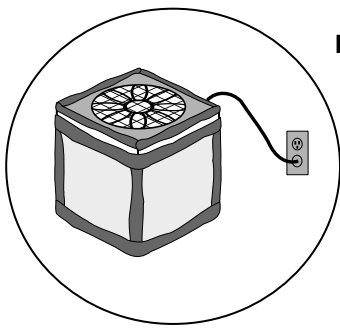# DIY AIR CLEANING: MAKING A **'CORSI AIR BOX'** / **'COMPARETTO CUBE'**

COST: < $175 USD

IMPACT: CAN ADD THE EQUIVALENT OF ~ **+ 3 AIR CHANGES PER HOUR** TO A TYPICAL CLASSROOM
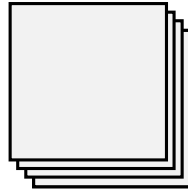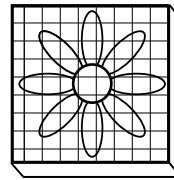
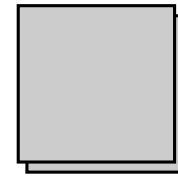MERV 13 AIR FILTERS (20"x20") **+** BOX FAN (20"x20") **+** CARDBOARD SHEETS (20"x20") **+** DUCT TAPE

GATHER MATERIALS (1)

X 4

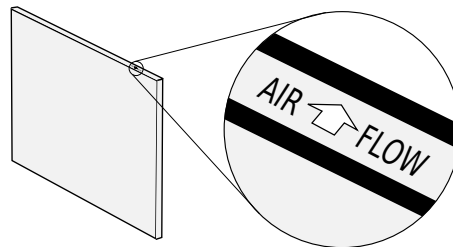(**NOTE**: MAKE SURE FAN HAS A FUSE*)

X 2

NOTE FILTER FLOW DIRECTION (2)

AIR FLOW

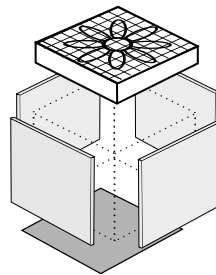MERV 13 FILTERS HAVE A **PREFERRED AIRFLOW DIRECTION,** INDICATED ON FILTER FRAME
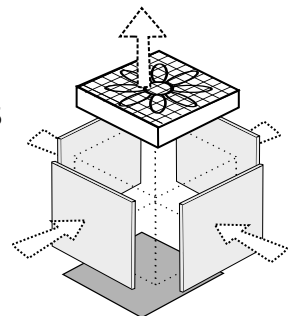
ARRANGE 'BOX' PARTS (3)

TOP: FAN

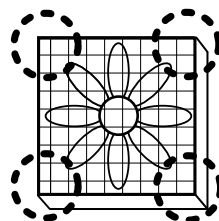**SIDES:** FILTERS

BOTTOM: CARDBOARD

ORIENT FILTERS & FAN SO THAT AIR FLOWS **INTO SIDES** & **OUT TOP**
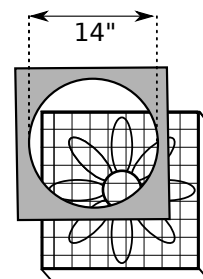
PREPARE FAN SHROUD (4)

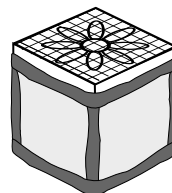CORNERS OF BOX FAN CREATE 'BACK FLOW' CAN REDUCE PERFORMANCE...

14"

... WHICH CAN BE BE PREVENTED BY MAKING A **CIRCULAR SHROUD** OUT OF CARDBOARD (HOLE DIAMETER: 14")
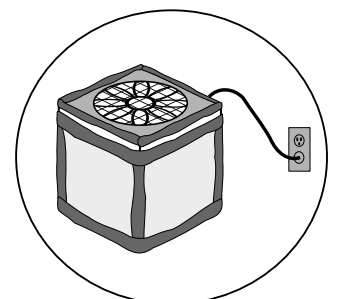
ASSEMBLE AND SEAL (5)

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.