

HOWTOONS

Das Bottle

MATERIALS:

- 2 PLASTIC WATER BOTTLES
- SCISSORS
- NEEDLE NOSE PLIERS
- 2 PAPER CLIPS
- 3 RUBBER BANDS
- 6 INCH RULER
- CHOPSTICKS

- EXPERIMENT WITH** DRILL A HOLE IN THE BOTTOM OF YOUR BOTTLE. USING CHOPSTICKS FEED A PAPERCLIP THRU.
- DIFFERENT**
- SIZE**
- SUBS.**

HOOK PAPERCLIP INTO SECOND HOLE.

USE CHOPSTICKS TO HOOK RUBBER BAND.

CONNECT STABILIZER FINS WITH TWO RUBBER BANDS.

POSITIVE
WITH MORE OR MOSTLY AIR INSIDE, THE SUB HAS POSITIVE BUOYANCY AND WILL RISE UNDER WATER OR FLOAT ON TOP.

NEUTRAL
WITH JUST ENOUGH AIR INSIDE, THE SUB HAS NEUTRAL BUOYANCY AND WILL STAY LEVEL UNDER WATER.

NEGATIVE
WITH LITTLE OR NO AIR INSIDE, THE SUB HAS NEGATIVE BUOYANCY AND WILL SINK UNDER WATER.

FRICITION REDUCTION FOR THE DRIVE TRAIN.

USE A SPACER BETWEEN THE PROP AND THE CAP. PLASTIC THREADED BEADS FROM A BRACELET WORK GREAT.



MAKING THE PROPELLER:



CRUSH. THEN CUT A BOTTLE IN HALF.



THRIM AROUND THE BOTTOM.

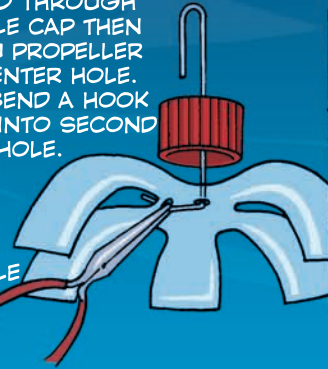


CUT THRU THE MIDDLE OF EACH HIGH AND LOW POINT.

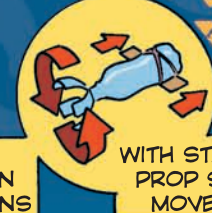


DRILL HOLE IN BOTTLE CAP

STARIGHTEN PAPER CLIP, AND FEED THROUGH BOTTLE CAP THEN THRU PROPELLER CENTER HOLE. BEND A HOOK INTO SECOND HOLE.



WITHOUT FINS, PROP AND BOTTLE BOTH SPIN IN OPPOSITE DIRECTIONS



WITH STABILIZING FINS, PROP SPINS, BOTTLE MOVES FORWARD.



I WONDER WHAT'S OUT THERE?

YEAH...



NOTHING HUNGRY I HOPE.

ZE' END!