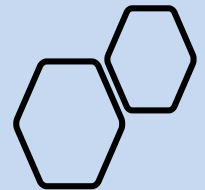


Homework – Cheese straws practical

- Please watch the clips:-
- Decide how you will **adapt and garnish** the cheese straws
- Please weigh the ingredients at home.
- Please remember your apron and airtight container.





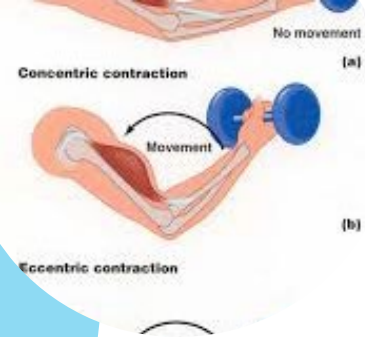
What links can you make between these images?

Energy



Main title –

Nutrition



LQ - Can I explain energy balance?

Success Criteria -

- I can explain why we need energy
- I can identify sources of energy
- I understand how energy needs change throughout life
- I can explain energy balance



Energy – Bitesize – please watch

- <https://www.bbc.co.uk/bitesize/guides/zqj66yc/video>

Which food provides approximately the same amount of energy as dancing for 10 minutes uses?



Write on your white boards NOW!

a) 2 bananas



b) 50g of chocolate



c) 100g of cheddar cheese



d) 2 boiled eggs



Which food provides approximately the same amount of energy as walking for 1 hour uses?

a) 50g of low fat yoghurt



b) 50g of low fat crisps



c) 100g of white pasta (boiled)



d) 100g of baked beans



Write on your white boards NOW!



Which activity uses approximately the same amount of energy as a jacket potato (150g) provides?



Write on your white boards NOW!

a) 22 mins of basketball



b) 90 mins of walking



c) 10 mins of medium cycling



d) 12 mins of fast swimming



If more energy is used than consumed over time, what will happen?

a) You will gain weight



b) You will lose weight



c) You will stay the same weight



Write on your white boards NOW!



If more energy is consumed than used over time, what will happen?

a) You will gain weight



b) You will lose weight



c) You will stay the same weight



Write on your white boards NOW!



Light cycling for 30 minutes uses 113 kcal of energy.

Which drink provides approximately the same amount of energy?



Write on your white boards NOW!

a) 275ml of cola



b) 275ml of diet cola



c) 200ml of milkshake



d) 500ml of water



Performing house work such as cleaning the carpet and floors for 45 minutes used 97 kcals of energy.

Which snack provides approximately the same amount of energy?

a) 50g of milk chocolate



b) 45g of crisps



c) 125ml of low fat fruit yoghurt



d) 30g of raw carrots

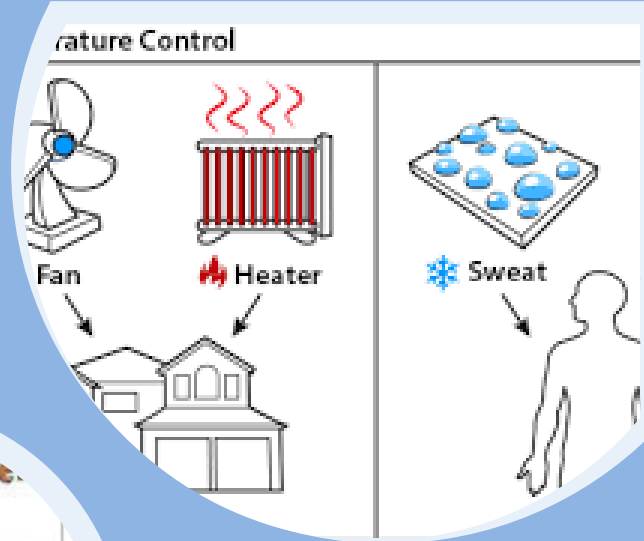


Write on your white boards NOW!

Why do we need energy?

- Breathing
- Keep our organs working
- Digesting food
- Activities – walking/running
- Maintenance of body temperature;
- Muscle contraction

Write this into your books



Energy - please read

Different people need different amounts of dietary energy. This depends upon - age, gender, body size, level of activity, genes.

Where should our energy come from?

Experts recommend that:

- about **50%** of our energy intake should come from **carbohydrate**;
- no more than **35%** of our energy intake should come from **fat**;
- around **15%** of our energy intake should come from **protein**.



Energy in macronutrients

Energy is provided by the **carbohydrate, protein and fat** in the food and drink we consume. These are known as macronutrients. The amount of energy that each of these macronutrients provides varies. **Carbohydrate (starch and sugars) provides 4 kcal per gram**
Protein provides 4 kcal per gram.
Fat is the most energy dense nutrient, providing 9 kcal per gram.

How much energy do we need?

Energy requirements vary from person to person, depending on the Basal Metabolic Rate (BMR) and Physical Activity Level (PAL). **Total energy expenditure = BMR x PAL**

Basal metabolic rate (BMR)-

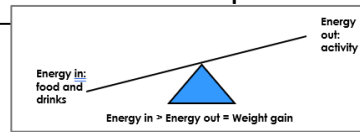
Is the rate at which a person uses energy to maintain the basic functions of the body when it is at complete rest, such as:

- breathing;
- keeping warm;
- keeping the heart beating.

Positive Energy Balance -

Positive energy balance is when the diet provides **more energy than is needed** to meet energy demands of the body. Energy is stored as fat and the person puts on weight over time.

People who achieve a positive energy balance over an extended period of time are likely to become overweight or obese. This could increase the risk of developing certain cancers, cardiovascular disease and type 2 diabetes. It also increases the risk of these health problems.



Physical Activity Level (PAL) -

People also use energy for movement of all types, expressed as Physical Activity Level (PAL).

The amount of energy a person uses to perform daily tasks varies.

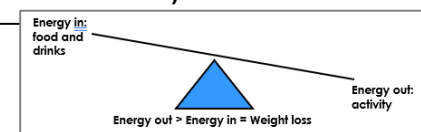
Physical activity includes -

- Activity at work, e.g. use the stairs not the lift.
- Household chores, e.g. vacuuming.
- Looking after others.
- Leisure-time activities, e.g. gardening.
- Transport (walking or cycling to school or work).
- Sport

Negative Energy Balance -

A person is said to be in negative energy balance when there is **insufficient energy** from the diet to meet energy demands of the body. Energy is derived from energy stores and the person loses weight.

People who achieve a negative energy balance over an extended period of time are likely to become underweight. Being underweight is associated with health problems, such as osteoporosis (low bone mass), infertility (difficulty to conceive) and even heart failure.



Title – Energy Balance

- 1. Produce 5 to 10 facts about energy balance** – must be bullet points in your own words and use images to help you. Try to cover all sections of the information sheet, you will be quizzed at the end.
- 2. Then prioritise the facts** – the 1st being the most important to 10th being the least important. Explain why they are in this order.
- 3. Produce 3-5 questions** to test others about energy.



Use the information sheet on previous slide ...

True or false?

1. Fat provides us with more energy per gram than protein and carbohydrate.
2. PAL stands for - Physical Action Level.
3. Positive energy balance is when the body is provided with more energy than is needed in the body and so it is stored as fat in the body.
4. Children and young people are recommended to do at least 40 minutes of moderate intensity exercise every day.
5. We are advised that about 50% of our energy intake should come from carbohydrate.
6. We are advised that we should have no more than 25% energy intake from fat.

True or false? – answers

1. Fat provides us with more energy per gram than protein and carbohydrate.

T – fat – 9kcal / carbohydrate and protein – 4Kcal

2. PAL stands for - Physical Action Level.

F - Physical Activity Level.

3. Positive energy balance is when the body is provided with more energy than is needed in the body and so it is stored as fat in the body.

T

4. Children and young people are recommended to do **at least 40 minutes** of moderate intensity exercise **every day**.

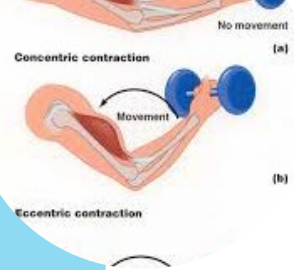
F – 60 minutes

5. We are advised that about **50%** of our energy intake should come from **carbohydrate**.

T

6. We are advised that we should have no more than 25% energy intake from **fat**.

F – 35%



LQ - Can I explain energy balance?

Success Criteria -

1. We need energy because ...
2. Sources of energy are ...
3. Energy needs change for different people and depend upon...
4. Energy balance is...

