

Level 3 OCR Cambridge Technical Health and Social Care

Year 11-12 Transition Pack

Name.....



This pack contains information and tasks to complete for the units of work you will be completing in September. For further information about the course, or to ask questions about the tasks set, please contact the teachers detailed below:

Unit 3
Unit 4

Mrs O'Connell
Mr Carey

oconnelln@st-peters.solihull.sch.uk
careys@st-peters.solihull.sch.uk

Unit 3

Health, Safety and Security in Health and Social Care

This is an examined unit that introduces you to health, safety and security in health and social care. You will acquire the necessary knowledge and skills to equip you in maintaining a safe working environment for yourself, your colleagues and individuals who require care and support. You will learn how legislation, policies and procedures work to reduce risks in health and social care and the consequences of not following them. You will also learn how to respond to different incidents and emergencies with health and social care settings.

Wider Reading

- <https://www.hse.gov.uk/healthservices/sensible-risk-assessment-care-settings.htm>
- <https://www.hsa.ie/eng/Topics/Hazards/>
- <https://www.qcs.co.uk/health-safety-risk-assessments-i-need-record/>
- <https://fitforwork.org/blog/identifying-workplace-hazards/>
- <https://www.worksafe.uk.com/health-and-safety-legislation/>
- <https://www.nhs.uk/conditions/first-aid/>

Tasks

1. Read and make notes on the following:
<https://www.highspeedtraining.co.uk/hub/hazards-in-the-workplace/>
2. Watch and make notes on the following:
<https://prezi.com/ojqpj6157r0g/unit-3-health-safety-and-security-in-health-and-social-care/>
3. Complete a summary, describing each type of hazard, and the examples, listed below:
 - environmental (e.g. slip and trip hazards)
 - biological (e.g. waste, infection)
 - chemical (e.g. medicines, cleaning materials)
 - psychological (e.g. stress, fatigue)
 - physical (e.g. noise, radiation)
 - musculoskeletal (e.g. manual handling, DSE (display screen equipment))
 - working conditions (e.g. temperature, noise, travel)
 - working practices (e.g. working hours, supervision)
 - lack of security systems (e.g. door locks, alarm systems)
4. Complete a summary, describing each impact of hazards, and the examples, listed below:
 - Illness
 - Injury or harm
 - poor standards of care
 - financial loss (e.g. theft, high staff turnover, legal action)
5. Complete a table like the one below, including all hazards summarised in task 3.

Type of Hazard	Which impact/s from task 4 can be caused by this hazard?	What actions could a health and social care setting take to minimise this hazard?

6. Go to the St. John's Ambulance website, linked below:
<https://www.sja.org.uk/get-advice/first-aid-advice/?parentId=12265&categoryId=12279>
For each First Aid advice topic listed on the right-hand side of the webpage, create a mind-map for each common first aid topic e.g. Allergies, Bleeding, Bones and Muscles etc.

Unit 4 – Anatomy and Physiology

You are required to complete **ALL** of the activities in this transition pack for submission in the first week of the new academic year. **Unit 4 of the health and social care CTEC is fascinating but challenging.** It will develop your thinking skills and vastly expand your knowledge of the body, its structures and its functions. There will be **five taught hours** per fortnight. It is then expected that students do **three hours** per week of independent study at home.

You will need to put your time and effort into this unit! This transition pack is an opportunity for you to get a head start and be well equipped prior to starting the course.

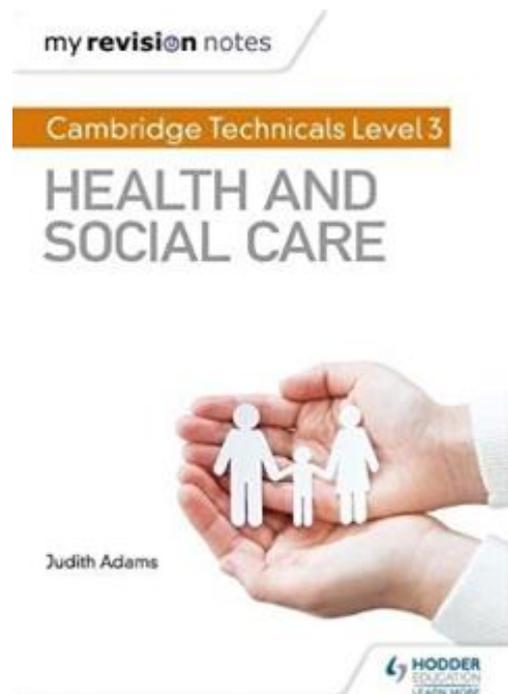
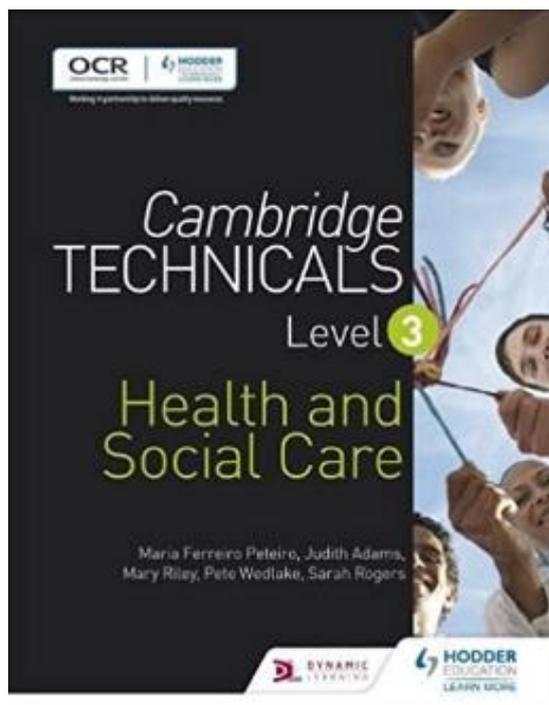


Course Information:

Unit 4 of Health and Social Care (Anatomy and Physiology) is entirely about the human body. There are six sections that we will cover over the year. These are:

1. The Circulatory System
2. The Digestive System
3. The Respiratory System
4. The Musculoskeletal System
5. Regulatory Systems and Homeostasis
6. The Eyes and Ears

Within each of these sections we look into the structure, the functions and potential malfunctions of that could occur. The unit is assessed solely through examinations which will take place at the end of Year 12.

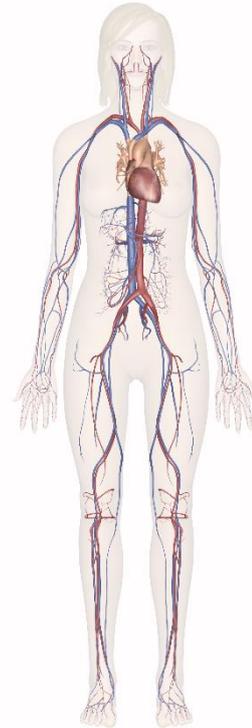


As a department, we recommend that you purchase the course text book. We also suggest you also purchase the revision guide as it will enhance your practical skills and develop your key content knowledge. It is a very effective tool for well-structured revision.

Both are available on amazon.

Circulatory System

Our circulatory/cardiovascular system is made up of the heart and our blood vessels. We look into the composition of blood, the functions of the blood, the structure and function of the heart, the cardiac cycle and how the cardiovascular system transports the nutrients that are body requires. After completing some personal research, please have a go at the following tasks:



In one pint of blood there are 2.4 trillion red blood vessels and the body is able to produce around 17 million red blood vessels per second. After each beat of the heart, it roughly takes 60 seconds for the blood to travel around the entire body and back to the heart.

Research and write the definitions for the following key words:

Myogenic:

.....
.....

Diastole:

.....
.....

Systole:

.....
.....

Cardiac Output:

.....
.....

Stroke Volume:

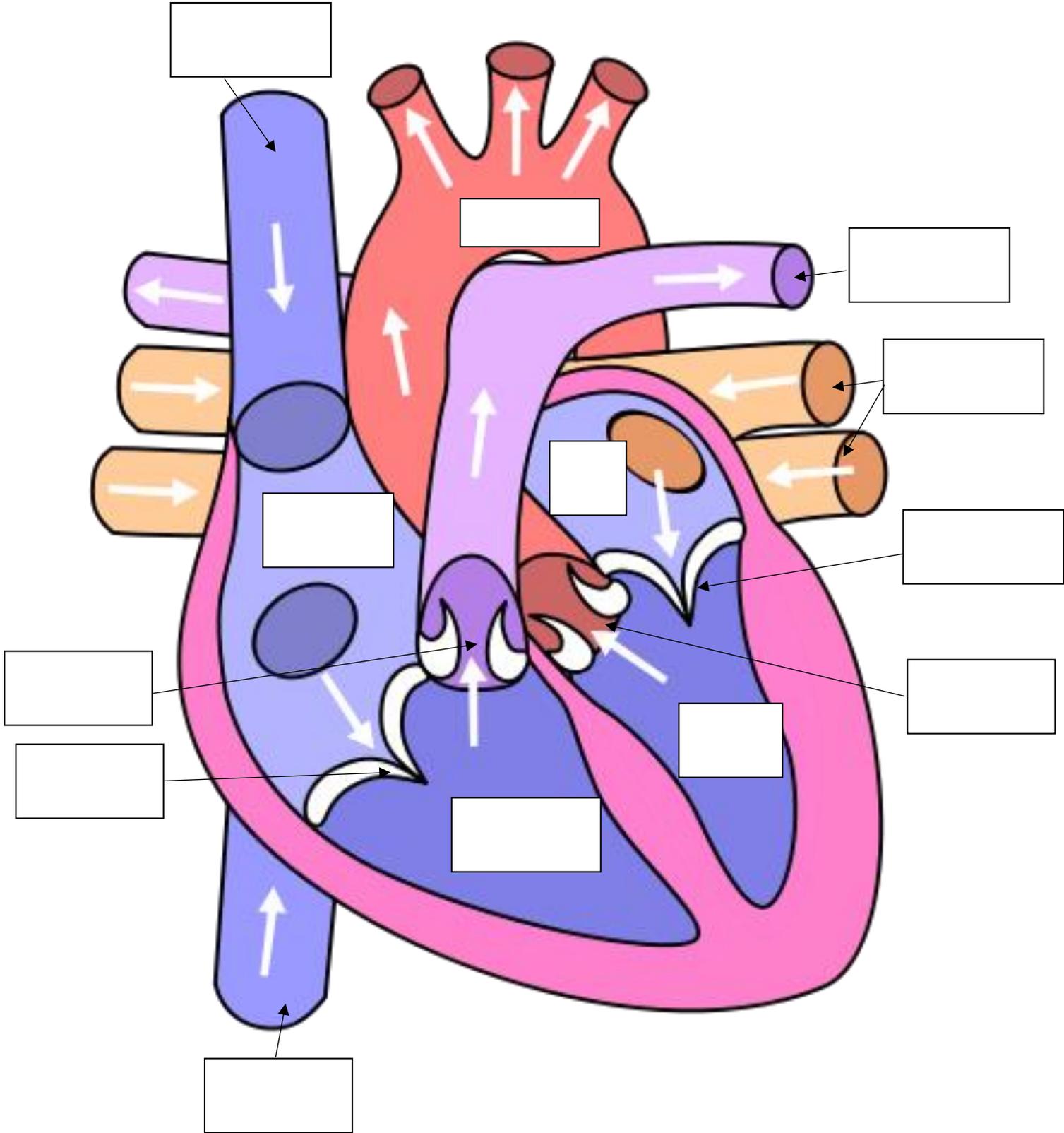
.....
.....

Heart Rate:

.....
.....

Fill in the blanks
using the word bank:

<u>Word Bank:</u>	Left Ventricle	Superior Vena Cava
Pulmonary Artery	Aortic Valve	Tricuspid Valve
Bicuspid Valve	Right Ventricle	Right Atrium
Left Atrium	Pulmonary Vein	Aorta
Pulmonary Valve	Inferior Vena Cava	



The Digestive System

Digestion is the breakdown of food, into small soluble nutrients, that can be absorbed into the bloodstream. It's a process that occurs every day and does not require thought.

The videos below give you an excellent explanation of the structure and function of each of the parts within the digestive system. Take a look and begin to understand this unit:

<https://www.youtube.com/watch?v=s06XzaKqELk>

<https://www.youtube.com/watch?v= QYwscALNng>



The digestive system has two methods of digestion. Mechanical digestion and chemical digestion. What is the difference and where does each take place? Use the link below to support you.

<https://www.slideshare.net/brucecoulter/mechanical-chemical-digestion>

.....

.....

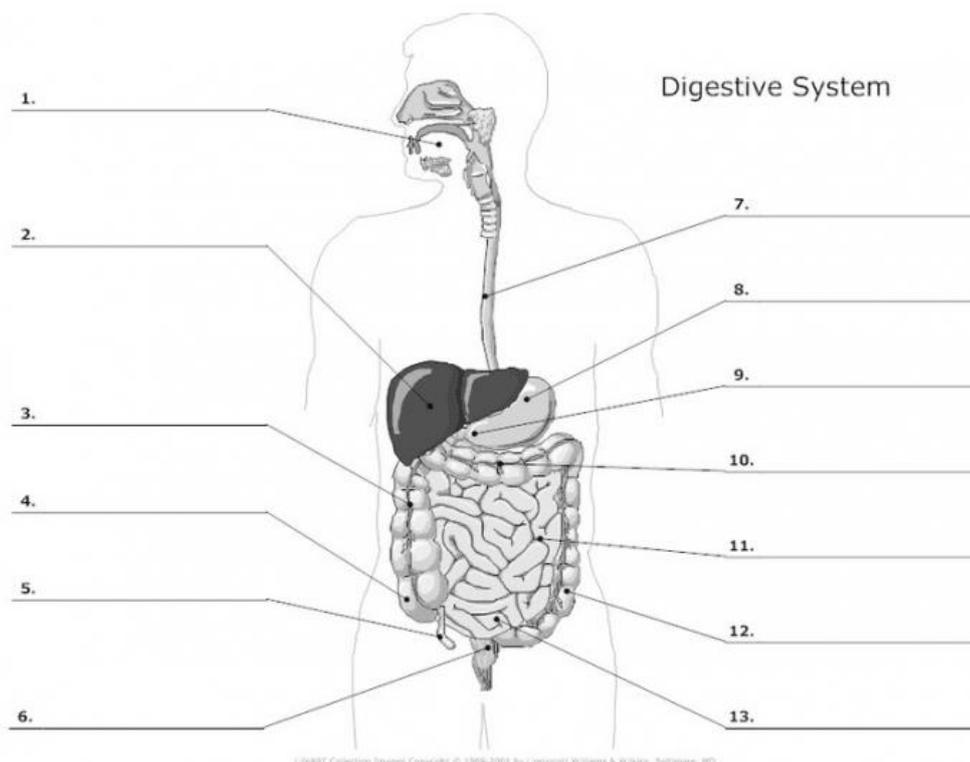
.....

.....

.....

.....

Now you have watched the videos and found out the difference between mechanical and chemical digestion. Use your current knowledge to label the diagram below:

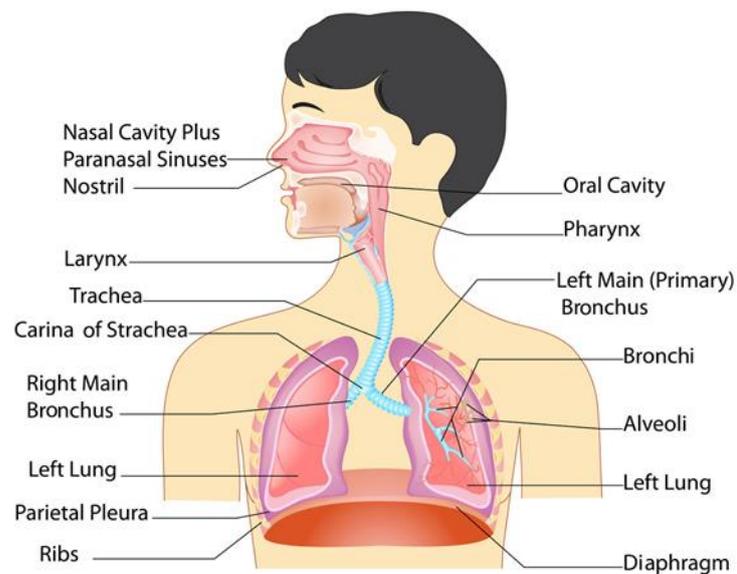


The Respiratory System

Using the image of the respiratory system and the links below, draw a flow chart that shows the movement of breath into the body. Start with the inhale breath through the nostrils/mouth -> trachea etc.

<https://www.innerbody.com/anatomy/respiratory>

<http://www.nursingtimes.net/clinical-archive/respiratory/the-respiratory-system-part-4-breathing/203190.fullarticle>



http://www.ivyroses.com/HumanBody/Respiratory/Respiratory_Conditions.php

Once you have created your flow diagram you will need to watch the following video (<https://www.youtube.com/watch?v=mZvzl8KH6il>) which gives you a clear insight into what gaseous exchange is. After watching the video, you will need to fill in the blanks in the following paragraph.

The _____ are the site of gaseous exchange – _____ enters the blood and _____ is removed from it. The alveoli have a number of adaptations that increase the efficiency of this vital process:

1. The vast number of these _____, with the _____ surrounding them, make a large _____ - the equivalent to two tennis courts. This means that a large amount of gaseous exchange can occur.
2. The walls of the alveoli and capillaries are very _____ - just one _____ thick. This means there is a minimal _____ for gases to pass through.
3. The inner surfaces of the alveoli are coated with a thin layer of water that allows _____ to dissolve before travelling through the _____ of the alveoli and capillaries.

There is a higher _____ of oxygen in _____ air than there is in the _____. Oxygen _____ into the blood and combines with _____ in the erythrocytes, forming oxyhaemoglobin.

Carbon dioxide in the blood diffuses in the _____, as there are higher levels of this _____ in the blood than in the alveoli. _____ air has higher levels of _____ and lower levels of oxygen than inhaled air.

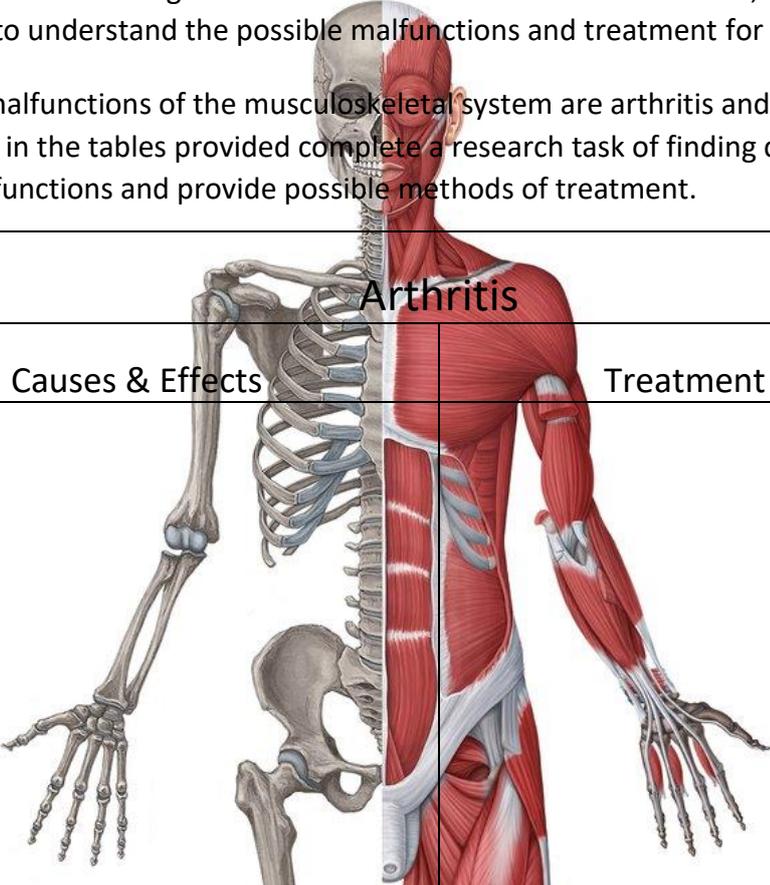
Blood, concentration, oxygen, oxygen, walls, air sacs, exhaled, capillaries, carbon dioxide, surface area, thin, cell, distance, alveoli, diffuses, opposite direction, gas.

Musculoskeletal System

Bone is a living, growing and developing tissue requiring supplies of oxygen and nutrients. The **musculoskeletal system** provides us with the means of **support** and **movement**.

As mentioned in the background information of this unit of the course, each section will require you to understand the possible malfunctions and treatment for those malfunctions.

Two major malfunctions of the musculoskeletal system are arthritis and osteoporosis. Using bullet points in the tables provided complete a research task of finding causes and effects of the two malfunctions and provide possible methods of treatment.

Arthritis	
Causes & Effects	Treatment & Care
	

Osteoporosis	
Causes & Effects	Treatment & Care
	

Regulatory Systems & Homeostasis

Our nerve system consists of two integrated systems/networks – the voluntary and the involuntary systems. The whole Nervous System is made up of the Central Nervous System (CNS) and the Peripheral Nervous System (PNS).

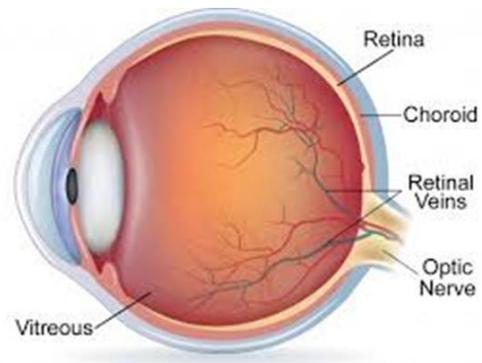
The Voluntary System:	The Involuntary or autonomic system:
<p>Consists of peripheral nerves spreading out from the brain and spinal cord – these together are known as The Central Nervous System.</p> <p>These nerves contain two types of nerve cell:</p> <ol style="list-style-type: none"> 1. Sensory neurons – carry messages from sense organs to the CNS 2. Motor neurons – carry messages from the CNS to tissues <p>The Brain collects information from the sensory receptors and relays this to the muscles and glands of the body through the spinal cord.</p>	<p>Made up of two further networks of nerves – the sympathetic and the parasympathetic systems.</p> <p>Normally we are not aware of using these nerves but they play a vital role.</p> <p>The sympathetic system prepares us for action by activating functions needed for survival and suppressing less important activities.</p> <p>The parasympathetic system is an antagonist – it does the opposite – damping down the sympathetic and restoring and restoring the body to its normal ‘resting’ state.</p>

The Sympathetic and Parasympathetic systems – Fill in the question and table below:

The two systems are ‘antagonistic’. **What does this mean?**.....

Organ	Sympathetic Nervous System: Rest and Digest	Parasympathetic Nervous System: Fight or Flight
Eyes	Constrict Pupils	
Salivary Glands		Inhibit Salivation
Heart		
Lungs		Relax Airways
Gut Digestion		Inhibit activity of Stomach
Liver	Inhibit release of Glucose	
Bladder	Contract Bladder	Relax Bladder

The Eyes and Ears



The Eye

Light is reflected by objects look at and it travels as rays into our eyes. There is a difference between when we see objects up close and objects at distance. Our eyes use a process called refraction. Complete some research to help you answer the following few questions.

What is refraction?

.....

.....

.....

On what part of the eye do we see objects?

.....

What nerve connects the eye with the brain so that we can interpret images?

.....

What is the difference in refraction when seeing objects up close and at distance?

.....

.....

.....

.....

.....

The Ear

DID YOU KNOW?

The ears function is not just to hear sound but also to detect motion, orientation and to maintain balance.

The Process of hearing:

Sound waves passing through the air are channelled into the ear by the outside parts of our ears – the Pinnae. The waves pass down the external ear passage and cause the ear drum at the end to vibrate. Complete the table below explaining what it is and its function.

Name	What is its function?
Eardrum	Pick up sound waves + transfers vibrations to the middle ear (malleus)
Staples/incus/malleus	
Cochlea	
Organ of Corti	
Estachian Tube	
Oval + round window	
Auditory nerve	
Semi-cecullar canals	
Ampullae	

