

2.1 What are diseases?



Discussion: Diseases

Discuss the meaning of the word diseases with your class and see if you can answer the questions below.

What is a disease?

A disease is a medical condition that stops the body from working normally.

Can you name any diseases?

Arthritis

Covid-19

influenza

diabetes

How do you get a disease?

Q. There are 2 ~~types~~ ways in which a disease can spread:-

* Communicable diseases which can be spread or passed

* Non-communicable which cannot be passed on



Activity 1

Communicable or non-communicable?



Decide if the diseases in the list below are communicable or non-communicable. Put them under the correct heading in the table.

epilepsy	influenza (flu)	hypertension	gastroenteritis
malaria	heart disease	COVID-19	multiple sclerosis

Communicable
influenza (flu)
malaria
~~gastroenteritis~~
covid-19

Non-communicable
epilepsy
hypertension
diabetes
multiple sclerosis
heart disease



Activity 2

Acute or chronic?



Decide if the diseases in the list below are chronic or acute. Put them under the correct heading in the table.

arthritis	diabetes	allergies	common cold
pneumonia	asthma	influenza (flu)	COVID-19

Acute
covid-19
common cold
pneumonia
influenza (flu)

Chronic
arthritis
diabetes
asthma
allergies

2.1 What are diseases?



Activity 3

A journey through the human body

Watch the video and make a note of any body systems that you see.

Digestive system

Circulatory system

Nervous system

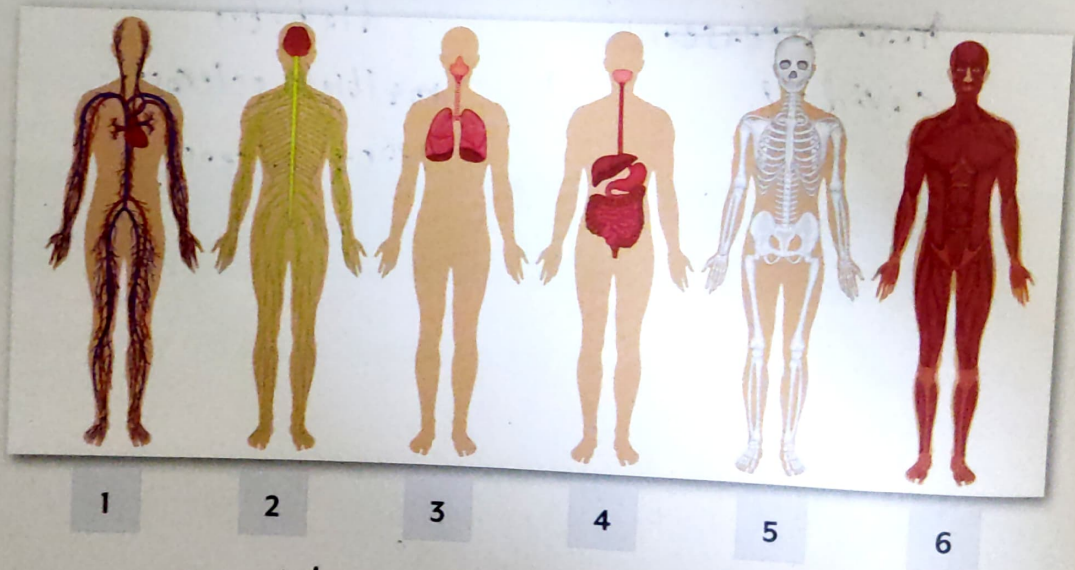
Respiratory system



Activity 4

Name the body systems

Look at the pictures of the body systems below. Write what they are called in the spaces provided.



Body system 1: Circulatory system

Body system 2: Nervous system

Body system 3: Respiratory system

Body system 4: Digestive system

Body system 5: ~~Mar~~ skeletal system

Body system 6: ~~Muscle~~ Muscular system



Activity 5

Word search

Complete the word search to learn the keywords about diseases and disorders.

X J Y U I J S H T N L D C F M
 C Z J W L Y Q U T T E Z H A N
 I N P J M C G M S N W E R D U
 P P M P P H S U P P C Y O K P
 D D T O M S S V Q K N Z N E U
 C O M M U N I C A B L E I T M
 M D C E G I R H L A R G C U V
 H Y I I T O Y B N L K R C C S
 E E S S M S G Q K U H T U A U
 H H Z D O O Y O C L A H W D X
 W M S I N R C S I J D E L B C
 R C C K R U D H B D J W S D N
 E R A Z R U C E R D C K H B I
 U E S A E S I D R Z M V I M T
 S U I Z E L I E H I J F S J M

ACUTE	CHRONIC
COMMUNICABLE	DISEASE
DISORDER	SIGN
SYMPTOM	SYSTEM

2.2 Diseases of the musculoskeletal system



Research: Bones

An adult human has around 206 bones, whereas an infant's body has around 300 bones. Research the reasons behind this.

Infants are born with around 300 bones because many of them are made of cartilage, which is softer and more flexible. As we grow many of these bones fuse together, turning into larger, stronger bones, leaving adults with about 206 bones.



Activity 6

Conditions affecting the musculoskeletal system

In the boxes on the right, write what disease or disorder the description is explaining.

This condition affects the joints.

Arthritis

This condition affects the bones.

Osteoporosis

This is a disorder of the muscles.

Sarcopenia



Activity 7

True or false?



Decide if the following statements about arthritis are true or false.

	True	False
Arthritis affects more men than women.		✓
Arthritis is communicable.		✓
Arthritis describes pain and disease of the joints.	✓	
Arthritis makes it difficult to do everyday tasks.	✓	
Two types of arthritis are osteoarthritis and rheumatoid arthritis.	✓	
Arthritis is more common in children.		✓

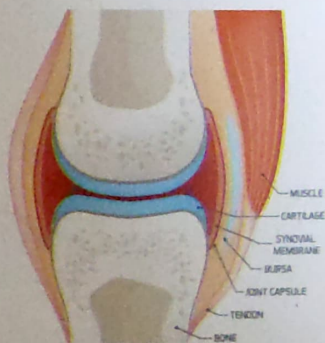


Activity 8

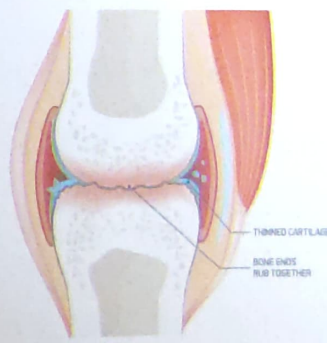
Types of arthritis



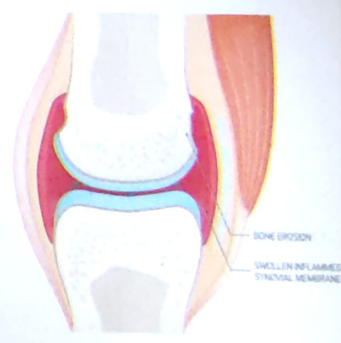
Under each picture, write the type of arthritis that it is showing.



Normal joint



~~Rheumatoid~~
Osteoarthritis



Rheumatoid Arthritis

2.2 Diseases of the musculoskeletal system



Activity 9

Treatment for arthritis

Describe two ways to treat arthritis.

1. Physiotherapy, including exercises to strengthen the muscles surrounding the effected joint

2. Medication to manage pain and inflammation



Activity 10

What is osteoporosis?

Choose which sentence best describes osteoporosis. Put a tick in the correct box.

Osteoporosis develops very quickly and makes the bones become very hard.

Osteoporosis is a disease that causes the heart to beat faster than normal.

Osteoporosis develops slowly and causes the bones to become weak and porous.

Osteoporosis is the nutrient we need to make our bones strong.





Activity 11

Signs and symptoms of osteoporosis

Decide if the following are signs and symptoms of osteoporosis. Write yes or no in the correct box.

	Yes	No
Fever		✓
Stooped posture	✓	
Loss of height	✓	
Headache		✓
Easily fractured (broken) bones	✓	
Back pain	✓	



Activity 12

Treatment for osteoporosis

Write a short paragraph advising a patient about the types of physical activity they should do to manage osteoporosis.

To manage osteoporosis, prioritize regular weight-bearing exercises like walking or jogging, which helps your stiffed bones and muscles. do some strength training. do balanced and flexible exercises such as yoga or taichi, which can help you to improve your posture and reduces the risk of falling down.

2.3 Diseases of the nervous system



Discussion: The nervous system

In small groups, discuss the nervous system and answer the questions below.

What do you already know about the nervous system?

The nervous system helps different parts of our body to communicate it is made of the CNS and PNS

Do you know which parts of the body make up the nervous system?

The brain and the spinal cord

What is the function of the nervous system?

Helps the body to communicate



Activity 13

Parts of the nervous system

In the spaces, write which part of the nervous system is being described.

This is made up of the brain and the spinal cord. This is found in the centre of the body.

CNS

These nerves are away from the central part of the body and are found in the arms and legs.

PNS



Activity 14

Epilepsy

Select the two statements about epilepsy that are correct.

Epilepsy is more common in young children and older adults.

Epilepsy is a communicable disease; it can be passed from person to person.

Epilepsy is an acute (short-term) condition.

A diet that contains high levels of healthy fats and low levels of carbohydrates can help people with epilepsy.



Activity 15

Which disease is it?

What nervous system condition do you think this person has? Write your answer in the space below.

You see a person in the mall. They are complaining that they feel dizzy and that they cannot see or hear properly. They fall down and their arms and legs start shaking. They become unresponsive.

What is it?

Epilepsy

2.3 Diseases of the nervous system



Activity 16

Dementia

Explain the difference between dementia and Alzheimer's.

Alzheimer's is a disease while dementia is a general medical term used to describe the symptoms associated with a decline in mental ability.



Activity 17

Treatment for Alzheimer's

Suggest reasons why the following treatment methods are useful for people with Alzheimer's.

Creating story boards using pictures from past events.

It does help by stimulating their memory and encourage them to recall familiar moments from their past.

A group activity session to solve a jigsaw.

Because it promotes mental stimulation, encourages social interactions and helps to maintain coordination skills.

2.4 Diseases of the respiratory system

STARTER

Parts of the respiratory system

Using the words below, label each of the following parts of the respiratory system

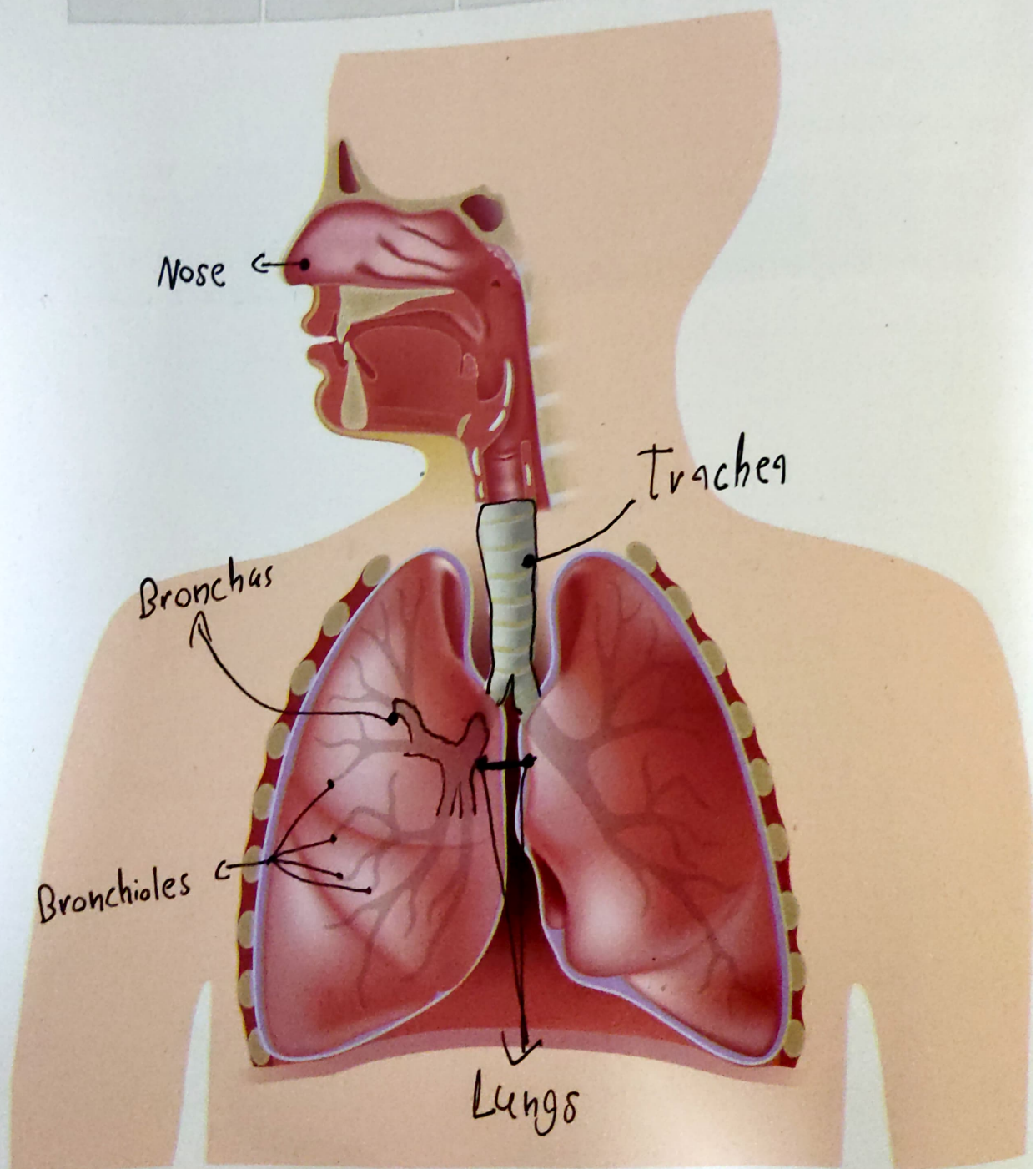
lung

bronchioles

nose

trachea

bronchus





Activity 18

Conditions of the respiratory system

Write three diseases that affect the respiratory system.

1. Asthma
2. ~~Pne~~ Pneumonia
3. COVID-19



Discussion: Asthma

What do you already know about asthma? Do you know anybody who has it? How does it affect them? Discuss with your class and make notes below.

Asthma causes breathing difficulties due to inflamed airways. I know someone with it, it makes him cough and shortness of breath during exercises or in cold weather.



Activity 19

What is asthma?

Answer the questions about asthma below.

1. Is asthma a chronic (long-term) or acute (short-term) disease?

Chronic

2. Is asthma more common if another member of the family has the disease?

Yes

3. What are the signs and symptoms of asthma?

Coughing, shortness of breath, Tightness in the chest.

4. Is there a cure for asthma?

No

5. Write two ways that asthma can be treated.

long-term medications

lifestyle changes

2.4 Diseases of the respiratory system



Activity 20

COPD

What does COPD stand for? Tick the correct answer.

Cardiac oppressive pulmonary disease.

Chronic ocular primary disease.

Chronic obstructive pulmonary disease.



Circle the correct definition of COPD:

COPD is the name for a group of cancers that affect the respiratory system.

COPD is the name for a group of respiratory diseases that cause breathing difficulties.



Activity 21

Treating COPD

Saud is 58 years old, and he has COPD. He is a smoker, and he works repairing big trucks and SUVs. Saud has a cough all the time with phlegm, especially when he is working. Saud is ready to do anything to feel better. Circle the correct advice that Saud should follow to improve his condition.

There is nothing Saud can do to improve his condition.

Saud should get help to stop smoking and he should wear a mask at work.

Using an inhaler and anti-inflammatories can help Saud's signs and symptoms.

Saud doesn't have to worry about the air pollution from his job.

Saud can benefit from pulmonary rehabilitation.



Research: Diagnosing COPD

Research the reasons why most people who have COPD from the age of 30 to 35 usually get diagnosed at an older age.

Because symptoms develop gradually being mild at first and are often mistaken for other conditions like asthma or aging.

Many people don't seek medical help until the disease progresses and symptoms worsen, typically in their 50s or 60s.



Activity 22

COPD and asthma

COPD and asthma have very similar signs and symptoms as well as treatment plans. However, there are some differences. Use the space below to highlight the common elements between the two diseases as well as the differences.

COPD

- *Affects who smoke
- *have asthma
- *exposed to pollution or chemicals or dust
- Begins around the age of 30-35
- *Chronic cough with phlegm
- *Frequent respiratory infections

Tightness in the chest

- * Wheezing sound
- * Cough
- * No cure
- * Chronic diseases

Asthma

- * Begins during childhood and lasts till adulthood
- * More common if other family members have the disease, allergies and those exposed to smoking or pollution

Hints: think of who is more likely to be affected by each disease (age & family history) and think of the nature of some of the signs (for example cough)

2.5 Diseases of the digestive system



Discussion: Digestive system

What do you know about the digestive system? Where is it in the body and what does it do? Discuss with your class and make notes below.

The digestive system is located throughout the body, starting from the mouth ending at the anus. It includes organs like the esophagus, stomach, ^{large} intestines, liver, pancreas.

Its main function is to break down food into smaller components, absorb nutrients, and eliminate waste. Chewing involves both mechanical (chewing) and chemical (enzymes, acids) processes.



Research: Digestive diseases

Look at the list of conditions that affect the digestive system. Research each one and write a sentence describing each condition in the space provided.

Name of condition	Description of the condition
Gastroenteritis	Inflammation of the stomach and intestines caused by bacteria and viruses
Inflammatory bowel disease	Chronic inflammation of the digestive tract, including Crohn's disease...
Irritable bowel syndrome	A condition affecting the large intestine causing symptoms like bloating, diarrhea
Food intolerance	Difficulty in digesting certain foods
Constipation	Difficulty in passing stools due to slow bowel movements



Activity 23

Gastroenteritis signs and symptoms



List four signs and symptoms of gastroenteritis.

1. Fever
2. Headache
3. Muscles aches
4. Watery diarrhoea



Activity 24

Advice



Read the following scenarios and write a sentence recommending what to do.

Noora is one year old. She has had diarrhoea and has been vomiting for 3 hours. Her temperature is 38.2°C. What should you do?

She's at risk of being dehydration due to vomiting and diarrhoea.
It's important to give her small sips of water or oral rehydration
solution and seek medical attention immediately.

Salem ate meat and rice for lunch that was not heated properly. One hour later he had cramps in his stomach and felt nauseous. He thinks that eating some bread might make him feel better. What advice would you give to Salem?

Salem likely has food poisoning. ^{He} ~~He~~ should avoid eating further.
rest and stay hydrated.

If symptoms worsen or persist, he should seek medical attention.

2.5 Diseases of the digestive system



Activity 25

Lactose and gluten

Look at the list of foods below and decide if they contain lactose or gluten. Match the food to the correct label.

Bread	G	
Yoghurt	L	Lactose
Milk	L	
Pasta	G	
Cereal	G	
Cheese	L	Gluten

Can you think of any foods that contain both lactose and gluten? List them below.

Pizza (contains cheese and wheat crust)
Cakes (contains milk or butter and wheat flour)
cheese cake (crust made of wheat and cream filling with cheese)

2.6 Diseases of the circulatory system

STARTER

What do they do?

Write which part of the circulatory system is being described in the spaces provided.

Takes blood away from the heart	Arteries
Takes blood back to the heart	Veins
Carries nutrients and oxygen	Blood
Pumps blood through the body	The Heart



Activity 26

Conditions of the circulatory system

Choose two conditions that affect the circulatory system and write a sentence about them below.

Condition 1:

Hypertension:- is a chronic condition where the blood pressure in the arteries is higher than normal, making the heart work harder.

Condition 2:

Atherosclerosis:- is the build-up of plaque within the walls of arteries, causing blockages that can lead to a heart attack or strokes.



Discussion: Hypertension

Discuss hypertension with your class and answer the questions below.

What is another name for hypertension?

High blood pressure

What do you think causes hypertension?

Unhealthy lifestyle too much sodium in the diet
obesity, stress lack of exercises

Do you know any conditions that can be caused by hypertension?

Heart Attack

stroke

Heart Failure

Aneurysm



Activity 27

Risk factors for hypertension

Make a list of the risk factors for developing hypertension below.

Age - smoking - Lack of exercise

family history

Overweight

High salt intake

High stress levels

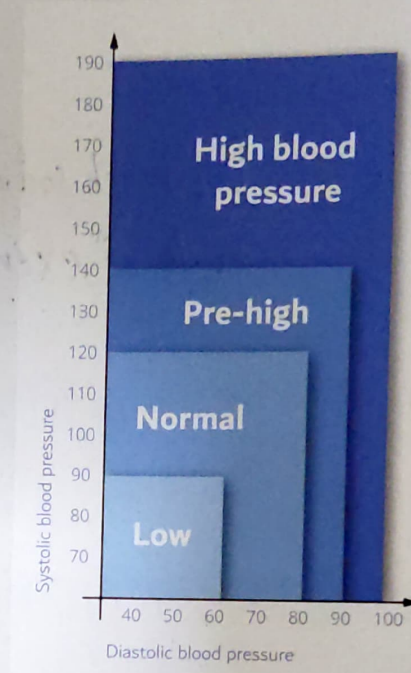
2.6 Diseases of the circulatory system



Activity 28

Blood pressure

Look at the chart below and then answer the questions about blood pressure.



1. If a person's blood pressure reading shows the systolic pressure is 110 over a diastolic pressure of 70 (110/70), what does it mean?

Normal blood pressure reading

2. If a person's blood pressure reading shows 170/90, what does it mean?

High blood pressure (Hypertension)

3. If a person's blood pressure reading shows 85/55, what does it mean?

Low blood pressure (Hypotension)



Activity 29

Fill in the blanks

Fill in the blanks about atherosclerosis using the words below.

arteries

plaque

stroke

flow

attack

Atherosclerosis happens when a fatty substance called plaque builds up in the body's arteries and eventually blocks blood flow. If this happens in the arteries of the heart, it can cause a serious blockage which can lead to a heart attack, in the brain, it can cause a stroke.



Activity 30

Signs and symptoms of atherosclerosis

Write the symptoms someone may have if they have a blockage in an artery in the following parts of the body.

If the blockage is in the heart:

Severe chest pain (Angina)

If the blockage is in the brain:

Weakness in the body, loss of vision, difficulty speaking

If the blockage is in the arms or legs:

The Pain will be in either the arms or legs

2.7 Diseases of the immune system

STARTER

The functions of the immune system

Select the two statements that describe what the immune system does.

The immune system is responsible for breaking down food in the body.

The immune system produces antibodies which fight infections that enter the body.

The body's immune system is responsible for fighting disease.

The immune system is made up of the heart, the arteries, and the veins.



Activity 31

Multiple sclerosis

Answer the following questions about MS.

What two parts of the body does MS affect?

The Brain and The Spinal Cord

Is MS a chronic or an acute disease?

MS is a chronic disease

At what age are people usually diagnosed with MS?

Between the ages of 16-55

What is the cure for MS?

There is No cure, but there are treatment and medications that help manage the condition



Activity 32

Allergies survey

In groups, carry out a survey of different classes in your school to see how many people have allergies, and what types they have. Fill in the numbers in the table below.

Question	Answer
Which class did you survey?	
How many students have an allergy?	
How many students have an allergy to dust?	
How many students have an allergy to animal hair?	
How many students have an allergy to certain foods?	
How many students carry an adrenaline auto-injector?	



Activity 33

Mild or severe?

Look at the list of allergy signs and symptoms below. If you think it is a mild sign or symptom, write 'mild' in the space next to it. If you think it is a severe sign or symptom, write 'severe'.

Allergy sign or symptom	Mild or severe?
Sneezing	Mild
Severe shortness of breath	Severe
Loss of consciousness	Severe
Swelling of face, lips, or throat	Severe
Rapid weak pulse	Severe
Watering, red, or swollen eyes	Mild

2.7 Diseases of the immune



Activity 34

Case studies

Identify the condition each of the patients has by reading the case studies below.

Patient 1

This patient is a woman aged 70. She has pain in the joints in her hands. She has difficulty doing everyday tasks and finds that her fingers cannot move like normal. Her fingers look swollen.

What condition is it? Arthritis

Patient 2

This patient is a man aged 65. He has started to lose his sense of smell and taste. He has a dry cough with a fever of 38°C and aches and pains all over his body.

What condition is it? Influenza (Flu)

Patient 3

This patient is a 9-year-old boy. When he is playing with friends, he finds that he is very short of breath and has tightness in his chest. A whistling sound can be heard when he is breathing.

What condition is it? Asthma

Patient 4

This patient is 30 years old. They have pains and cramps in their stomach. They have been vomiting and have diarrhoea. Yesterday they ate in a restaurant where the person serving them looked sick.

What condition is it? Gastroenteritis

Patient 5

This patient is 17 years old. Recently whenever they drink milk or eat yoghurt, they get stomach pains and feel bloated. It never happened in the past.

What condition is it? Food intolerance

Patient 6

This patient is a man aged 50. He is overweight and does not exercise. He eats a lot of fast food. He said his mother had this disease. When he has his blood pressure taken by the doctor, the reading was 170/90. Normal blood pressure is around 120/80.

What condition is it? Hypertension

Patient 7

This patient is a 25-year-old woman. Sometimes she feels very tired, weak and has numbness in her arms and legs. Her vision is blurry from time to time. She said that the symptoms are getting worse.

What condition is it? Multiple Sclerosis MS

Notes:

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End of unit quiz

1. Define a disease.

It's a medical condition that stops the body from working normally.

Diseases can cause {Pain, dysfunction of certain body parts, rare cases, death}

2. Name one communicable and one non-communicable disease, and one acute and one chronic disease.

Communicable: COVID-19

Non-communicable: Hypertension

Acute: Influenza (flu)

Chronic: Arthritis

3. Write one condition that affects each of these body systems.

Musculoskeletal system: Arthritis

Nervous system: Epilepsy

Respiratory system: Asthma

Digestive system: Gastroenteritis

Circulatory system: Hypertension

Immune system: Multiple sclerosis MS

4. Decide if the following statements are true or false.

	True	False
One way to manage osteoporosis is to do weight-bearing exercise.	✓	
Osteoporosis is a digestive system disease.		✓
Alzheimer's disease can be cured.		✓
The main symptom of epilepsy is seizures.	✓	
COVID-19 is a disease of the lungs.	✓	
Gastroenteritis is a chronic disease.		✓
Food intolerances can develop at any time.	✓	
Hypertension is also known as low blood pressure.		✓
Multiple sclerosis is an immune system disease.	✓	

5. Answer the two questions about allergies.

What is a severe allergic reaction known as?

Anaphylaxis

What is used to treat a severe allergic reaction?

Adrenaline Auto-Injector