

ATL

# Assignment 5



Name:

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# Diet

A balanced diet contains the different nutrients in the correct amounts to keep us healthy. Certain foods are not necessarily 'bad' for us, but eating too much of them could be. We will look at what food types are needed, how they are digested. There are seven different nutrients.

**Carbohydrates** are needed to give the body energy. There are two types of carbohydrate - starch and sugar.

**Protein** is the major structural component of cells and is responsible for the building and repair of body tissues.

**Fats** help to provide concentrated sources of energy and help to insulate the body in cold weather. There are two main types - saturated and polyunsaturated fats.

**Vitamins** are needed in very small amounts for growth and health.

**Minerals** are needed in small amounts to help the body function properly and stay strong. Calcium and iron are two important minerals.

**Fibre's** main role is to keep the digestive system healthy.

**Water** helps to maintain homeostasis in the body and transports nutrients to cells. Water also assists in removing waste products from the body.



Use information from the previous page, as well as what you have learnt in Science this year, to answer the questions below.

1. Describe what is meant by a balanced diet?
  
1. What are the 7 nutrients?
  
1. What are carbohydrates so important?
  
1. What does fat give to our bodies?
  
1. What do proteins do?
  
1. What do vitamins and minerals fight?
  
1. Explain why we should drink enough water and what would happen to our bodies if we did not.
  
1. Do you think you have a healthy, balanced diet? Explain your answer.

# Eating Disorders

## What are eating disorders?

Eating disorders are serious mental illnesses that involve disordered eating behaviour. This might mean limiting the amount of food eaten, eating very large quantities of food at once, getting rid of food eaten through unhealthy means or a combination of these behaviours. It's important to remember that eating disorders are not all about food itself, but about feelings. The way the person interacts with food may make them feel more able to cope, or may make them feel in control.

## What causes eating disorders?

Eating disorders are complex - there is no one single reason why someone develops an eating disorder. A whole range of different factors combine, including genetic, psychological, environmental, social and biological influences.

## Anorexia

Anorexia is a serious mental illness where people are of low weight due to limiting their energy intake. It can affect anyone of any age, gender, or background. As well as restricting the amount of food eaten, they may do lots of exercise to get rid of food eaten.

## Bulimia

Bulimia is a serious mental illness. It can affect anyone of any age, gender, or background. People with bulimia are caught in a cycle of eating large quantities of food, and then trying to compensate for that overeating by vomiting, taking laxatives or diuretics, fasting, or exercising excessively. Early intervention offers the best chance for a rapid and sustained recovery from bulimia.



Use information from the previous page and your own thoughts to answer the questions below.

1. Explain in your own words the term "eating disorder" using the information on the previous page.
2. What are the different factors that could cause eating disorders?
4. Describe how anorexia is different to bulimia?
5. Can you state any other eating disorders that you know of and explain any.
5. If you noticed some of the potential signs of an eating disorder in a really close friend, what do you think you might do?

# Drugs

A drug is any substance that, when absorbed into the body of a living organism, alters normal bodily function.

Recreational drugs can be classified as depressants or stimulants. Most recreational drugs can be addictive.

All drugs can damage the liver, because it is the liver that breaks drugs down in the body. Any drug that is misused can cause damage to the body, as well as personal and social problems. Injecting any drug with a needle and syringe that someone else has used may lead to a number of diseases from infected blood, including HIV and hepatitis.

## Depressants

Depressants slow down messages in the brain and along the nerves. Alcohol is a depressant. It is found in beer, wines and spirits such as vodka. Other depressants include cannabis, heroin and solvents. Some of the long-term effects of depressants on the body include damage to the liver, brain and heart.

## Stimulants

Stimulants speed up messages in the brain and along the nerves. This makes you feel more alert. Caffeine is a stimulant and is found in cola drinks, coffee and tea. It makes you feel more energetic and alert, but it can also cause insomnia (difficulty in sleeping), headaches and nervousness.

Cocaine, ecstasy and amphetamines are all illegal stimulants. They make you feel more energetic and confident, but they can damage the liver and heart. They can also cause loss of memory and concentration, and bring an increased risk of mental illness.



Use information from the previous page, information from your ATL lessons this year and your own thoughts to answer the questions below.

1. Explain the term "drug" in your own words using information.
  
2. Why do you think some people take drugs?
  
2. Using examples, describe how depressants affect the body?
  
3. Using examples, describe how stimulants affect the body?
  
4. Taking recreational drugs can have many side effects. What do we mean by the term side effects?
  
4. Give at least two examples each of side effects associated with depressants and stimulants.
  
4. Some drugs are legal and some drugs are illegal. What is meant by this and give some examples to support your answer.

# Smoking

Smoking is very harmful to health. It causes around 80 per cent of deaths from **lung cancer**, **bronchitis** and **emphysema** in the UK, and almost a fifth of UK deaths from **heart disease**.

A normal lung and a lung of a smoker:



## Tar

Tar causes **cancer** of the lungs, mouth and throat. It coats the surface of the breathing tubes and the alveoli. This causes coughing and damages the alveoli.

## Smoke

Cells in the lining of the breathing tubes produce sticky mucus to trap dirt and microbes. Hot smoke and tar from smoking damages the cilia. So smokers cough to move the mucus and are more likely to get bronchitis.

## Nicotine

Nicotine is **addictive** - it causes a smoker to want more cigarettes. Nicotine also increases the heart rate and blood pressure, and makes blood vessels narrower than normal. This can lead to heart disease.

## Carbon Monoxide

Carbon monoxide is a gas that takes the place of oxygen in red blood cells. This reduces the amount of oxygen that the blood can carry. This means that the circulatory system has to work harder, causing heart disease.

Use information from the previous page and your own thoughts to answer the questions below.

1. What can smoking cause to a person that smokes?
2. State the amount of deaths in the UK are caused by a illness from smoking.
3. List the substances found in cigarettes.
3. Which of the substances found in cigarettes is addictive?
3. What is the legal age to purchase cigarettes in the UK?
3. Explain three ways that smoking can have both a long term and short term impact on a smoker's health.

# Muscular System

The muscular system is mainly concerned with producing movement through muscle contraction. The body is made up of over 650 different muscles, however we only need to know the main muscles for most movement. The muscles in our body can be categorised into 2 areas: Voluntary and Involuntary.

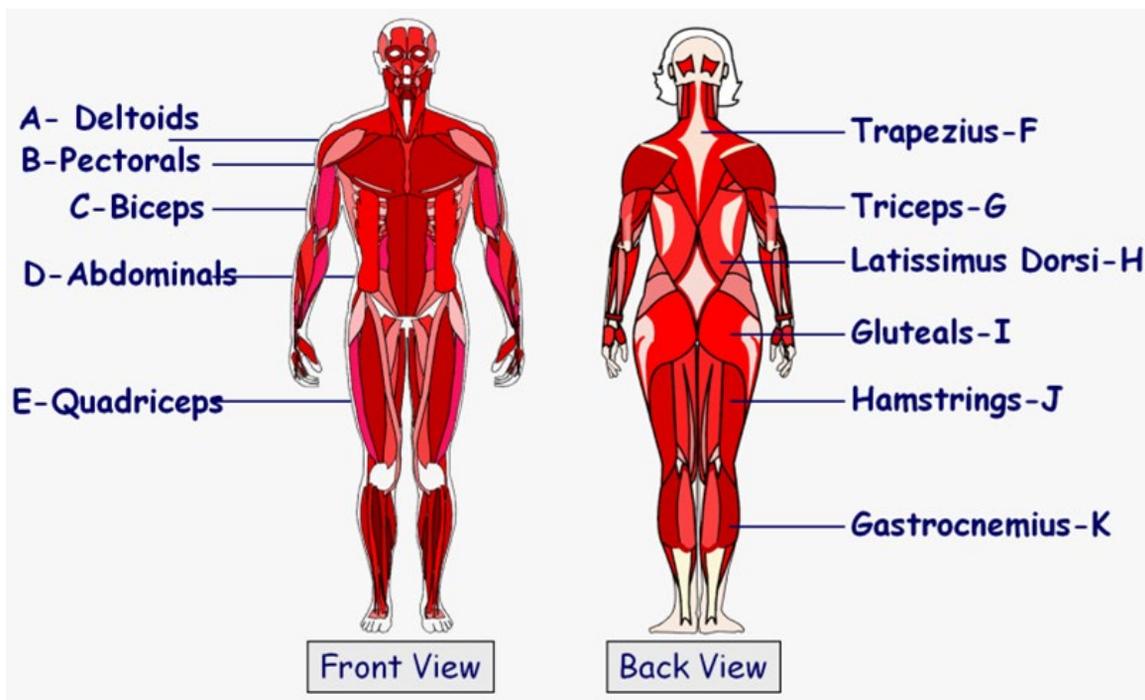
**Involuntary muscles** are not under our conscious control which means we can't make them contract when we think about it.

**Voluntary muscles** are under our conscious control so we can move these muscles when we want to. Muscles work with the skeletal system to help create movement. Muscles are attached to bone by tendons.

Muscles work by getting shorter. We say that they contract, and the process is called contraction. Muscles are attached to bones by strong tendons. When a muscle contracts, it pulls on the bone, and the bone can move if it is part of a joint.

## Antagonistic muscles

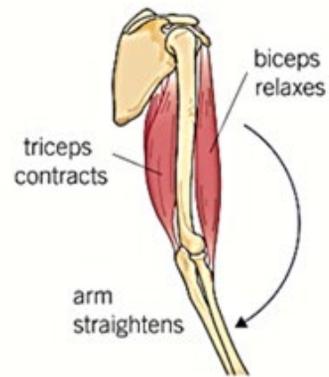
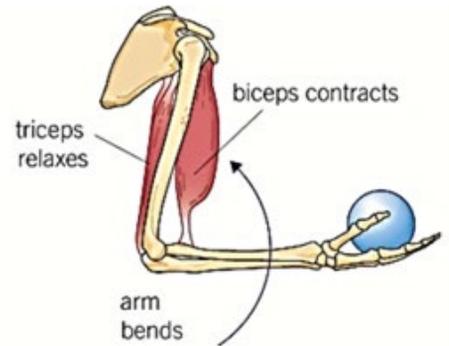
Muscles can only pull and cannot push. This would be a problem if a joint were controlled by just one muscle. As soon as the muscle had contracted and pulled on a bone, that would be it, with no way to move the bone back again. This problem is solved by having muscles in pairs, called antagonistic muscles.



Use information from the previous page, as well as what you have learnt in Science and PE this year, to complete the tasks below.

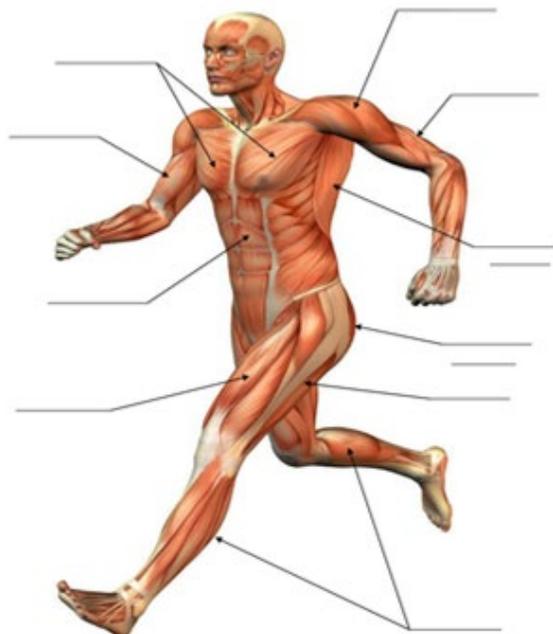
**Complete the passage below to explain how muscles work together to move your skeleton.**

Muscles help create movement. They are attached to bones by \_\_\_\_\_. When a muscle \_\_\_\_\_ it shortens and \_\_\_\_\_ on a bone. If the bone is part of a pair it will cause the bone to move. While one muscle is contracting, the other is \_\_\_\_\_. When muscles contract they become \_\_\_\_\_. When muscles relax they become \_\_\_\_\_. These pairs of muscles are called \_\_\_\_\_ muscles.



The diagram shows pictures of the biceps and triceps. These muscles work together to bend and straighten the arm at the \_\_\_\_\_ joint. To bend the arm the biceps muscle \_\_\_\_\_ and the triceps muscle \_\_\_\_\_. However, to straighten the arm the \_\_\_\_\_ muscle contracts and the \_\_\_\_\_ muscle relaxes.

Label the muscles on the diagram below.



# Skeletal System

Our skeleton is made of more than 200 bones. Calcium and other minerals make the bone strong but slightly flexible. Bone is a living tissue with a blood supply. It is constantly being dissolved and formed, and it can repair itself if a bone is broken.

The skeleton has 4 main functions:

- To support the body
- To protect some of the vital organs of the body
- To help the body move
- To make blood cells

## Support

The skeleton supports the body. For example, without a backbone we would not be able to stay upright.

## Protection

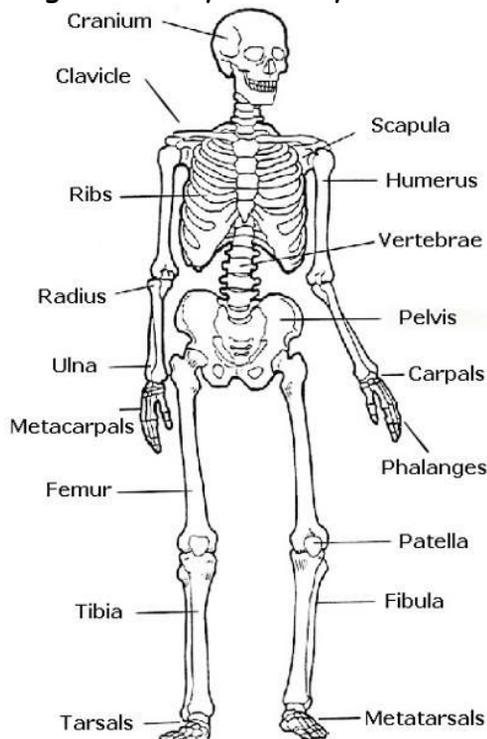
Here are some examples of what the skeleton protects: the skull protects the brain, the ribcage protects the heart and lungs and the backbone protects the spinal cord.

## Movement

Some bones in the skeleton are joined rigidly together and cannot move against each other. Bones in the skull are joined like this. Other bones are joined to each other by flexible joints. Muscles are needed to move bones attached by joints.

## Making blood cells

There are different kinds of blood cells, including: red blood cells, which carry oxygen around the body in the blood and white blood cells, which are involved in destroying harmful microorganisms in your body.



Use information from the previous page, as well as what you have learnt in Science and PE this year, to complete the tasks below.

1. Explain why we have a skeleton.
2. What would we look like if we didn't have skeletons?
3. What couldn't you do if you didn't have a skeleton?
4. Look at the tennis player below. Label all of the bones that are helping them perform the serve.



# Health & Fitness

**Health** can be defined as 'complete physical, mental and social wellbeing and not only the absence of illness or infirmity'.

This is an interesting definition as people tend to feel they are healthy simply when they do not feel ill. This definition clearly describes that health is much more and involves feelings of happiness, social interaction and energy.

**Fitness** can be defined as 'the ability to meet the demands of the environment' and relates to how physically demanding life is.

There is an increasing number of people that are leading a 'sedentary lifestyle'. This means that people are leading lives that involve very little amounts of exercise regularly. This has a negative effect on an individuals health and well-being.

If a person does not take part in regular physical activity, exercise or sport then they are at risk of a number of illnesses and negative effects such as:

- weight gain or obesity
- heart disease
- hypertension (high blood pressure)
- diabetes
- depression
- increased risk of osteoporosis

Components of Health Related Fitness (fitness for everyday activities)	Components of Skill Related Fitness (essential for success in sport)
Cardiovascular fitness	Agility
Muscular strength	Balance
Muscular endurance	Coordination
Flexibility	Power
Body composition	Reaction Time
	Speed

Use information from the previous page, as well as what you have learnt in Science and PE this year, to complete the tasks below.

1. What are the 3 different types of well-being that influence our health?
2. How does social well-being contribute to our overall health?
3. What is the definition for **fitness**?
3. If you was a doctor or a personal trainer, what would you do in order to improve a lifestyle of someone that was classed as leading a sedentary lifestyle? Think more than just 'exercise more'.
3. Do you think you are healthy? Explain your answer, remember to consider physical, social and mental health.



Points	Standing Long Jump	Speed Bounce	High Knees	Power Hop Right	Power Hop Left
	Measured in metres. If off chart add 1 point for every additional 3cm	Count number of bounces in 20 seconds. If off chart add 1 point for each additional bounce.	Count number of knee lifts in 30 seconds. If off chart add 1 point for each additional knee lift.	Measured in metres. If off chart add 1 point for each additional 2cm.	Measured in metres. If off chart add 1 point for each additional 2cm.
70	2.35	70	80	2.10	2.10
69	2.32	69	77	2.08	2.08
68	2.29	68	78	2.06	2.06
67	2.26	67	77	2.04	2.04
65	2.23	65	76	2.02	2.02
64	2.20	64	75	2.00	2.00
63	2.17	63	74	1.98	1.98
62	2.14	62	73	1.96	1.96
61	2.11	61	72	1.94	1.94
60	2.08	60	71	1.92	1.92
59	2.05	59	70	1.90	1.90
58	2.02	58	69	1.88	1.88
57	1.99	57	68	1.86	1.86
56	1.96	56	67	1.84	1.84
55	1.93	55	66	1.82	1.82
54	1.90	54	65	1.80	1.80
53	1.87	53	64	1.78	1.78
53	1.84	52	63	1.76	1.76
51	1.81	51	62	1.74	1.74
50	1.78	50	61	1.72	1.72
49	1.75	49	60	1.70	1.70
48	1.72	48	59	1.68	1.68
47	1.69	47	58	1.66	1.66
46	1.66	46	57	1.64	1.64
45	1.63	45	56	1.62	1.62
44	1.60	44	55	1.60	1.60
43	1.57	43	54	1.58	1.58
42	1.54	42	53	1.56	1.56
41	1.51	41	52	1.54	1.54
40	1.48	40	51	1.52	1.52
39	1.45	39	50	1.50	1.50
38	1.42	38	49	1.48	1.48
37	1.39	37	48	1.46	1.46
36	1.36	36	47	1.44	1.44
35	1.33	35	46	1.42	1.42
34	1.30	34	45	1.40	1.40
33	1.27	33	44	1.38	1.38

32	1.24	32	43	1.36	1.36
31	1.20	31	42	1.34	1.34
30	1.17	30	41	1.32	1.32
29	1.14	29	40	1.30	1.30
28	1.11	28	39	1.28	1.28
27	1.08	27	38	1.26	1.26
26	1.05	26	37	1.24	1.24
25	1.02	25	36	1.22	1.22
24	0.99	24	35	1.20	1.20
23	0.96	23	34	1.18	1.18
22	0.93	22	33	1.16	1.16
21	0.90	21	32	1.14	1.14
20	0.87	20	31	1.12	1.12
19	0.84	19	30	1.10	1.10
18	0.81	18	29	1.08	1.08
17	0.78	17	28	1.06	1.06
16	0.75	16	27	1.04	1.04
15	0.72	15	26	1.02	1.02
14	0.69	14	25	1.00	1.00
13	0.66	13	24	0.95	0.95
12	0.63	12	23	0.90	0.90
11	0.60	11	22	0.85	0.85
10	0.57	10	21	0.80	0.80
9	0.54	9	20	0.75	0.75
8	0.51	8	19	0.70	0.70
7	0.48	7	18	0.65	0.65
6	0.45	6	17	0.60	0.60
5	0.42	5	16	0.55	0.55
4	0.39	4	15	0.50	0.50
3	0.36	3	14	0.45	0.45
2	0.33	2	13	0.40	0.40
1	0.30	1	12	0.35	0.35