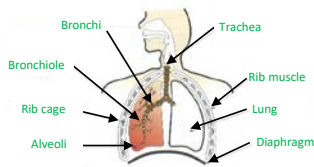


The Respiratory System

Label the parts of the respiratory system



How does our breathing rate change when we exercise?

It increases. We breathe more deeply and at a faster rate.

This is so we can provide more oxygen to our muscles for respiration. We can therefore release more energy for muscle movement.

Drugs

Match the drug to the category

Depressant	Cocaine excites the central nervous system, increasing the impulses that are sent around it.
Both	Caffeine reduces tiredness and excites the nervous system.
Stimulant	Alcohol slows down the functions of the nervous system.
	Ecstasy excites the central nervous system, increasing energy and feelings of happiness.
	Cannabis can either excite or inhibit the nervous system, depending on the mood of the person taking the drug.

Deficiency diseases

Fill in the blanks using the words below

Deficiency diseases are caused by not having enough **vitamins** or **minerals**.

Some examples are:

- **Anaemia** this is when we don't have enough iron in our body therefore **red blood cells** do not carry enough oxygen around the body.
- Scurvy is when someone lacks **Vitamin C**. You can find this in many fruits and vegetables.
- **Rickets** is caused by not enough vitamin D. This can form bone deformities.

Vitamin C Deficiency **Vitamins** **Anaemia**
Minerals **Rickets** **red blood cells**



Organ systems

List the organs and job of each organ system

Organ system	Organs	Job
Circulatory system	Heart, blood vessels, blood	Transport blood (containing oxygen) around the body
Digestive system	Mouth, stomach, large and small intestine	Break down food into smaller molecules
Skeletal system	Bones, muscles (tendons, ligaments & cartilage)	Protects organs, holds body upright
Reproductive system	Female – uterus, fallopian tube, ovaries. Male – penis, testes	To create offspring
Respiratory system	Lungs, diaphragm, rib cage	To take in oxygen for respiration and remove carbon dioxide

Effects of alcohol

Complete the boxes to describe the effects on the body

Short term	Long term
<ul style="list-style-type: none"> • Sleepiness and bad judgment • Poor balance • Poor muscle control • Blurred vision • Slurred speech 	<ul style="list-style-type: none"> • Damage to the liver • Damage to the heart • Damage to the lungs • Damage to the stomach • Damage to the brain • Liver cirrhosis

Smoking

Summarise smoking

Effects in the airway

- Damage to cilia therefore cannot waft away microorganisms
- Mucus becomes thicker

Parts of the cigarette

- Tar – damages the lungs Tobacco – addictive part
- Filter – stops the tobacco entering the mouth
- Paper – holds the cigarette together

How to stop smoking

- E-cigarettes
- Nicotine patches

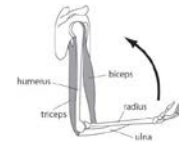
Muscles and bones

Explain how the biceps and triceps work together to move the arm

To move the arm up the biceps contract the triceps relax.

To move the arm down the triceps contract and the biceps relax.

Muscles work in pairs – antagonistic (opposites)



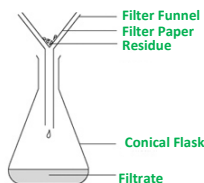
What type of separation technique is below?

Filtration

Label the diagram below with the key terms:

Filter Funnel, Filtrate, Residue, Conical Flask,

Filter Paper

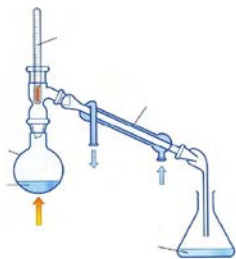


What type of separation technique is below?

Distillation

Describe what happens to the water during the separation technique.

The water is evaporated and then condensed



What type of separation technique is the diagram to the right?

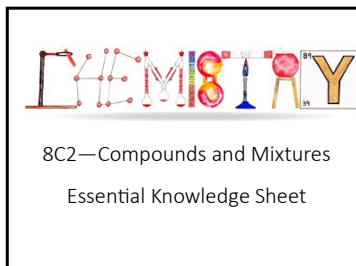
Chromatography

How can you tell that A and B are pure? **There is only 1 spot**

How many colours make up C? Are any of the colours A or B? **2 colours make up C and none of those spots are A or B.**

Describe how you would carry out this separation technique.

Using a pencil draw a line on the paper. Add small spots of colour on to the pencil line. Place the paper in water in a beaker. Allow the water to reach the top of the paper and the colours will have risen up the paper.



Define the following key terms.

Atom— **a small particle that makes up everything**

Element— **made from 1 type of atom**

Compound— **made from 2 or more types of atoms joined together in a fixed proportion**

Mixture— **2 or more substances not joined together**

Soluble— **dissolves in a solvent (e.g. water)**

Insoluble— **does not dissolve in a solvent**

How would you separate the following mixtures?

Sand and Water: **Filtration**

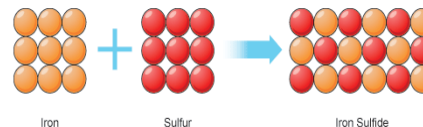
Salt from salt water: **Crystallisation/Evaporation**

Different coloured inks: **Chromatography**

Water from salt water: **Distillation**

Iron from a mixture: **Using a magnet**

of iron and sulfur



How can you tell that iron and sulfur are elements from the diagram?

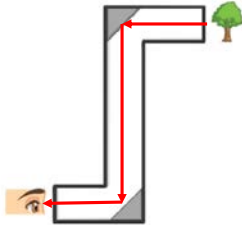
They are made from 1 type of atom

How can you tell that iron sulfide is a compound from the diagram?

2 different types of atoms are joined together in a fixed proportion

Periscope— Draw on a light ray to show how the eye can see the tree.

Hint! Remember the arrows to show which way the light is travelling.



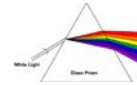
Explain why a yellow piece of card will appear yellow in white light: **The white light is made up of different colours. When the light hits the cardboard, the other colours of light are absorbed, only the yellow light is reflected into your eyes— so it appears yellow.**

Explain why a white ball will appear red when using a red filter: **The red filter absorbs all colours of light than red, so only the red passes through. There is only red light to be reflected into your eyes from the ball and so it looks red.**

What colour would a red pair of trousers appear in green light? **Black—The red trousers would absorb the green light and there is no red to be reflected, so they appear black.**

List the colours on the spectrum below :

- Red
- Orange
- Yellow
- Green
- Blue
- Indigo
- Violet
- Violet

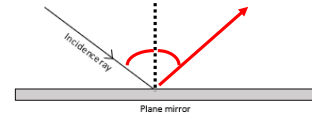


Why does white light split up in this way when it enters the prism? **Violet light is refracted (bent) the most when it enters the prism, and red the least, with all the other colours in between**



8P2—Waves and Light

Use a protractor to draw in the reflected ray below:



Both angles from the normal should be equal

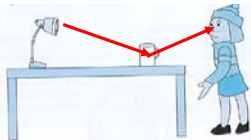
What do we mean by the following? Give an example.

Transparent material— **Most light passes through.** E.g. Glass

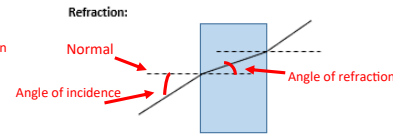
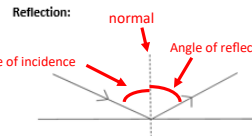
Translucent material— **Some light passes through** e.g. frosted glass in bathrooms

Opaque material— **All light falling on it is either reflected or absorbed, none passes through.** E.g. humans, mirrors, desks

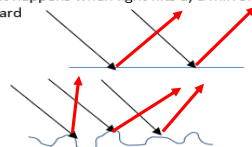
Holly enters a dark room and turns on the light. How does she see the cup? Draw on the light rays.



On the diagrams, show where the angle of incidence, and angle of reflection *or* refraction will be. Label the Normal lines:



Draw what happens when light hits a) a mirror and or b) cardboard



If something is luminous, it is a source of light, or it gives out light. E.g. the sun

If something is non-luminous, it does not give out light but may reflect the light from a luminous source of light. E.g. the moon.