



The Detroit Chapter of the American Society of Heating Refrigerating and Air-Conditioning Engineers (ASHRAE) offers awards for thoughtful, best-in-class science fair projects exploring indoor environmental concerns such as comfort, indoor air quality, the impact of indoor spaces on people, and how buildings impact the environment.

Consider this science fair project idea or develop one of your own.

THE CORSI-ROSENTHAL AIR PURIFIER	QUESTIONS YOUR PROJECT MIGHT INVESTIGATE. (Choose One.)	MATERIALS
Build and test a DIY Corsi-Rosenthal Air Purifier Air purifiers can be used to clean the air in any room. Scientists claim that cleaner air leads to: <ul style="list-style-type: none"> Improved student performance (grades) Fewer sick day absences Fewer asthma and allergy episodes Improved occupant comfort 	<ul style="list-style-type: none"> Do students & teachers with allergies or asthma have fewer symptoms or flair-ups when the air purifiers are in use? Are their fewer student absences for illness (sick days) when the filters are in use? Are students more alert when the filters are in use? Are students' grades better when the filters are in use? 	<ul style="list-style-type: none"> 1 qty box fan 4 or 5 qty filters (MERV 13 or higher) 1 roll of duct tape 1 piece of cardboard

Here are some other air-conditioning related science fair project ideas that you can have fun exploring with the SCIENTIFIC METHOD:

- At what temperature, humidity level and airspeed is your classroom/house most comfortable?
- Is it really cooler in the shade?
- Is the temperature the same everywhere throughout the classroom, house or other space?
- What is the R-value (insulative value) of the clothes we wear?
- Does the room really stay cooler if we close the curtains/blinds during the day?
- Which refrigerated temperatures are best to preserve specific types of foods the longest?
- Can water really boil at room temperature?
- Build and test a mini-yakhchal to make ice.
- How does straw diameter impact the water flowrate? Can the answer be also applied to airducts?
- Does water really move faster when you squeeze a garden hose?
- What happens to a spray can (of paint or cool whip) when you spray out its contents?
- How do air temperature and humidity impact how much a can of pop or a window will sweat?
- Build and test an evaporative air cooler using a fan and a container of ice.
- Build and test a rudimentary refrigerator using soil, water, and two clay pots.
- Construct and test a psychrometer to measure dry-bulb and wet-bulb temperatures.
- Develop a wind chill chart based on your own empirical data measurements

Helpful hints and information may be found on the internet or feel free to contact the Detroit Chapter of ASHRAE at webmaster@detroitashrae.org.