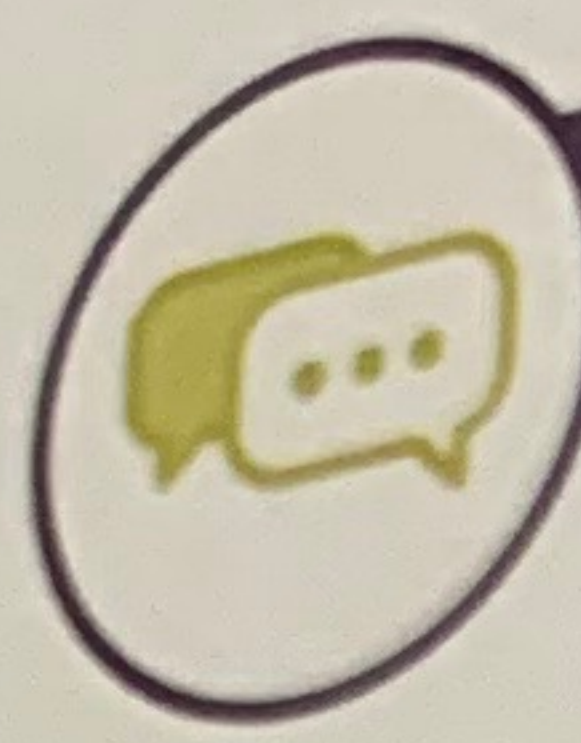


9.1 Types and causes of diabetes



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?

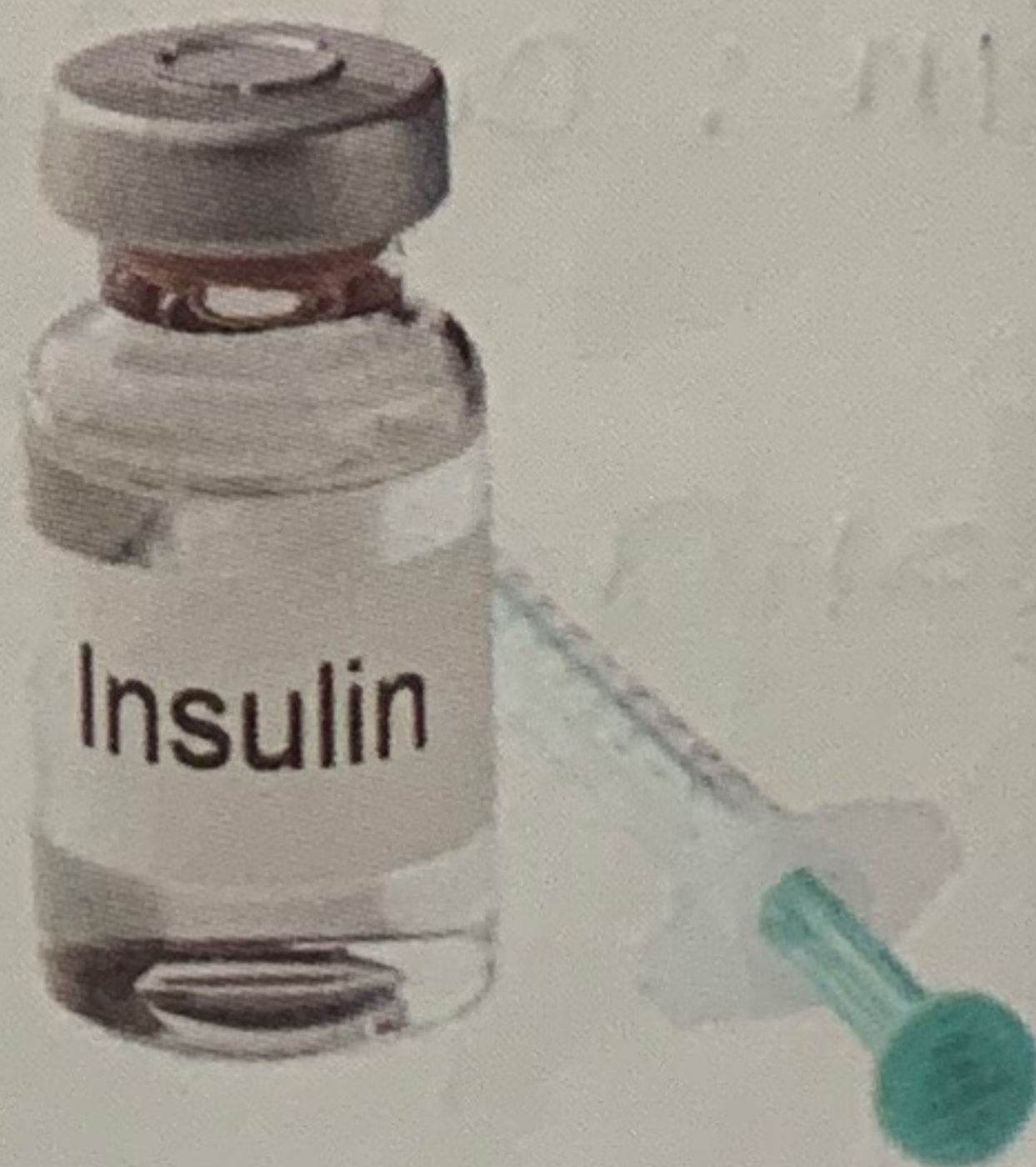
the food goes to the stomach to produce energy.

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



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
genetics
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 overweight. |
| getting sugar family history Blood glucose | having family history eating unhealthy food |
| exposure of certain viruses overweight | unhealthy diet not exercising. |

Notes:

Type 1

Type 2

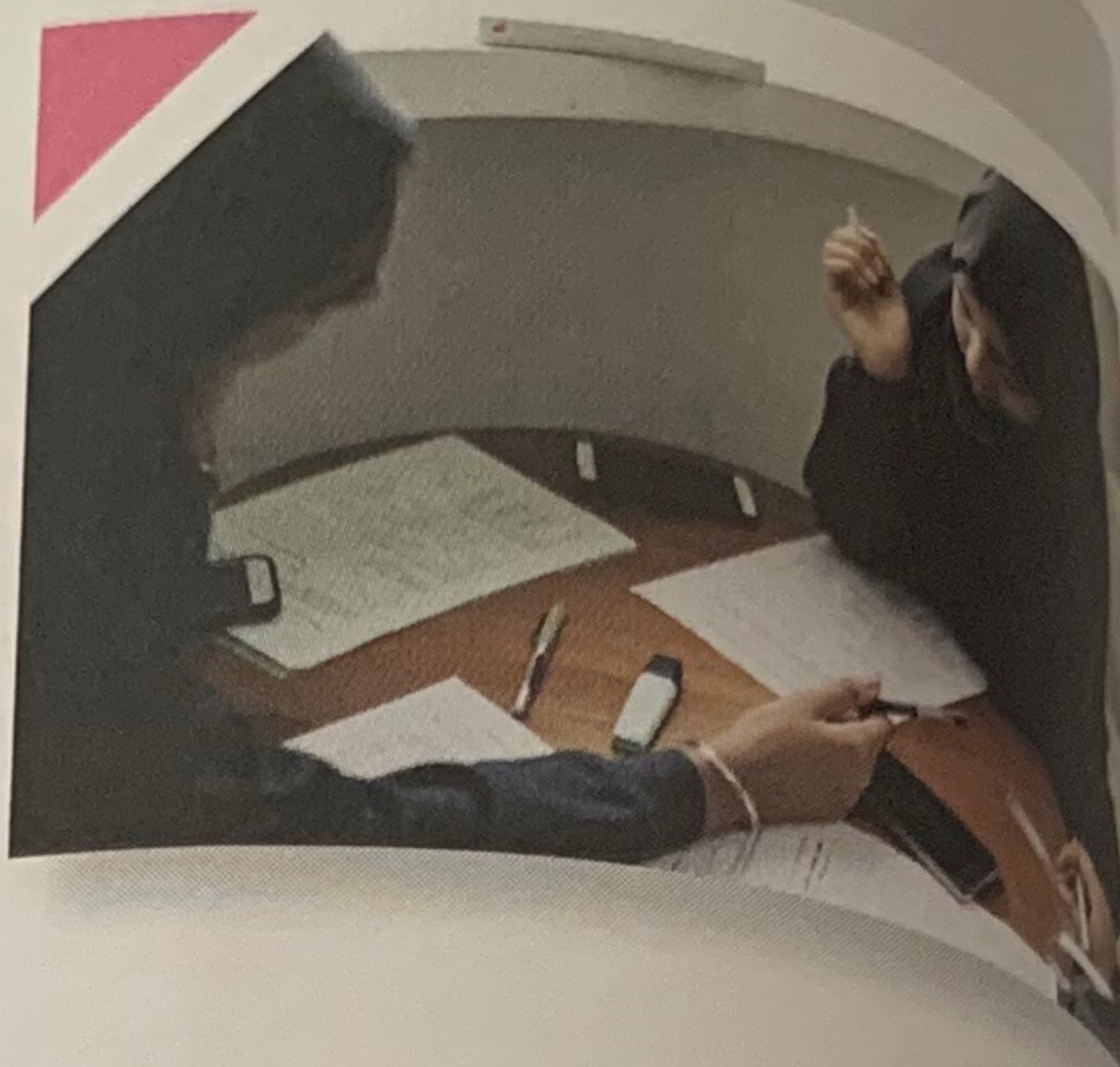
gestational

9.2 Diagnosis of diabetes and blood glucose monitoring

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.



Activity area with six circles containing words: Polydipsia, Polyphagia, Polyuria, Ketone bodies, Lancet, and Fatigue. Each circle has a blue checkmark indicating it was researched.

Key words notes:

Fatigue: excessive tiredness
polydipsia: excessive
Polyphagia: " hun
Polyuria: " unli

~~Handwritten scribbles and notes on the right page.~~

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~~
~~Excessive tiredness~~

9.2 Diagnosis of diabetes and blood glucose monitoring

9



Activity 4

Scenarios

Using the information you have learned, decide if each patient is 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 signs of diabetes. What are the signs of measuring blood glucose? What are the common questions?

What is needed for a diagnosis of diabetes?

Cost of PPE

What do the

Fasting

2h after glucose

How often

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

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

3SB/12 steps

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

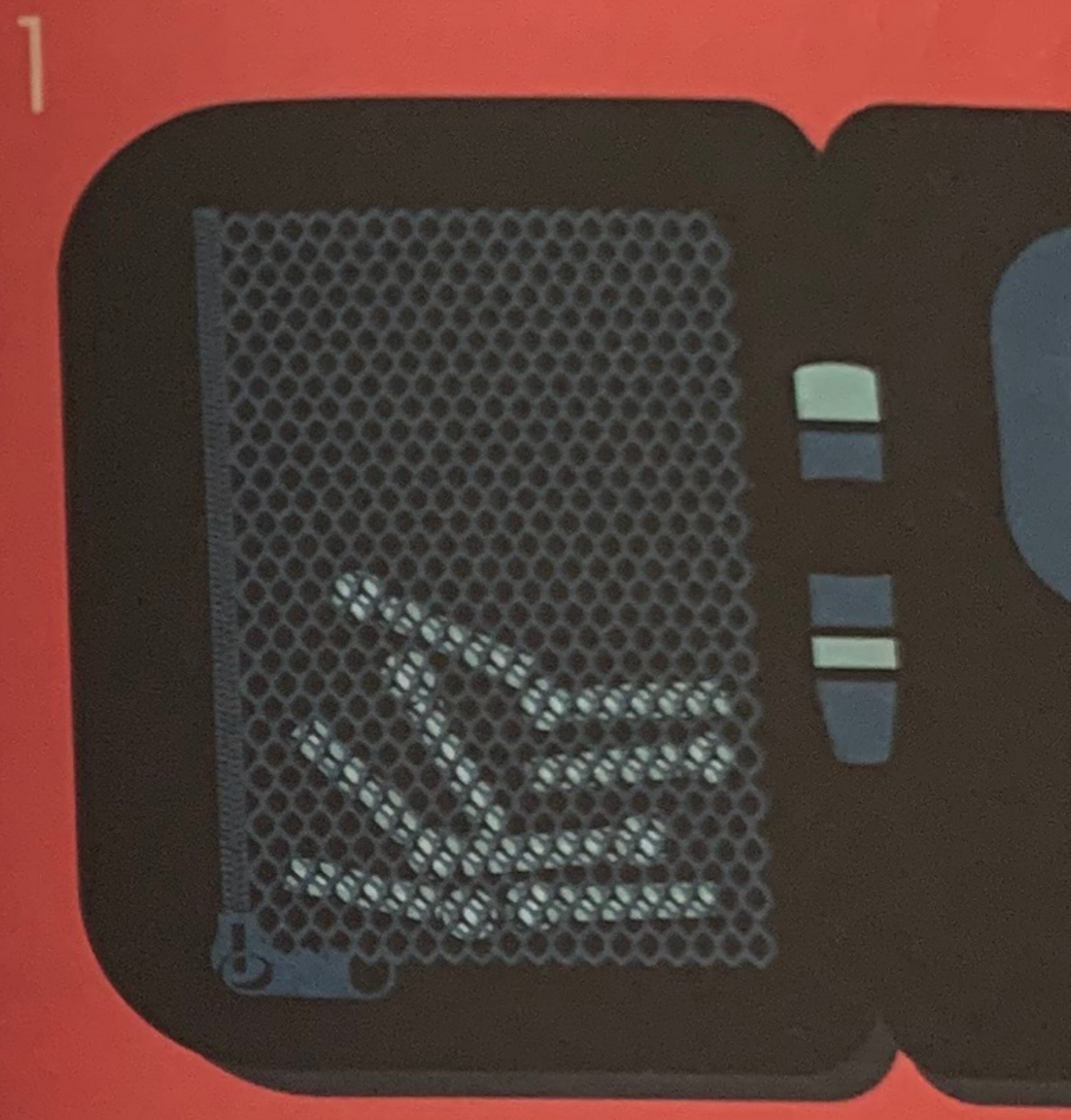
Blood glucose result:

one of the results where 85 mg/dl

Meaning of the result:

normal

DIABETES



4



9.3 Dietary recommendations for diabetes and overweight/obese

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 | Dr... |

s for
obesity

diabetes

ons might
think this
obese?

ient

ent who
te your

type 2
not like
oes not
needs

nd for

th Science

| | 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

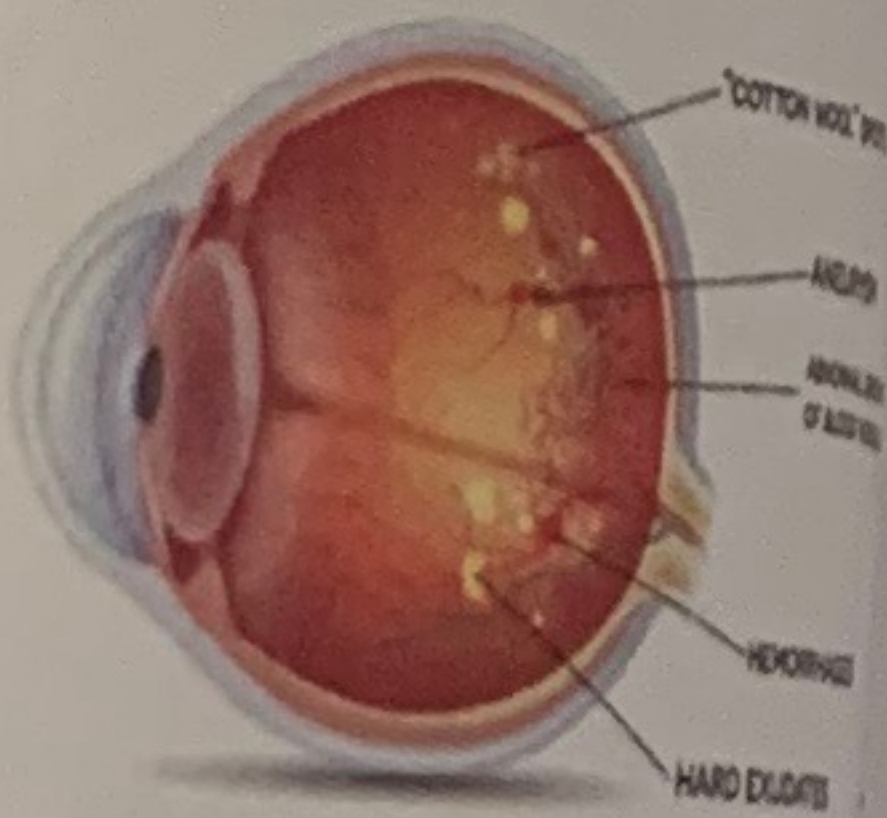
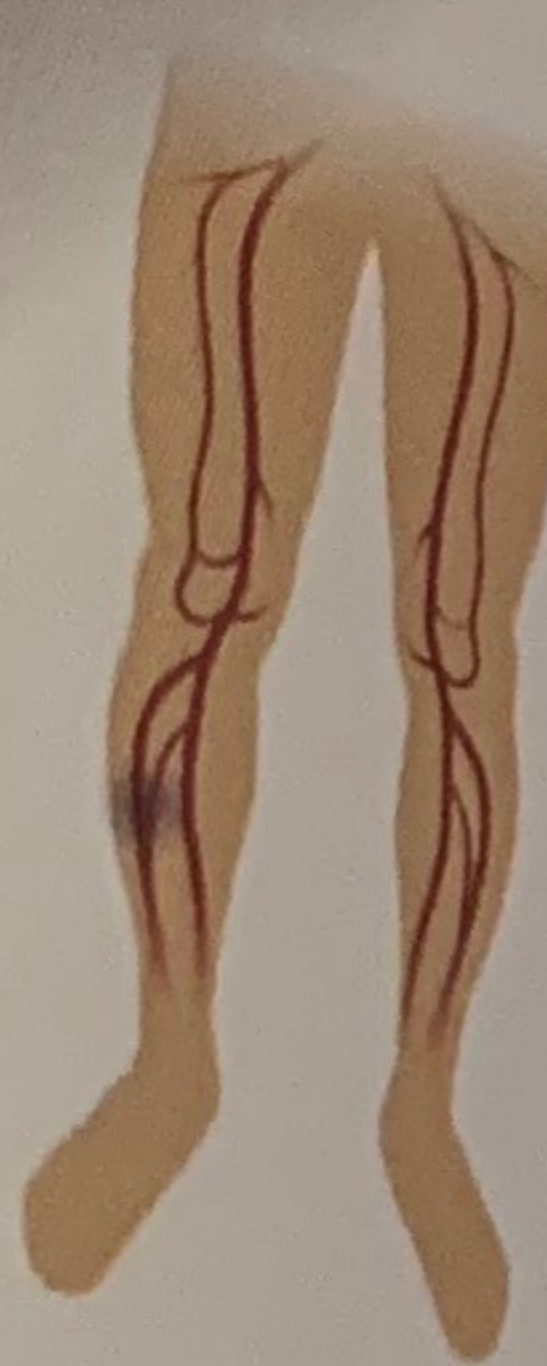
Diabetic Retinopathy

Which part of the body does this complication affect? If you do not know, write 'I don't know'.

Heart Attack



Peripheral Artery Disease



Cataracts



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 - glyated 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

9.4 Health complications of diabetes



True or false

Activity 9



Identify if each of the following statements about the complications of diabetes are true or false.

F

1. Hypoglycaemia is when there is too much sugar in the blood.

T

2. Hypoglycaemia can affect people who have type 1, type 2 and gestational diabetes.

T

3. Hypoglycaemia can occur when someone with diabetes takes too much insulin.

T

4. If diabetic retinopathy is not treated, it can lead to blindness.

F

5. Gestational diabetes can put the mother at greater risk of developing type 1 diabetes in the future.

Notes:

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

.....

f. List four co
fact about

.....

.....

List five pi
who is ove

.....

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

Type 1 diabetes

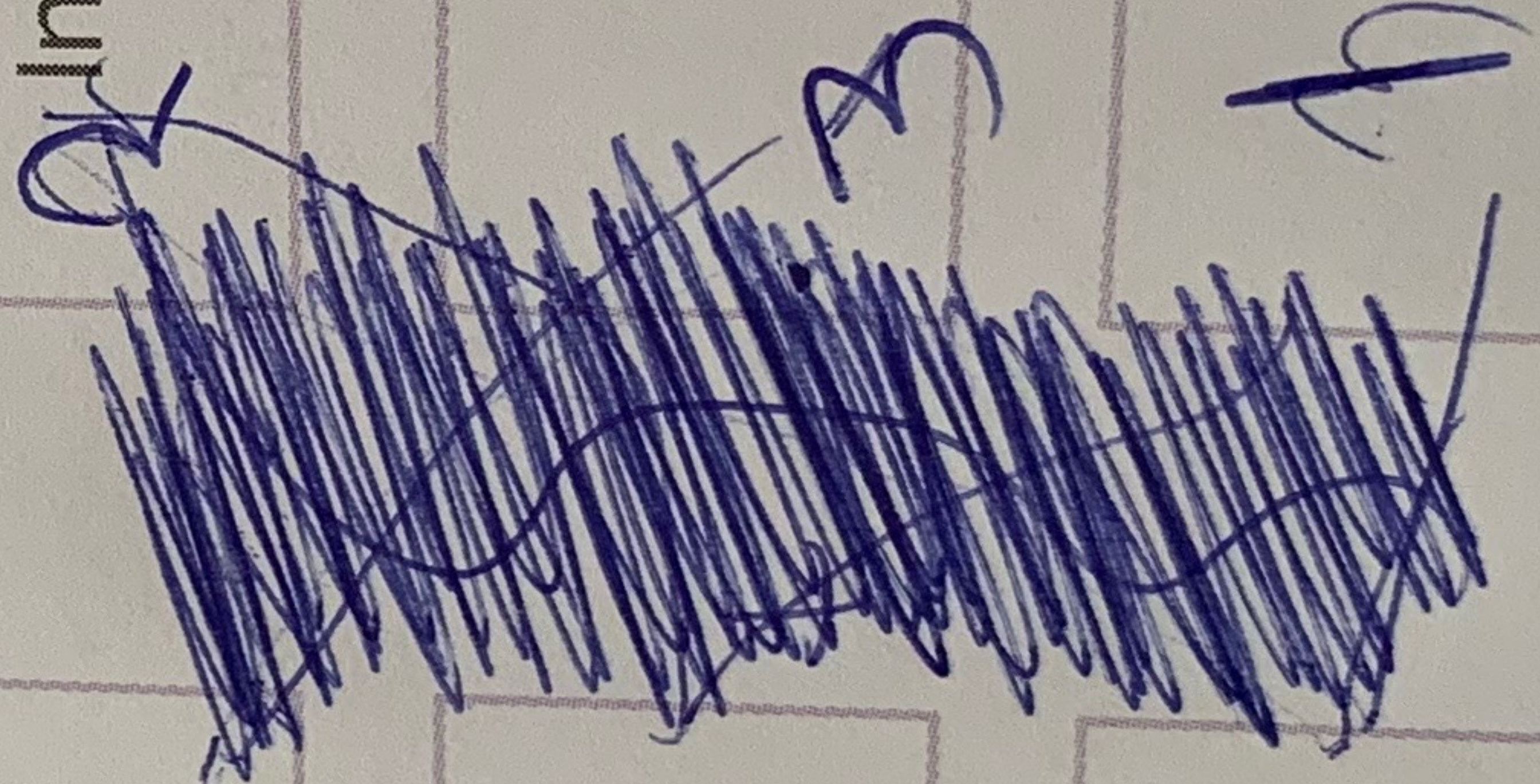
Type 2 diabetes

Gestational diabetes

Insulin dependent diabetes

Hyperglycaemia during pregnancy

Can be prevented



1

2

3

1

2

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: