

# INDOOR AIR QUALITY

## Booklet for Schools

Developed by

**Techknowgreen Solutions Limited (TSL)**  
and

**Society for Indoor Environment (SIE)**



LET'S  
TALK

# INDOOR AIR QUALITY



DON'T  
KNOW  
LET'S CHECK


do you know  
IAQ  
of our school





**What is Indoor Air Quality?**

**INDOOR AIR QUALITY (IAQ) REFERS TO HOW CLEAN OR DIRTY THE AIR IS IN INDOOR ENVIRONMENTS, LIKE OUR HOMES, SCHOOLS, AND OTHER BUILDINGS. IT'S IMPORTANT BECAUSE THE AIR WE BREATHE CAN AFFECT OUR HEALTH.**

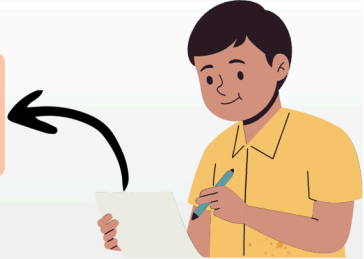


**IAQ**  
INDOOR AIR QUALITY

# Why IAQ Matters

- **We spend a lot of time at school** – Most kids are at school for 6 to 8 hours every day. That's a long time to be inside!
- **Clean air helps you learn better** – Schools need to make sure the air is clean so kids and teachers can focus. If the air isn't clean, it can make it hard for kids to concentrate and learn new things.
- **Kids' bodies are still growing** – Children are more sensitive to bad air than adults because their lungs, brain, and other organs are still developing.
- **Kids breathe in more air** – Compared to their body size, children breathe in more air. This implies that indoor air pollution may have a greater impact on them.
- **Bad air can make you feel sick** – If kids breathe in harmful air pollutants like tiny particles, harmful chemicals, or excess carbon dioxide, it can make them feel tired or unwell. This can make it hard to pay attention in class.

# Common Indoor Air Pollutants



## Particulate Matter (PM10 & PM2.5)

- Tiny particles that can cause respiratory and cardiovascular issues.

## Volatile Organic Compounds (VOCs)

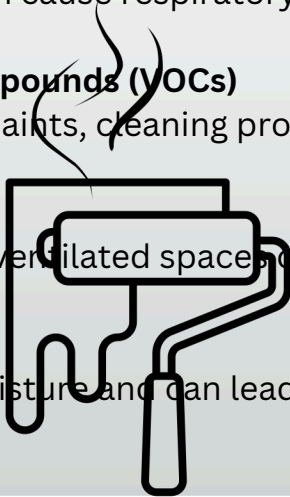
- Gases emitted from paints, cleaning products, furniture, and building materials.

## Carbon Dioxide (CO<sub>2</sub>)

- High levels in poorly ventilated spaces can lead to discomfort and drowsiness.

## Mold and Mildew

- Caused by excess moisture and can lead to serious health issues.



## Biological Contaminants (Bacteria, Dust Mites, Pollen)

- These can trigger allergies and asthma.

### Carbon Monoxide (CO)

A dangerous gas from combustion appliances, which can be

- harmful in poorly ventilated areas.

### Formaldehyde

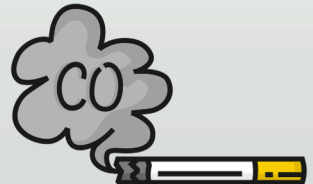
Found in building materials and furniture, it can cause irritation and long-term health problems.

- 



Bacteria

Molds




# Sources of Indoor Pollutants





**DID YOU  
KNOW?**

## How outdoor air quality impacts indoor air quality



Some of the pollutants, such as ozone and nitrogen dioxide emitted from vehicle exhaust, react with off-gassing from building materials and furniture as well as with chemicals in cleaning supplies and other household items, creating new compounds like formaldehyde that make indoor air even more toxic



NO<sub>x</sub>



SO<sub>x</sub>



CO



O<sub>3</sub>

# Impacts of poor indoor air quality



**Health Problems:** Exposure to indoor air pollutants can lead to respiratory issues, allergies, headaches, and fatigue. Long-term exposure might contribute to more serious health conditions like asthma, bronchitis etc.

**Reduced Academic Performance:** Poor air quality can affect students' concentration and cognitive performance, potentially impacting learning outcomes.

**Increased Absenteeism:** Health issues related to poor air quality can lead to more frequent absences among students and staff, thereby affecting their productivity.



# How Poor IAQ Affects Health

Short term

**Headaches**



**Sneezing**



**Coughing**



**Itchy eyes**



Long-term

**Asthma**



**Allergies**



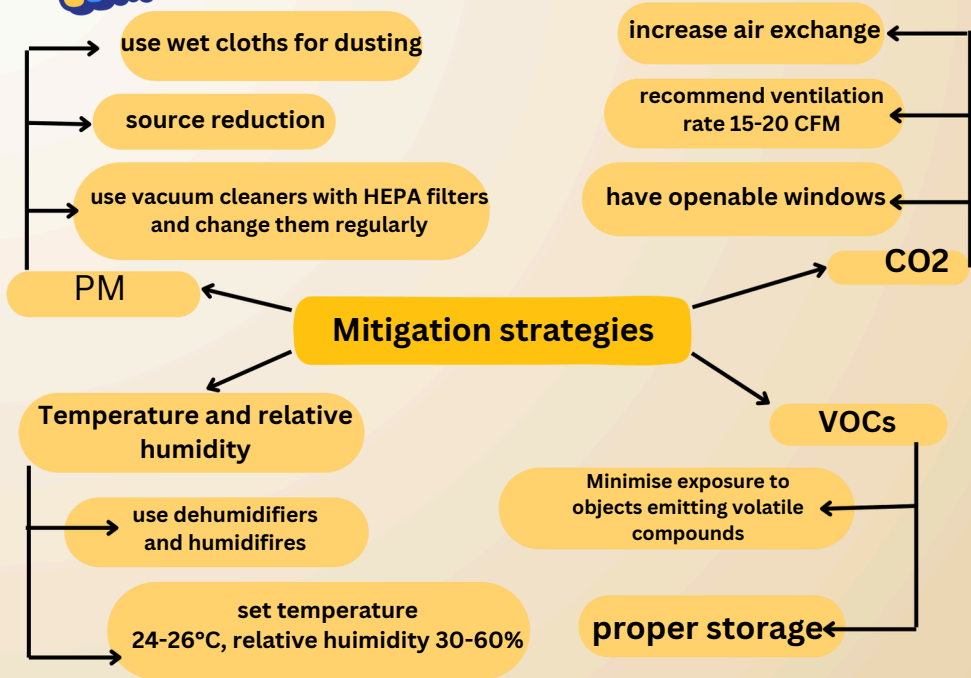
**Poor concentration**

**Fatigue**



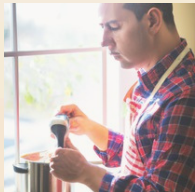
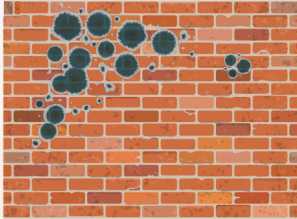


# How to Improve Indoor Air Quality





Can you identify indoor air pollutants here??



# *DID YOU KNOW?*

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**Some plants can actually clean the air! Plants like the spider plant and peace lily are known to remove pollutants from the air.**



**The Peace Lily, Spider Plant, Snake Plant, Boston Fern, Areca Palm, English ivy, and Rubber Plant are among the top choices for their ability to remove common indoor pollutants like formaldehyde, benzene, and carbon monoxide.**



## IAQ CROSS-WORDS

**ASTHMA**

**BACTERIA**

**CARBON DIOXIDE**

**CARBON MONOXIDE**

**COMBUSTION**

**DUST MITES**

**FUNGI**

**GROUND OZONE**

**HUMIDITY**

**PAINTS**

**PARTICULATE MATTER**

**PESTICIDES**

**POLLEN**

**SMOG**

**TEMPERATURE**

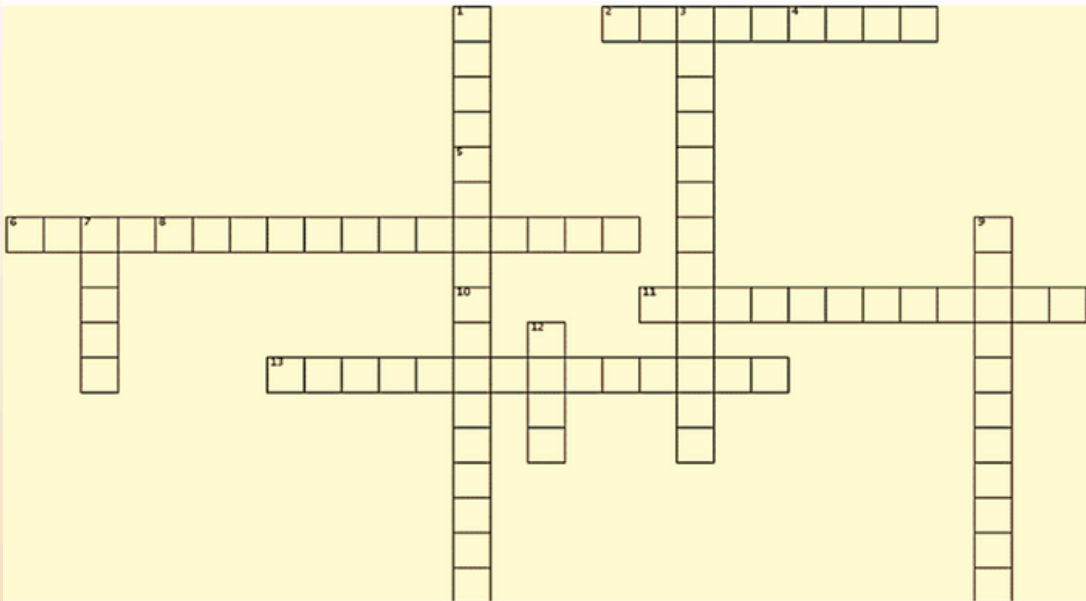
**VENTILATION SYSTEM**

**VIRUS**

**VOC**

P Y T I M S X Y D D P L C S A P B N O M  
Z O T O N Z U R N I W H A Y I E A O Z E  
U X L I I N P L M B S U R P R S C I L T  
O D O L D A M H T S A M B F P T T T E S  
S N H V E I R G N M F X O Y O I E S L Y  
F E N P Y N M Q L E M D N G L C R U T S  
F L V Q B T O U L P G Q D U L I I B L N  
R Y N O T V D Q H C J U I O U D A M U O  
S E T I M T S U D O P T O O T E X O C I  
J Q N F B L U B K V W Z X C I S W C E T  
S V A W U B Z Q A M B D I K O C K S J A  
G R O U N D O Z O N E I D E N A E O N L  
A N P A R T I C U L A T E M A T T E R I  
T E R U T A R E P M E T P F S Q P Y V T  
P L L J X D S H Y R Z A M W U S N I S N  
G D M Y F W F Y E I I P W K U N R J H E  
V C A R B O N M O N O X I D E U G B W V  
A W B P H C I O T F L P J D S X A I I R  
H L O O E H E S Y X Q M X S F X P G B R  
W N V H H A O S L T I S Q H O R N Q C S

Fill the puzzle with above given words :



# Glossary

**Air quality** :When air quality is good, the air is clean and contains only small amounts of particles and chemical pollutants.

**Pollution**: Pollution occurs when substances that can cause illness or damage to the environment end up in the air, water, or ground.

**Solid particles**: Particles of smoke, dust, or dirt that float in the atmosphere are known as solid particles. Although they are not usually visible, an excessive amount can contaminate the air and make breathing difficult.

**Ventilation** : Ventilation is the process of exchanging indoor air with fresh outdoor air to improve its quality inside a building or space.

**Mold** : Mold is a type of fungus that looks like tiny, fuzzy spots or patches, often green, black, or white. It grows in places that are damp or wet, like bathrooms, kitchens, or basements.

# Pledge



**Pledge: "I pledge to protect and improve indoor air quality for a healthier future. I promise to keep indoor air fresh and healthy by ventilating, using natural cleaners, reducing dust, and maintaining a clean environment for everyone's well-being!"**



**"Thank you for learning how to keep our air clean! Remember, clean air helps us stay healthy and happy."**