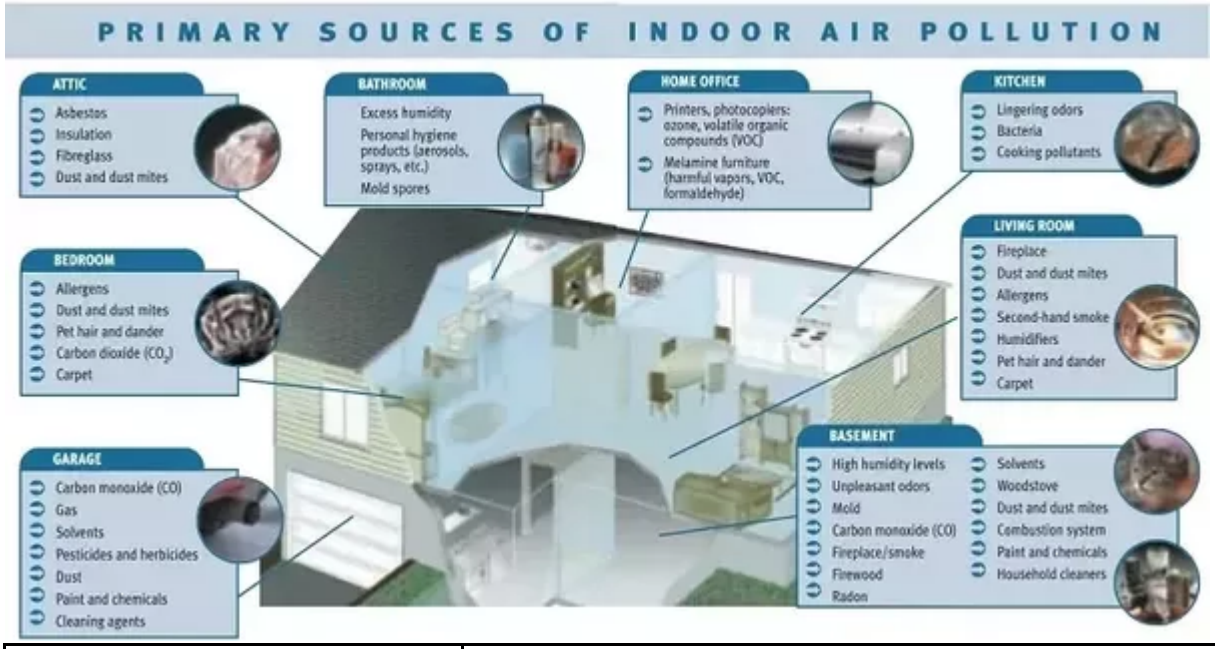
What are indicators for indoor air quality?

What is an Indicator?

- A way to measure, indicate, point out or point to with more or less exactness;
- Something that is a sign, symptom or index of;
- Something used to show visually the condition of a system.

Example:

Key indicators for indoor air quality:



Temperature and Humidity Thresholds/Save Levels: Room temperature - 67 to 82°F Humidity - 35-50% Units: degrees fahrenheit or celsius, percent humidity relative to highest possible humidity at a given temperature Sensor:	Temperature and humidity impact many other aspects of IAQ. Temperatures is one of the basic IAQ measurements that has a direct impact on perceived comfort and, in turn, concentration and productivity. Too little humidity in a space may create static build-up and people will sense that their skin feels dry. Too much humidity and people will think it feels “sticky.”
Environmental Tobacco Smoke Thresholds/Save Levels: No safe level Units: Sensor:	Second-hand smoke is tobacco smoke which affects people other than the 'active' smoker. Second-hand tobacco smoke includes both a gaseous and a particulate phase, with particular hazards arising from levels of carbon monoxide (as indicated below) and very small particulates which get into the bronchioles and alveoli in the lung.
Radon	Radon is an invisible, radioactive atomic gas that results

Thresholds/Save Levels: under 2 pCi/L is considered normal 4 pCi/L is the “action level” Units: picocuries per liter Sensor:	from the radioactive decay of radium, which may be found in rock formations beneath buildings or in certain building materials themselves. Radon is probably the most pervasive serious hazard for indoor air in the United States and Europe, probably responsible for tens of thousands of deaths from lung cancer each year. Radon gas enters buildings as a soil gas and is a heavy gas and thus will tend to accumulate at the lowest level. Radon may also be introduced into a building through drinking water particularly from bathroom showers. Radon accumulation is greatest for well insulated homes.
Mold Thresholds/Save Levels: Usually compare indoor air to outdoor air to determine what is safe, but generally -- Under 100 cfu/m^3 is considered normal Over 1000 cfu/m^3 is high risk Units: colony forming units per cubic meter of air Sensor:	Mold is always associated with moisture, and its growth can be inhibited by keeping humidity levels below 50%. Moisture buildup inside buildings may arise from water penetrating compromised areas of the building envelope or skin, from plumbing leaks, from condensation due to improper ventilation, or from ground moisture. There are some varieties of mold that contain toxic compounds (mycotoxins). However, exposure to hazardous levels of mycotoxin via inhalation is not possible in most cases, as toxins are produced by the fungal body and are not at significant levels in the released spores. The primary hazard of mold growth, as it relates to indoor air quality, comes from the allergenic properties of the spore cell wall. More serious than most allergenic properties is the ability of mold to trigger episodes in persons that already have asthma, a serious respiratory disease.
Combustion Contaminants (esp. Carbon Monoxide) Thresholds/Save Levels: Average level in home 0.5 to 5 ppm Level near gas stove 5 to 30 ppm An average level of 50 ppm over 8 hours will sound a CO detector Units: parts per million Sensor:	Sources: Furnaces, generators, gas or kerosene space heaters, tobacco products, outdoor air and vehicles One of the most acutely toxic indoor air contaminants is carbon monoxide (CO), a colourless, odourless gas that is a byproduct of incomplete combustion of fossil fuels. By depriving the brain of oxygen, high levels of carbon monoxide can lead to nausea, unconsciousness and death.
Volatile Organic Compounds	Sources: Paints, stains, varnishes, solvents, pesticides, adhesives, wood preservatives, waxes, polishes, cleansers, lubricants, sealants, dyes, air fresheners, fuels, plastics, copy machines, printers, tobacco products, perfumes, and dry cleaned clothing.

	Volatile organic compounds (VOCs) are emitted as gases from certain solids or liquids. VOCs include a variety of chemicals, some of which may have short- and long-term adverse health effects. Concentrations of many VOCs are consistently higher indoors (up to ten times higher) than outdoors. A meta-analysis of 77 surveys of VOCs in homes in the US found the top ten riskiest indoor air VOCs were acrolein, formaldehyde, benzene, hexachlorobutadiene, acetaldehyde, 1,3-butadiene, benzyl chloride, 1,4-dichlorobenzene, carbon tetrachloride, acrylonitrile, and vinyl chloride. These compounds exceeded health standards in most homes.