MAKING DIRTY WATER DRINKABLE
LIFESAVER BOTTLE GENERAL DESIGN
BUILD YOUR OWN SELF CLEANING WATER BOTTLE

• YOU WILL DESIGN YOUR OWN LIFESAVER BOTTLE AND TEST IT WITH A SAMPLE OF DIRTY WATER.
• IN YOUR GROUP, DESIGN YOUR BOTTLE. WHAT MATERIALS WILL YOU USE? HOW WILL YOU SET IT UP?
• DRAW YOUR FINAL DESIGN AND HAVE THE TEACHER CHECK IT BEFORE YOU BEGIN.
WATER QUALITY OF THE DIRTY WATER

• POUR 100 ML OF THE DIRTY WATER INTO THE 200 ML BEAKER.

• MAKE OBSERVATIONS ON THE COLOR AND TRANSPARENCY OF THE WATER. RECORD YOUR OBSERVATIONS.

• USE THE PH METER (OR STRIP) TO OBTAIN THE PH OF THE DIRTY WATER. RECORD YOUR RESULTS.

• CLEAN YOUR BEAKER.
TESTING YOUR WATER BOTTLE – PART 1

• POUR 100 ML OF THE DIRTY WATER INTO YOUR WATER BOTTLE. ONCE FILTERED, SQUEEZE OUT THE WATER INTO THE 200 ML BEAKER.

• MAKE OBSERVATIONS ON THE COLOR AND TRANSPARENCY OF THE WATER. RECORD YOUR OBSERVATIONS ON YOUR STUDENT HANDOUT.

• USE THE PH METER (OR STRIP) TO OBTAIN THE PH OF THE TEST WATER. RECORD YOUR RESULTS ON THE STUDENT HANDOUT.

• CLEAN YOUR BEAKER.
SHARE RESULTS

• PICK ONE REPRESENTATIVE TO SHARE THE RESULTS OF YOUR TEST. EXPLAIN YOUR DESIGN AND HOW EFFECTIVELY IT SEEMED TO CLEAN THE WATER.
RETEST

• TALK WITH YOUR GROUP ABOUT WAYS YOU MAY IMPROVE YOUR WATER BOTTLE DESIGN. WHAT WORKED WELL? WHAT CAN YOU IMPROVE UPON?

• SKETCH YOUR IMPROVED DESIGN AND THEN FINALIZE THE DESIGN PROCESS.
TESTING YOUR WATER BOTTLE – PART 2

• POUR 100 ML OF THE DIRTY WATER INTO YOUR WATER BOTTLE. ONCE FILTERED, SQUEEZE OUT THE WATER INTO THE 200 ML BEAKER.

• MAKE OBSERVATIONS ON THE COLOR AND TRANSPARENCY OF THE WATER. RECORD YOUR OBSERVATIONS ON YOUR STUDENT HANDOUT.

• USE THE PH METER (OR STRIP) TO OBTAIN THE PH OF THE TEST WATER. RECORD YOUR RESULTS ON THE STUDENT HANDOUT.

• CLEAN YOUR BEAKER.
REFLECTION

• DESCRIBE WHAT YOU HAVE LEARNED FROM THE LESSON TODAY. MAKE SURE TO INCLUDE:
  • WHAT YOU HAVE LEARNED ABOUT WATER POLLUTION
  • MATERIALS THAT CAN BE USED TO CLEAN WATER
  • ENGINEERING DESIGN PROCESS
  • THE EFFECT THESE WATER BOTTLES CAN HAVE ON SOCIETY.