING UNDESIRABLE
CHEMICALS, BIOLOGICAL
CONTAMINANTS, SUSPENDED
SOLIDS AND GASES FROM
CONTAMINATED WATER. THE MAIN GOAL OF
DISINFECTING WATER IS HUMAN CONSUMPTION.
THE METHODS USED INCLUDE PHYSICAL
PROCESSES
SUCH AS FILTRATION, SEDIMENTATION, AND
DISTILLATION. PURIFYING WATER MAY REDUCE
CONCENTRATION OF PARTICULATE MATTER
INCLUDING
SUSPENDED PARTICLES, PARASITES, BACTERIA,
ALGAE,
VIRUSES, FUNGI, AND PARTICLES THAT COME FROM
RUNOFF DUE TO RAIN.



WATER PURIFICATION

THE WATER PURIFICATION
EXPERIMENT HAS BEEN
PARTICULARLY INTERESTING TO THE KIDS.
WITH THIS EXPERIMENT THEY ARE ABLE TO
LEARN ABOUT THE NATURE,
THEIR LIVING ENVIRONMENT,
HOW TO DEMONSTRATE FILTRATION OF
WATER
AND UNDERSTANDING THIS
PROCESS BETTER.

AFTER POURING THE DIRTY WATER INTO THE
SELF-BUILT CLEANER IT IS VISIBLE HOW
VARIOUS IMPURITIES SETTLE ON
VARIOUS FILTER LAYERS. LARGE IMPURITIES WERE
COLLECTED BY THE SAND AND ROCKS,
THE SMALL IMPURITIES ARE CAPTURED ON THE VERY
FINE FILTER OF THE COFFEE FILTER PAPER.
CLEANER WATER THEN FLOWS
THROUGH TO THE CUP.

REMEMBER,
IT IS STILL NOT SAFE TO DRINK THE WATER!

MATERIALS FOR
THE EXPERIMENT:
PLASTIC BOTTLE
CUT IN HALF;
TRANSPARENT PLASTIC
CUP;
DIRT;
COFFEE FILTER PAPER;
CHARCOAL;
SAND;
ROCKS.

PUT THE COFFEE FILTER
AROUND THE TOP HALF
OF THE BOTTLE AND
PUT IT IN THE CUP
UPSIDE DOWN.
PUT ROCKS AND SAND
IN THE BOTTLE.
POUR THE DIRTY WATER
IN THE BOTTLE
AND WATCH AS THE
EXPERIMENT
UNFOLDS



DON'T BE AFRAID
OF THE CHALLENGES
AND ALWAYS
BE PREPARED WITH AN
OPEN MIND. HAVING
CONVERSATION AND
DISCUSSION
WITH THE KIDS
ARE CRUCIAL PARTS
OF THEIR
DEVELOPMENT AND
THEY CREATE A
PATH TO THE KIDS'
SUCCESSFUL
EDUCATIONAL PROCESS



THE EXPERIMENTS
REPRESENTED IN THIS BROCHURE
ARE THE ONES WE FOUND TO
HAVE BEEN THE MOST
FASCINATING AND STIMULATING TO
THE KIDS AND HOPEFULLY,
THEY CAN BE JUST AS USEFUL TO
YOUR CLASSES
AS THEY WERE TO OURS.

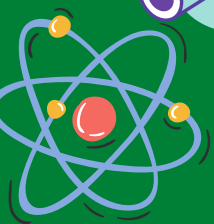


LAVA LAMP

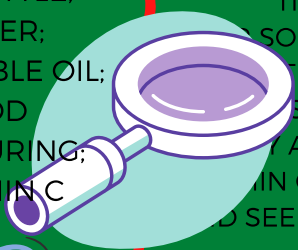


LAVA LAMP EXPERIMENT IS A VERY EXCITING DEMONSTRATION OF LEARNING ABOUT THE DENSITY OF OIL AND DENSITY OF WATER WHILE BEING ABLE TO ENJOY THE PRETTY SIGHTING OF THE REACTION INCITED BY THE VITAMIN C.

MATERIALS FOR THE EXPERIMENT:
PLASTIC CUP OR BOTTLE;
WATER;
VEGETABLE OIL;
FOOD COLOURING;
VITAMIN C



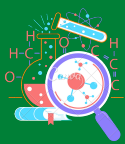
FILL THE CUP OR THE BOTTLE WITH WATER AND THEN ADD THE FOOD COLOURING; AFTER GETTING THE DESIRED COLOUR CAREFULLY ADD OIL WHILE HOLDING THE CUP TILTED; WAIT SOME TIME FOR THE WATER AND OIL TO SEPARATE; THEN ADD CRUSHED UP VITAMIN C TO THE MIXTURE AND SEE AS THE REACTION UNFOLDS; FOR THE FULL EFFECT, PLACE THE CUP/BOTTLE UNDER A FLASHLIGHT. ENJOY!



DISCUSSION
WHAT IS DENSITY?
WHY DO WATER AND OIL NOT MIX WITH EACH OTHER?
WHAT IS VITAMIN C CREATING IN THE WATER?



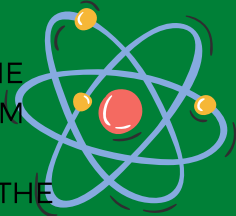
THE OIL FLOATS ON TOP OF THE WATER BECAUSE IT IS LESS DENSE THAN WATER.
WHEN THE VITAMIN C IS ADDED TO THE MIXTURE IT SINKS TO THE BOTTOM OF THE CUP/BOTTLE AND THEN STARTS TO DISSOLVE.
AS IT DISSOLVES IT MAKES GAS, CARBON DIOXIDE.



GAS OR AIR IS LIGHTER THAN WATER SO IT FLOATS TO THE TOP.



THE AIR BUBBLES BRING SOME COLOURED WATER WITH THEM TO THE TOP.
WHEN THE AIR COMES OUT OF THE COLOURED WATER BLOB, THE WATER GETS HEAVY AGAIN AND SINKS. IT DOES THIS OVER AND OVER AGAIN UNTIL THE VITAMIN C TABLET IS COMPLETELY DISSOLVED IN THE WATER.



DENSITY IS A MEASUREMENT OF HOW SOLID SOMETHING IS. SPECIFICALLY IT IS THE MASS PER UNIT VOLUME OF A SUBSTANCE. IF YOU HAVE TWO OBJECTS OF THE EXACT SAME VOLUME, THE MORE DENSE OBJECT WILL WEIGH MORE THAN THE LESS DENSE OBJECT.

THERE ARE TWO THINGS CONTRIBUTING TO DENSITY:

1. THE VOLUME OR AMOUNT OF SPACE THE MATERIAL TAKES UP. IF THE MOLECULES OR ATOMS ARE "PACKED" IN MORE CLOSELY, IT WILL BE MORE DENSE
2. THE MASS OF THE ATOMS OR MOLECULES THAT MAKES UP THE MATERIAL

DON'T FORGET TO ENJOY IT AND HAVE FUN DURING THE PROCESS

