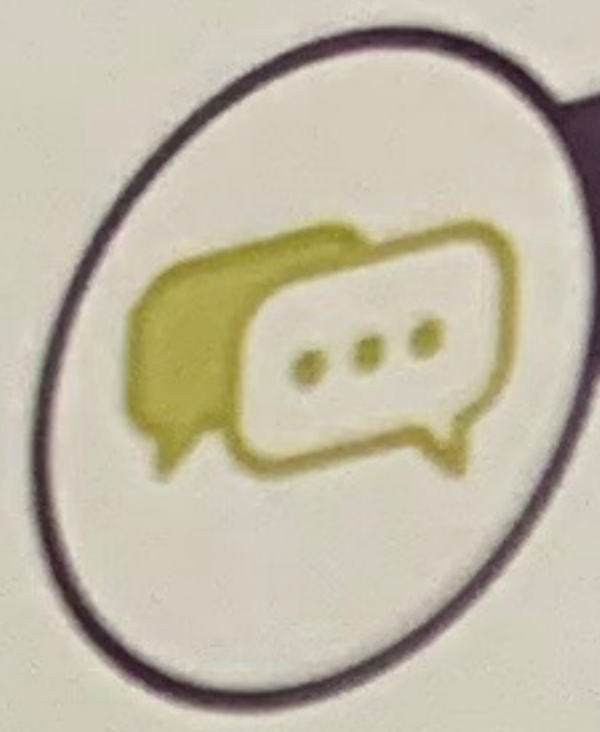


9.1 Types and causes of diabetes

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Discussion: What do you already know about diabetes?

In groups, discuss what you already know about diabetes and answer the following questions.

What is diabetes?

a disease where the body's ability to produce insulin is impaired.

What causes diabetes?

when the body cannot make enough insulin to regulate glucose.

How can it be diagnosed?

with tests, ex: (HbA1C)
(OGTT)

How can it be treated?

eat regular and balanced meals.



Activity 1

Your teacher
notes about v
about each o

What happen

the f

What is gluc

glu

What is insu

pro

a



Activity 1

Diabetes video

Your teacher will show you the video about type 1 diabetes. Make notes about what you learned from the video. Include information about each of the following topics.

What happens when you eat food?

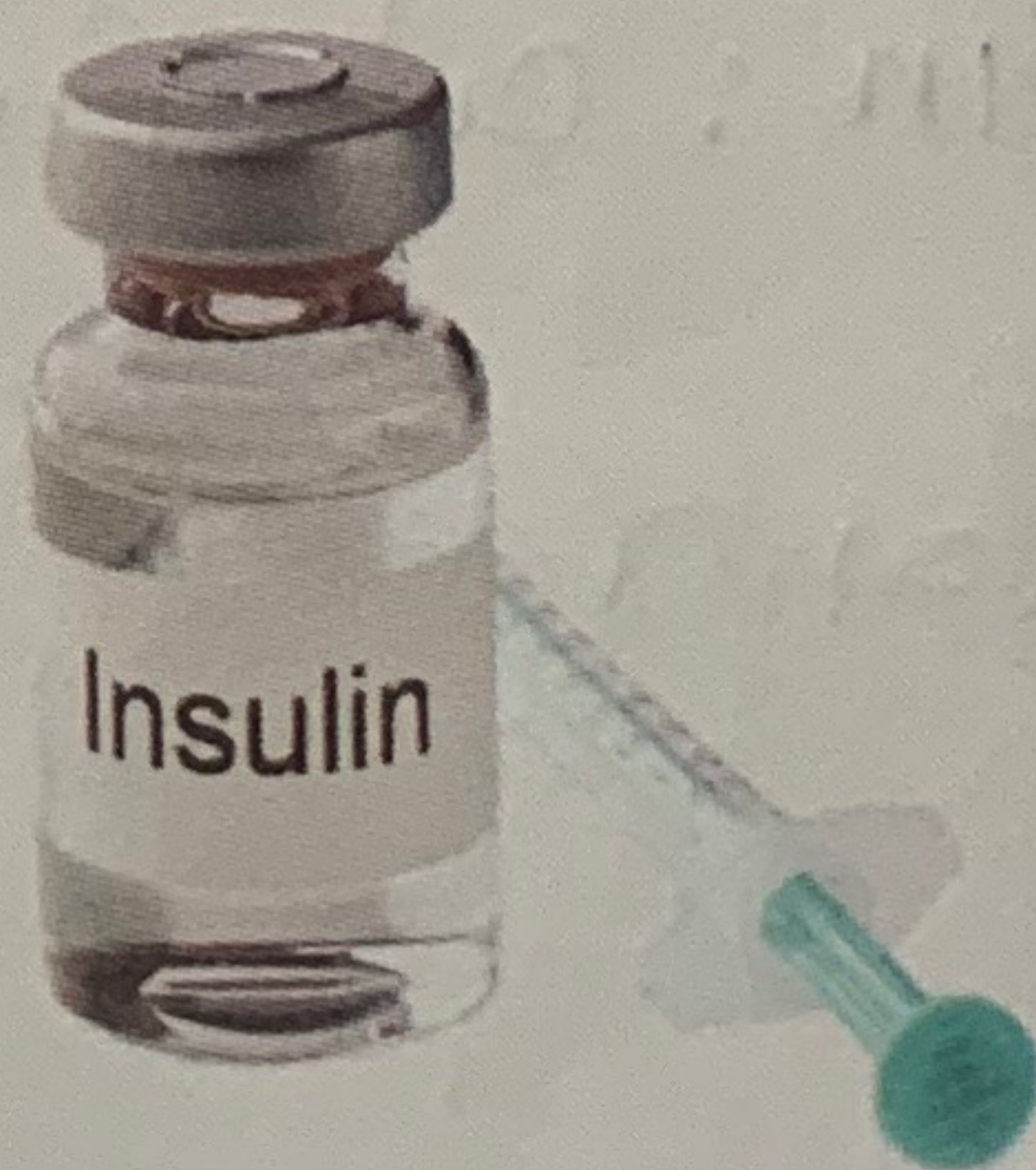
the food goes to the stomach to produce energy.

What is glucose?

sugar a simple sugar that used by the body for energy

What is insulin?

(protect the body from the glucose)
a hormone created in the pancreas.



9.1 Types and causes of diabetes

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Activity 2

Matching



In the following space. Match the word with its meaning. Then, write one fact about a word from the left column.

auto-immune disease	a hormone
blood glucose	sugar in the blood
gestation	makes insulin
insulin	the stage before diabetes
pancreas	during pregnancy
pre-diabetes	the immune system attacks the body

Fact:

The insulin: a hormone created in the pancreas



Activity 3

In your own words, causes, age of onset

Type 1 diabetes

family history
exposure of certain viruses

Notes:



Activity 3

Compare

In your own words, compare type 1 and type 2 diabetes. Include their causes, age of onset and other names they can be referred to.

Type 1 diabetes	Type 2 diabetes
child genetics	adult Being over weight.
getting sugar family history Blood glucose	having family history eating unhealthy food
exposure of certain viruses weight	unhealthy diet not exercising.

Notes:

Type 1

Type 2

gestational

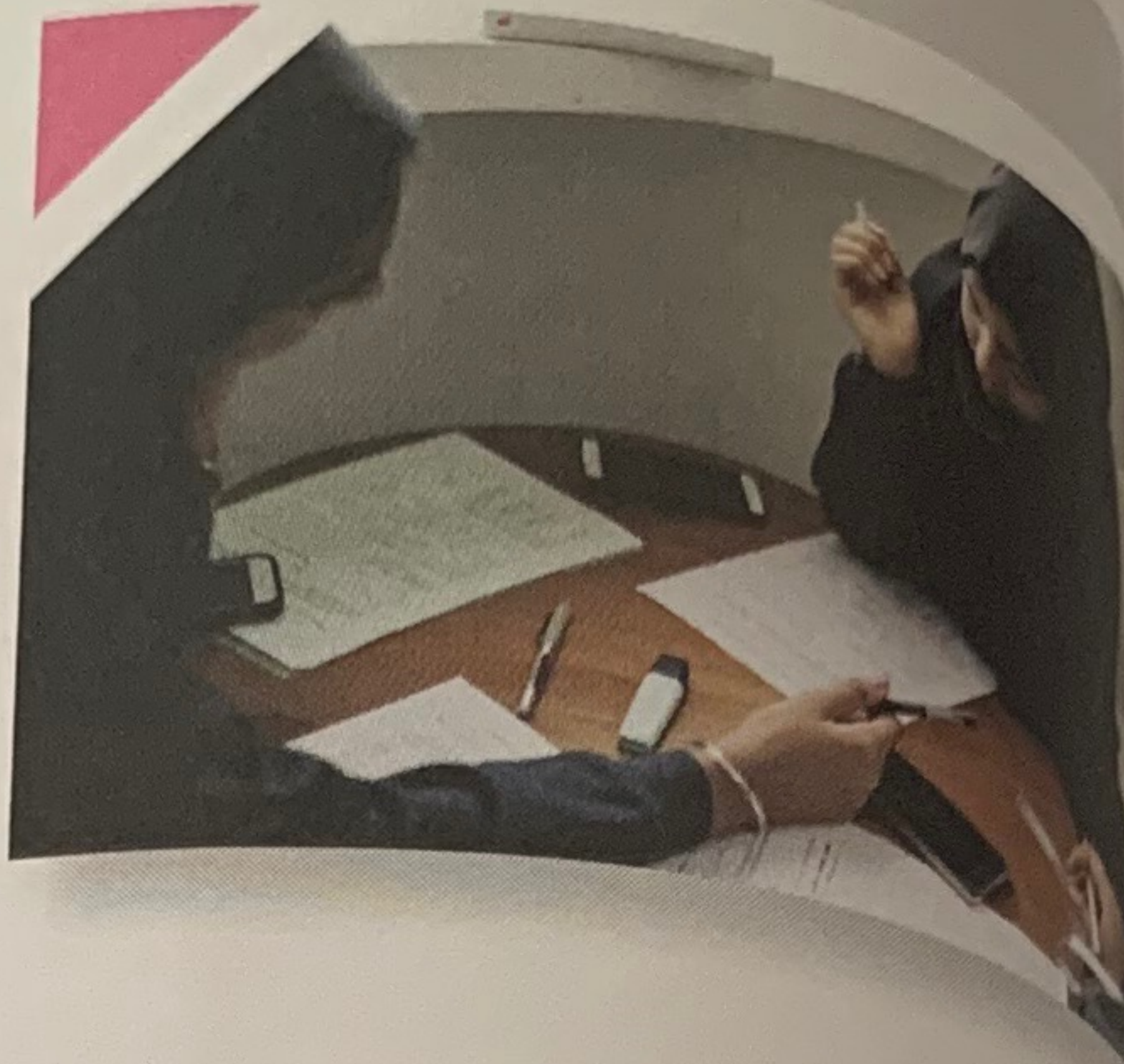
9.2 Diagnosis of diabetes and blood glucose monitoring

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9

STARTER Key word finder

Do some research about one of the following words. Find the definition of the word and one fact about it. Then share your findings with your class. Make notes about the words you did not research.



Key words notes:

Fatigue: excessive tiredness

polydipsia: excessive

Polyphagia: " hun

Polyuria: " unli

Polydipsia ✓	Polyphagia ✓	Polyuria ✓
Ketone bodies	Lancet	Fatigue ✓

Definition:

excessive tiredness

Fact:

feeling very thirsty

Key words notes:

Fatigue: excessive tiredness

polydipsia: excessive thirst

polyphagia: " hunger

polyuria: " urination

~~Excessive tiredness~~
~~Excessive thirst~~
~~" hunger~~
~~" urination~~

9.2 Diagnosis of diabetes and blood glucose monitoring

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9



Activity 4

Scenarios

Using the information you have learned, decide if each patient showing signs of type 1, type 2 or gestational diabetes.

Fatima is 10 years old. She is more thirsty than normal. She is feeling very tired and more hungry than normal. She has only been experiencing these symptoms for the past week.

type 1

Amneh is 50 years old. She does not enjoy physical activity and she knows her diet is not healthy. She has not been feeling well for a long time. She noticed her tiredness is getting worse. She has been given the oral glucose tolerance test and her fasting glucose is 10mmol/L.

type 2

Noor is 30 years old. She is pregnant and has not been feeling very well. She is more thirsty than usual, and she is feeling fatigued. She has been given the oral glucose tolerance test and her result after two hours is 8.1mmol/L.

gestational

Maryam is 26 years old. She is pregnant. Maryam has not been feeling well. She is feeling tired and does not have much energy. Her fasting blood glucose result was 5.5mmol/L.

normal

Discussion: U

Discuss with your partner the importance of measuring blood glucose levels. What questions do you have?

What is needed to measure blood glucose levels?

Cost
PPE

What do the results mean?

Fasting

2h after glucose

How often should you test?

every

Discussion: Using a blood glucose monitor

Discuss with your class what you already know about measuring blood glucose levels and answer the following questions.

What is needed to take the measurement?

Antibacterial wipes, Blood glucose monitor
 Cotton wool or Plaster, Lancet (needle)
 PPE including gloves, test strips
 strips

What do the results mean?

	Healthy	impaired glucose tolerance	Diabetic
Fasting	below 6mmol/L	6-7	above 7
2h after glucose	7.7mmol/L	7.8-11	above 11

How often should it be done for a diabetic patient?

every Day before eating
 every morning and after meals

9.2 Diagnosis of diabetes and blood glucose monitoring

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9.



Activity 5

Measure blood glucose

In pairs, practise measuring blood glucose. Demonstrate each of the steps you would take to accurately take a blood glucose measurement. Make a note of the steps you follow when measuring blood glucose.



Remember

Don't forget to wear PPE and to correctly dispose of the lancet.

Measuring blood glucose:

write the steps from

35B/12 steps

When you have finished measuring the blood glucose, make a note of the result. What does the result mean for the patient?

Blood glucose result:

one of the results where 85 mg/dl

Meaning of the result:

normal

DIABETES

1



4



9.3 Dietary recommendations for diabetes and overweight/obesity

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Discussion: Dietary recommendations for diabetes



In pairs, discuss what special dietary recommendations might be given to a person who has diabetes. How do you think these could be different for a person who is overweight or obese?

Dietary recommendations for diabetes:

Do more physical activities.

Balance your diet.



Activity 6

Healthy diet for a diabetic patient

In the space provided, create a one-day meal plan for a patient who has type 2 diabetes. Use the following information to create your meal plan.

Reem is 45 years old. She has just been diagnosed with type 2 diabetes. Reem does not eat a balanced diet. She does not like vegetables. She likes to have a cola with every meal and does not drink much water. Reem has been told by her doctor that she needs to lose some weight and take part in physical activity.



Remember

Dietary advice is similar for people who are diabetic and for people who need to lose weight.

	Breakfast
Meal information	fruit eggs
Snacks	Yogurt fruit
Other advice	Drinking

	Breakfast	Lunch	Dinner
Meal information	fruit eggs	fish	green salad noodles
Snacks	yogurt fruit	cucumber fresh juice	veggie chips
Other advice	Drink water	exercise	wake up early

Complications of diabetes

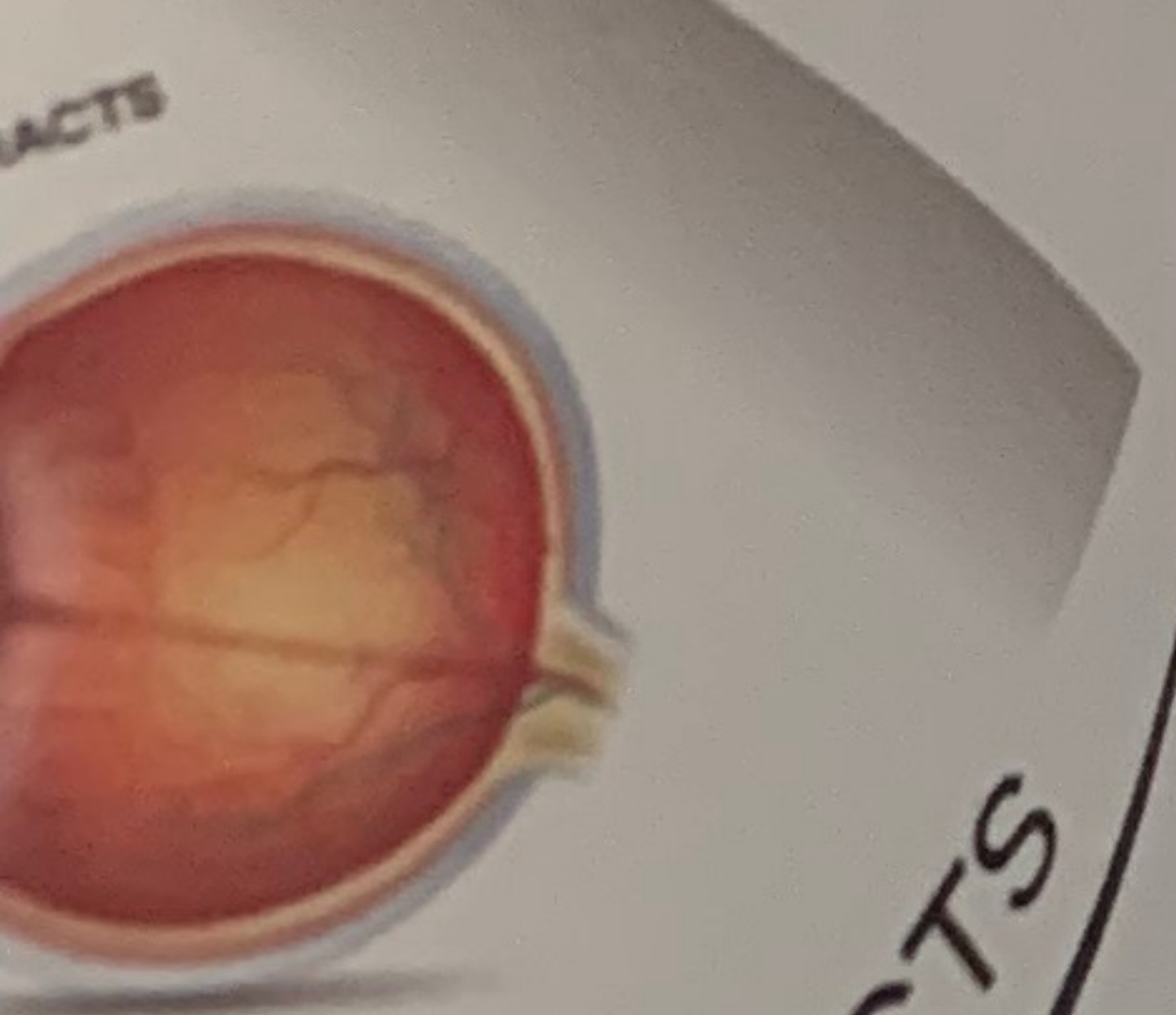
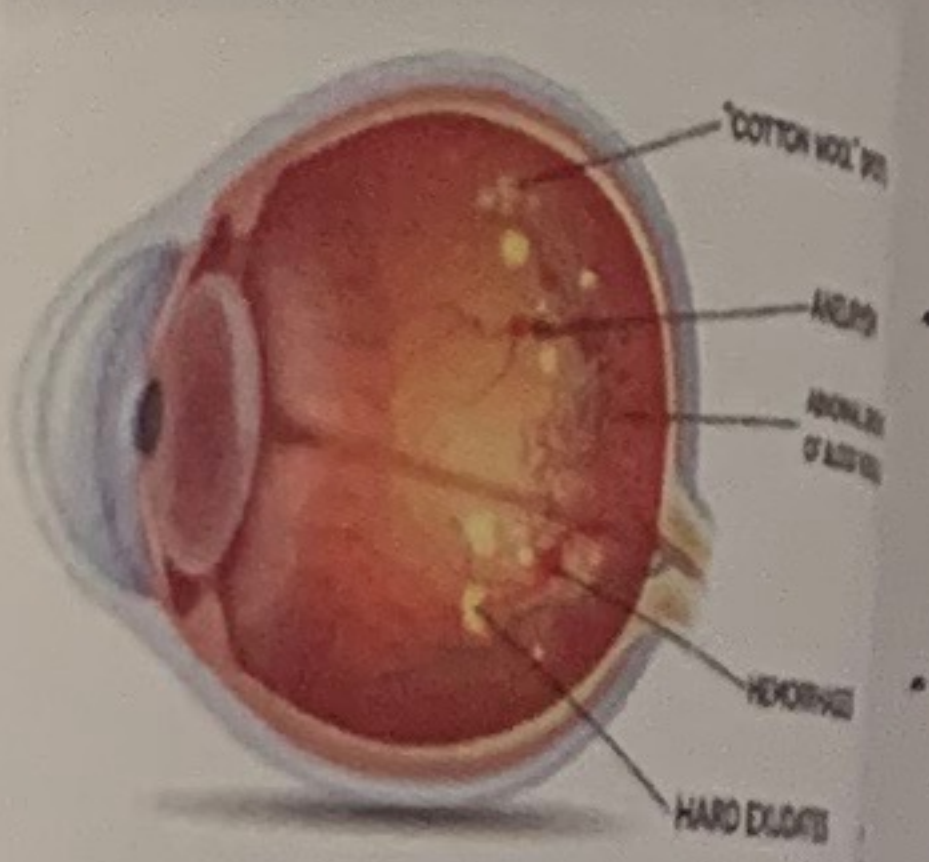
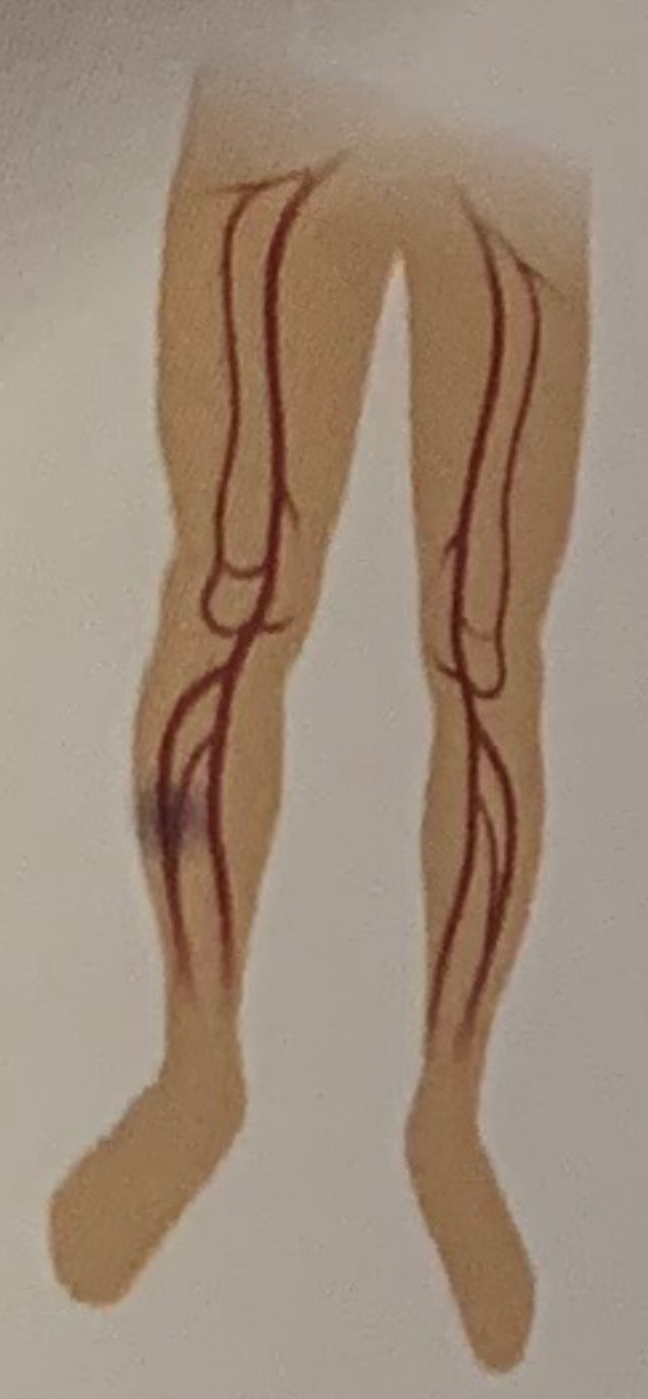
Complication

Look at the following image and identify the complication. If you do not know, write down what you think it is.

HEART ATTACK



PERIPHERAL ARTERY DISEASE



CATARACTS

1. Which part of the body does this complication affect?

Stroke: it affect the Brain and may be the Body.

2. How is this complication related to diabetes?

I think no

3. Can it be prevented?

yes or no

4. How can people with diabetes manage this condition?

By caring about it
thinking about it
going to the Doctor and ask

9.4 Health complications of diabetes

Diabetes complications

Activity 7



Your teacher will show you the video about diabetes. Name some of the complications of diabetes.

Name some of the complications of diabetes in the early stage?

- What test can help to identify diabetes?
 - A - urine test
 - B - random blood glucose test
 - C - glycoated haemoglobin (HbA1c) test
 - D - oral glucose tolerance test (OGTT)

Who is at risk of developing complications from diabetes?

people who don't eat healthy,
 exercise of take
 this medicine.

Activity 8



Put the signs and into the correct b



Remember

Hyperglyc symptom

Polyuria

Polydipsia

Hypogly

hu
su

Activity 8

Matching activity



Put the signs and symptoms for hyperglycaemia and hypoglycaemia into the correct box.



Remember

Hyperglycaemia and hypoglycaemia can have similar symptoms.

Polyuria

Hunger

Pale

Fruity breath

Polydipsia

Dizziness

Sweating

Fatigue

Hypoglycaemia

hunger

sweating

dizziness

Fatigue

Hyperglycaemia

Polyuria

pale

Fruity breath

Polydipsia

28/4/2019

End of unit quiz

3. Using the fol

1. List the three types of diabetes.

Type 1

Type 2

Gestational diabetes

auto-immun

Diabetes is a

to the horm

Type

produce eno

.....?

to the insuli

.....

List four co

fact about

.....

List five pi

who is ove

2. Match the types of diabetes with the appropriate description.

Type 1 diabetes

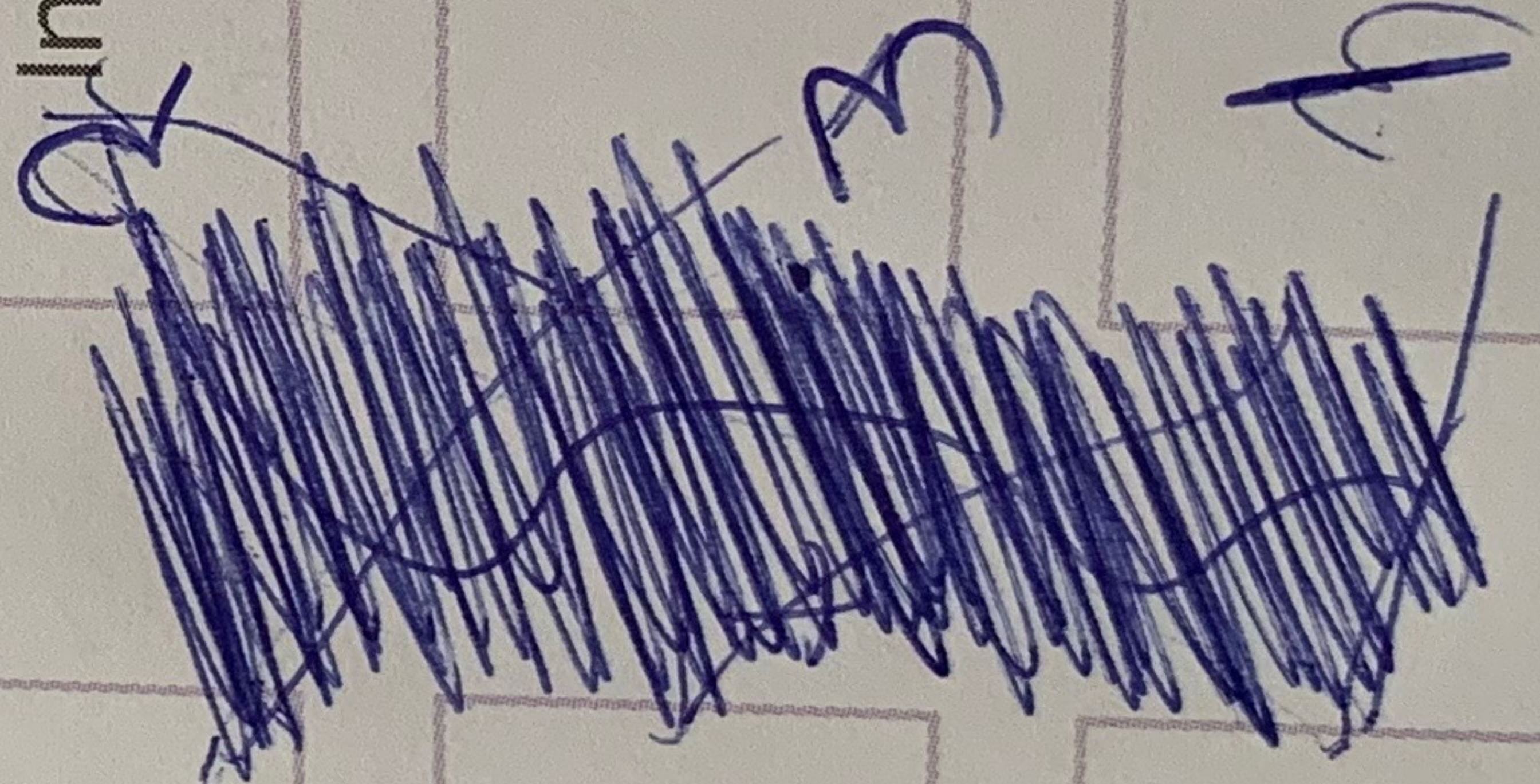
Type 2 diabetes

Gestational diabetes

Insulin dependent diabetes

Hyperglycaemia during pregnancy

Can be prevented



3. Using the following words, fill in the blanks.

auto-immune	resistance	insulin	1	2
-------------	------------	---------	---	---

Diabetes is a condition where the body's ability to produce or respond to the hormone ... auto-immune ... is not working as it should. Type ... 1 ... diabetes occurs when the body cannot produce enough insulin. This is an ... insulin ... disease. Type ... 2 ... diabetes occurs when the body cannot respond to the insulin that is made by the body. This is known as insulin ... resistance ...

4. List four complications associated with diabetes. State one fact about each complication.

- hyperglycaemia ... Diabetic retinopathy (too much sugar in the blood)
- hypoglycaemia ... Diabetic ketoacidosis

5. List five pieces of dietary advice you would give to someone who is overweight and has type 2 diabetes.

Just be careful about your health...

Student's comments

Which part of the unit did you enjoy?

Knowing about diabetes types

Which part of the unit were you good at?

in the health complications of
Diabetes

What do you need to improve?

more about Diabetic neuropathy

Additional comments:

(nothing)

Teacher's feedback

How did the student participate?

How was the student's attitude?

How did the student display safe and

Additional comments: