

WEEK: 15

Week Beginning: (29/06/20)

Subject: SCIENCE

Year: 6

Lesson Objective:

- Nutrition

Keywords/ Concepts

- Nutrition (carbohydrates, proteins, fibre, vitamins and minerals, etc)
- Energy
- Diet

Class Questions

Homework

- **Worksheets.**

Additional Notes

- **Answers to homework 14 can be found below.**

Answers to week 14 homework

1. 1 – C, 2 – A, 3 – D, 4 – B
2. a) The creature died and fell to the bottom of the sea along with gunk (mud and sand). Over a long time, the gunk got stuck together and formed layers of rock. The dead creature got trapped in the rock and the soft parts of the creature's body rotted away. The shape of the creature is now left behind.
- b) Fossils show us how plants and animals used to look millions of years ago.









Classwork

Nutrition



Nutrition is what you eat — and what you eat is really important for your health.

A **Balanced Diet** Contains All These Things

A balanced diet will have the right amount of the five nutrients below:

| Nutrient | What it's found in | What it's needed for |
|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Carbohydrates |  Bread, potatoes, cereals |  You need <u>lots</u> of carbohydrate if you're <u>active</u> or <u>growing</u> . Energy |
| Proteins |  Meat, eggs, fish | You need proteins to <u>grow</u> and to <u>repair</u> damage. |
| Lipids (fats and oils) |  Butter, cooking oil, cream |  You use lipids for energy if your body <u>runs out</u> of <u>carbohydrates</u> . Energy |
| Vitamins e.g. Vitamin A, Vitamin C |  Vegetables, fruit, cereals | Vitamins keep many <u>important processes</u> happening in your body. |
| Minerals e.g. calcium, iron | For example: • <u>calcium</u> is found in milk,  • <u>iron</u> is found in meat,  | <u>Minerals</u> are needed for lots of things. For example: • <u>calcium</u> is needed for strong <u>bones</u> and <u>teeth</u> , • <u>iron</u> is needed for healthy <u>blood</u> . |

A balanced diet will also have enough fibre and water:

| | What it's found in | What it's needed for |
|--------------|-----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| Fibre |  Vegetables, fruit, cereals | Fibre helps food <u>move</u> through your <u>digestive system</u> . |
| Water |  Drinks, watery foods like soup | All the <u>chemical reactions</u> in your body happen in water. |

More on Nutrition

Your body needs energy all the time. You get energy from carbohydrates and fats in your diet.

Different People Have Different Energy Needs

- 1) The heavier you are, the more energy you will need.
- 2) Also, the more active you are, the more energy you will need.

You Can Work Out Your Daily Basic Energy Requirement

- 1) Your daily basic energy requirement (BER) is the energy you need every day just to stay alive.
- 2) You calculate BER like this: \rightarrow Daily BER (kJ/day) = $5.4 \times 24 \text{ hours} \times \text{body mass (kg)}$

A kJ is
a unit of
energy

EXAMPLE: Work out the daily BER for a 60 kg person.
ANSWER: Daily BER = $5.4 \times 24 \times 60 = 7776$ kJ/day.

You Need Extra Energy for Your Activities

For example:



Walking for half an hour
uses 400 kJ of energy.



Running for half an hour
uses 1500 kJ of energy.

The total amount of energy you need in a day = daily BER + extra energy for activities.

An Unbalanced Diet Can Cause Health Problems

Obesity

- 1) If you take in more energy than you use up, you will put on weight.
- 2) Over time you could become obese (very overweight).
- 3) Obesity can lead to health problems such as heart disease.









Starvation



- 1) Some people don't get enough food to eat — this is starvation.
- 2) Starvation can cause slow growth in children and irregular periods in women.

Deficiency Diseases

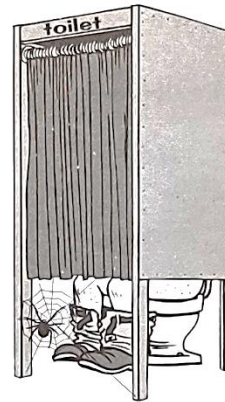
- 1) Some people don't get enough vitamins or minerals — this can cause deficiency diseases.
- 2) For example, not getting enough vitamin C can cause scurvy.
This is a deficiency disease that causes problems with the skin and gums.

| Type of Food Group | Function | Examples |
|---------------------|-------------------------------------------|--------------------------------------------------------------------------------------|
| Carbohydrates | Helps your body work properly |  |
| Protein | Needed for chemical reactions in our body |  |
| Vitamins & Minerals | Helps your body grow and repair itself |  |
| Fats and Oils | Acts as an energy store |  |
| Fibre | Gives you energy |  |
| Water | Cleans our digestive system |  |

1.13

Healthy Living

Q1 Eric is eating a healthy diet except that he is missing foods with fibre in them.



a) Tick (✓) one of these foods that he needs.

- | | | | |
|-------|--------------------------|---------|--------------------------|
| Cakes | <input type="checkbox"/> | Fruit | <input type="checkbox"/> |
| Eggs | <input type="checkbox"/> | Water | <input type="checkbox"/> |
| Milk | <input type="checkbox"/> | Alcohol | <input type="checkbox"/> |

b) Eric gets some of his protein from eating fish. Why do our bodies need protein?

.....

c) Fill in the missing letters in these words to complete the sentences.

To stay healthy you need to eat a B _ _ L A _ _ C E _ _ diet. This means eating foods that give you the right amount of different _ _ U T _ _ I _ _ N T _ _.

Q2 Circle the unhealthy activities in this picture.



Nutrition

Q1 What does the word 'nutrition' mean?

.....
.....

Q2 To keep your body healthy you need to eat sensible amounts of each type of nutrient.

a) Describe the **function** (job) of each of these nutrients in the body:

i) carbohydrates

ii) lipids (fats and oils)

iii) proteins

iv) vitamins

b) Calcium is a metal. Our bodies need small amounts of calcium to help keep our bones strong. What type of nutrient is calcium?

.....

c) Water is very important to the body. Humans can only survive without water for a few days. Explain why water is so important to the body.

.....
.....

d) What is a **deficiency disease**?

.....

e) Explain why you need to make sure that you include plenty of fresh fruit and vegetables in your diet.

.....
.....
.....
.....

Nutrition

Q3 Peter is going on a 50 mile sponsored walk and he knows it is going to take him a long time. He really likes sausages, so he thinks it would be a good idea to take some to give him lots of energy.



a) Why wouldn't sausages be the best source of energy for Peter during his walk?

.....

.....

b) Which of these foods would give him the most energy?
Circle the correct answer.

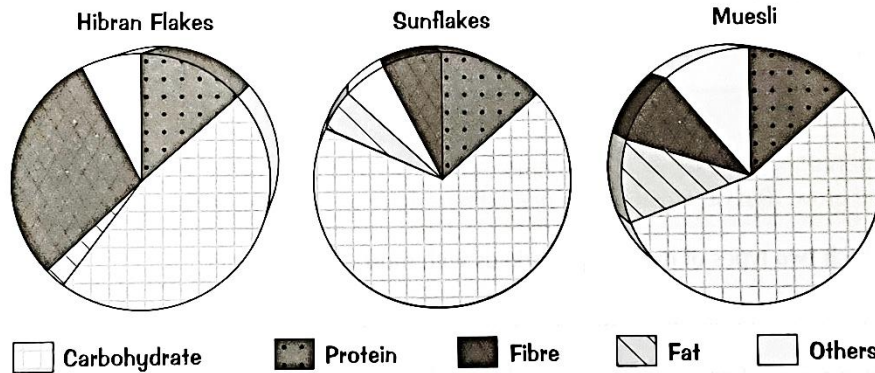
boiled eggs

cereal bars

celery sticks

a flask of hot tea

Q4 The pie charts below show which nutrients three different breakfast cereals contain.



a) Which type of **nutrient** is the largest in all three cereals?

.....

b) Which cereal has the largest **fibre** content?

.....

c) Why do we need **fibre** in our daily diet?

.....

.....

d) A **balanced diet** is good. Does this mean eating equal amounts of all types of nutrient?
Explain your answer.

.....

.....