Name:

The air in our lungs

Different sized particles have different effects on our lungs when we breathe them in.

Particulates in the air are extremely small, smaller than the width of a human hair. Particulate matter smaller than 10 microns we call PM10. Even smaller particles are called PM2.5, smaller than 2.5 microns.

The largest particles that we breathe in, such as large dust and sand do not make it to the lungs. The biggest bits get stuck to snot and nose hair, and rest that makes it past the nose get caught by tiny hairs in your windpipe called cilia. These cilia work together to bring the particles back up to your throat, where they get swallowed and dealt with in the stomach.

Smaller dust particles get past these defenses and can make it into the lungs.

Even smaller particles, like smoke fumes, make it further into the lungs and can even be absorbed into the blood where they can get to anywhere in the body.

Have a go at defending the lungs with some friends in the **Silly Cilia** activity.

Key Points to Take Away

- Larger particles get stopped by cilia in the windpipe
- Smaller particles can get further into the lungs

1. How big are the particles in the air?

_____

2. What are PM10?

_____

3. What are PM2.5?

_____

4. What particles do not make it to the lungs?

_____

5. Are snot and nose hair helpful? _____

Why_____

6. What happens to the particles that make it past snot and nose hair?

_____

_____

7. How do cilia work? _____

_____

8. Do any particles make it to the lungs?_____

9. What happens to even smaller particles like smoke?

_____

_____

10. Draw a picture showing your understanding of how cilia work.