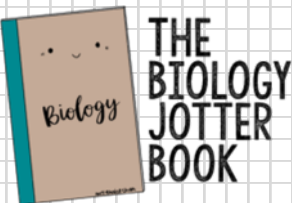


Effects of Tobacco Smoke on Human Health

- Toxic components
- Health problems

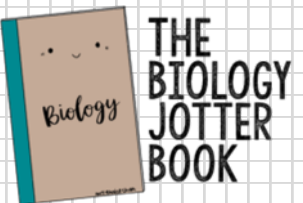


Components of tobacco smoke

Nicotine

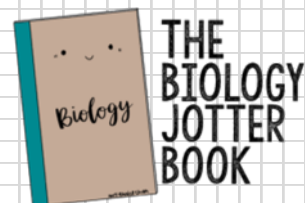
Tar

Carbon monoxide



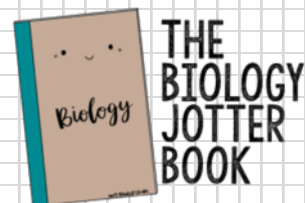
Nicotine

Properties of chemical	Effect on the body
<ul style="list-style-type: none">• Addictive drug• Causes the release of the hormone adrenaline• Makes blood clot easily	<ul style="list-style-type: none">• Increased heartbeat and blood pressure• Increased risk of blood clots in blood vessels



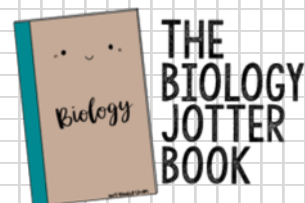
Carbon Monoxide

Properties of chemical	Effects on the body
<ul style="list-style-type: none">• Combines with haemoglobin <i>irreversibly</i> to form <i>carboxyhaemoglobin</i><ul style="list-style-type: none">• reduces oxygen transport efficiency of red blood cells	<ul style="list-style-type: none">• Death if concentrations in air are increased by 1%



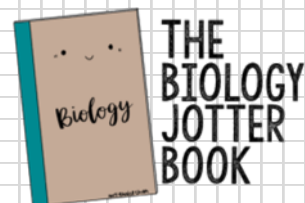
Carbon Monoxide

Properties of chemical	Effects on the body
<ul style="list-style-type: none">• Increases the rate of fatty deposits on the inner arterial wall• Damages the lining of blood vessels	<ul style="list-style-type: none">• Increased risk of atherosclerosis• Increased risk of blood clotting in arteries



Tar

Properties of chemical	Effects on the body
<ul style="list-style-type: none">• Contains cancer-causing chemicals which induce uncontrolled cell division of the epithelium• Paralyses cilia lining the air passages	<ul style="list-style-type: none">• Blockage in the air sacs and reduction in gas exchange efficiency• Dust particles trapped in the mucus lining the airways cannot be removed

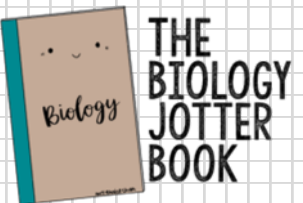


Health Problems

Chronic bronchitis

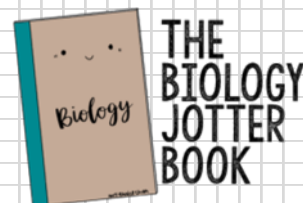
Emphysema

Lung cancer



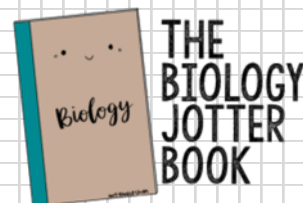
Chronic Bronchitis

- Caused by breathing in irritant particles
- Signs include:
 - Epithelium lining airways becomes inflamed
 - **Excessive mucus** secreted by epithelium
 - **Cilia** on epithelium **paralysed**. Mucus and dust particles cannot be removed.
 - Airways become blocked, **making breathing difficult**
 - **Persistent coughing** to clear airways to breathe which increases risk of getting lung infection.



Emphysema

- Result of persistent and violent coughing
- Signs include:
 - **Violent coughing breaks partition walls between air sacs**
 - **Surface area** for gaseous exchange **decreases**
 - Lungs become inflated with air
 - Lungs **lose** their **elasticity**
 - Breathing become difficult. Person wheezes and suffers severe **breathlessness**.



Lung Cancer

- **Cancer is the uncontrolled division of cells producing outgrowths or lumps of tissues.**
- Increase in number of cigarettes smoked per day increases risk of getting lung cancer

