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

1. GATHER MATERIALS:
   - MERV 13 AIR FILTERS (20”x20”)
   - BOX FAN (20”x20”)
   - CARDBOARD SHEETS (20”x20”)
   - DUCT TAPE

   (NOTE: MAKE SURE FAN HAS A FUSE*)

2. NOTE FILTER FLOW DIRECTION:
   - MERV 13 FILTERS HAVE A PREFERRED AIRFLOW DIRECTION, INDICATED ON FILTER FRAME

3. ARRANGE ‘BOX’ PARTS:
   - TOP: FAN
   - SIDES: FILTERS
   - BOTTOM: CARDBOARD

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

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

4. PREPARE FAN SHROUD:
   - CORNERS OF BOX FAN CREATE ‘BACK FLOW’ CAN REDUCE PERFORMANCE...
   - HOLE DIAMETER: 15”

5. ASSEMBLE AND SEAL:
   - 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.