

## Internal and External Environmental Conditions (element 4)

The measurement and monitoring of internal and external environmental conditions enables the researcher to understand the thermal and other environmental conditions in a building. When analysed in relation to occupancy and energy use, these parameters can assist in understanding the relationship between comfort levels, energy use and environmental conditions.

### Level 4: Spot measuring / logging / monitoring additional IAQ parameters lv2

<b>Cost:</b> ₹₹₹/₹₹	<b>Time:</b> ⌚⌚⌚	<b>Skills:</b> 🖐️🖐️🖐️
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For deeper IAQ studies the following parameters can be spot read, logged or monitored where these parameters meet the objective of particular studies:

- Occupancy patterns (I/O) (passive infrared sensor)
- Window and door opening patterns (I/O)
- CO (ppm)
- VOCs
- PM10, PM2.5, PM1
- Bacterial aerosols
- Bioaerosols

Potential tools:

- IAQ parameter loggers/meters
- Material to affix loggers to walls or other surfaces

Refer to indoor air quality study of Kendriya Vidyalaya School<sup>1</sup> for methods to measure IAQ parameters in India.

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<sup>1</sup> Chithra, V.S. and Nagendra, S.S., 2012. Indoor air quality investigations in a naturally ventilated school building located close to an urban roadway in Chennai, India. *Building and Environment*, 54, pp.159-167.

