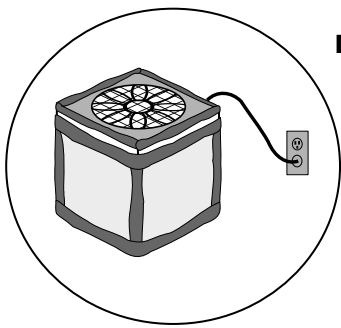


DIY AIR CLEANING: MAKING A 'CORSI AIR BOX' / 'COMPARETTO CUBE'



COST: < \$175 USD

IMPACT: CAN ADD THE EQUIVALENT OF **~ + 3 AIR CHANGES PER HOUR** TO A TYPICAL CLASSROOM

GATHER MATERIALS

1

MERV 13 AIR FILTERS (20"x20")

+

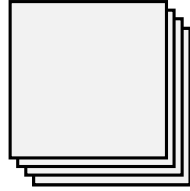
BOX FAN (20"x20")

+

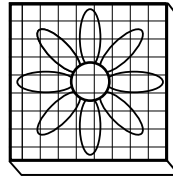
CARDBOARD SHEETS (20"x20")

+

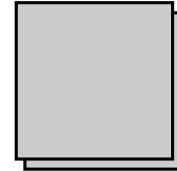
DUCT TAPE



X 4



(NOTE: MAKE SURE FAN HAS A FUSE*)

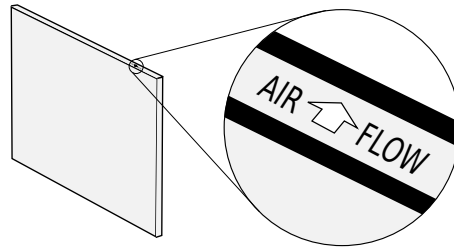


X 2



NOTE FILTER FLOW DIRECTION

2



MERV 13 FILTERS HAVE A **PREFERRED AIRFLOW DIRECTION**, INDICATED ON FILTER FRAME

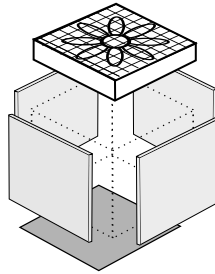
ARRANGE 'BOX' PARTS

3

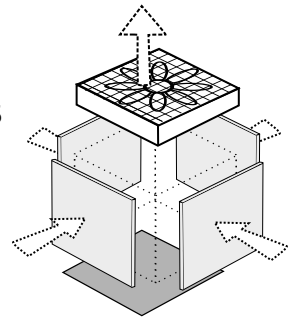
TOP: FAN

SIDES: FILTERS

BOTTOM: CARDBOARD

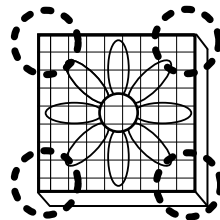


ORIENT FILTERS & FAN SO THAT AIR FLOWS INTO SIDES & OUT TOP

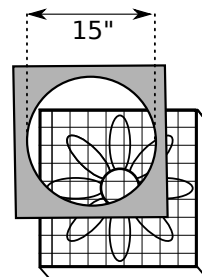


PREPARE FAN SHROUD

4



CORNERS OF BOX FAN CREATE 'BACK FLOW' CAN REDUCE PERFORMANCE...

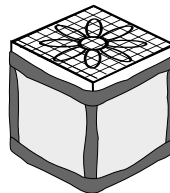


... WHICH CAN BE PREVENTED BY MAKING A **CIRCULAR SHROUD** OUT OF CARDBOARD (HOLE DIAMETER: 15")

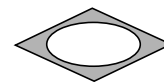
ASSEMBLE AND SEAL

5

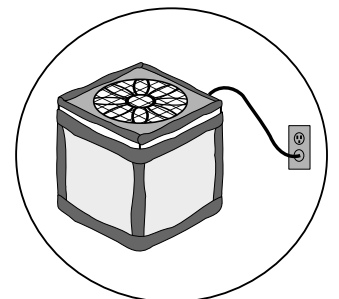
USE **DUCT TAPE** TO CONNECT PARTS AND MAKE AN **AIR-TIGHT SEAL...**



+



... AND ADD **SHROUD TO TOP OF FAN**



TYPICAL ESTIMATED **CADR** (CLEAN-AIR DELIVERY RATE): **~ 600 CFM**

EQUIVALENT ACH (AIR CHANGES PER HOUR) = **CADR * 60 / ROOM_VOLUME**

E.G.: FOR 30 FT x 30 FT x 10 FT ROOM, TYPICAL ESTIMATED **EQUIVALENT ACH** **~ + 3 ACH**

(FOR COMPARISON: TYPICAL CLASSROOM ACH < 3 ACH; IDEAL ACH: 6+)

FOR MORE BACKGROUND & REFERENCES, VISIT edgecollective.io/airbox

* Most 20" box fans -- including all those sold in CA after 2012 -- are sold with a (built-in) fuse.