How Do I Revise?

Are there different ways to revise?

How do I use my time effectively?

Raising Achievement (RA)

Revising is REVISITING,
not RELEARNING.

You have already had:

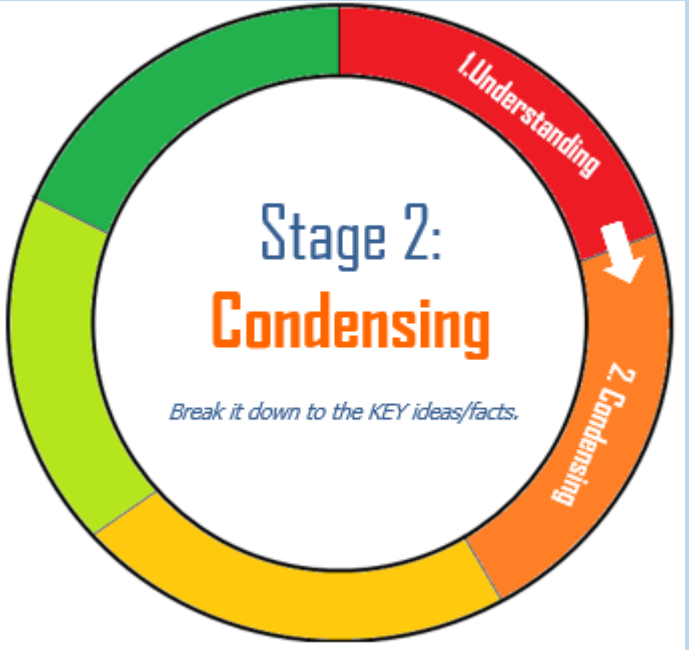
- Yr 10 Preparing for Year 11 FLD
- Yr 11 preparing to succeed evening
- Time management (revision timetables) sessions in Tutor
- Yr 11 Revision Conference
- 2 reports this year

WHAT TO THINK ABOUT

- **STUDY IN A QUIET PLACE**
- **MINIMISE DISTRACTIONS**
- **KNOW WHAT KIND OF LEARNER YOU ARE:**
    - **AUDITORY – LEARNING BY LISTENING (READING NOTES ALOUD, DISCUSS TOPICS, RECORD REVISION & LISTEN BACK, REVISION SONGS.)**
    - **VISUAL – LEARNING BY SEEING (USE COLOURS, DIAGRAMS, VIDEOS AND DRAWINGS)**
    - **TACTILE/KINESTETIC – LEARN BY DOING (ROLE PLAYING, INTERACTIVE REVISION QUIZZES AND APPS)**

- **ESTABLISH A ROUTINE EG. START WITH 1HR AFTER DINNER EVERY DAY**
- **SET CLEAR GOALS**
- **ASK FOR HELP WHEN NEEDED**
- **REWARD YOURSELF**
- **DIVIDE AND CONQUER**
- **DON’T PROCRASTINATE!**

Making Notes for Revision



- Do not sit and re-read the same thing –

  this is not revising
- Highlight key words only
- Do not write full sentences
- Your revision notes are unique to you
- If you already know the information, you don't need to revise it
- You can use them with family/friends to test your knowledge
- Leave out information that is not needed
- Use colours and pictures, if this helps you remember

444 Words

62 Words

B 10 The human nervous system

10.1 Principles of homeostasis

Learning objectives

After this topic, you should know:

- why it is important to control your internal environment
- the key elements of control systems

Human beings live everywhere from the equator to the Antarctic. People survive wearing no clothes or many clothes, running a marathon, or never

Synoptic link

You learnt about the effect of temperature and pH changes on enzyme activity in Topic B3.5.

Synoptic link

You will learn more about the role of the hormonal system in Chapter B11 and the details of some

Homeostasis in action

The conditions inside your body are kn
Your organs cannot work properly if thi
processes that go on inside your body a
as possible. As well as the body as a wh
of the internal conditions of cells to ma
functioning, in response to internal and
act is called **homeostasis**.

You know that enzymes only work at their best in specific conditions of temperature and pH. Enzymes control all the functions of a cell. The functioning of individual cells is vital for the way tissues, organs, and whole organisms work. It is important to respond to changes in the internal or external environment to maintain optimum conditions for the cellular enzymes.

Internal conditions that are controlled include:

- body temperature

ure 2 *During the month of Ramadan, ims fast from dawn to sunset. meostatic mechanisms maintain the blood ar levels and the ion and water balance of body during the hours of fasting.*

1 Describe homeostasis. [3 marks]
2 Compare receptors, coordination centres, and effectors. [6 marks]
3 a Describe three ways in which your external environment might vary. [3 marks]
b Explain how each of your answers to part a affects your body. [6 marks]

ey points

Homeostasis is the regulation of the internal conditions of a cell or organism to maintain optimum conditions for function, in response to internal and external changes.

Homeostasis is important for maintaining optimal conditions for enzyme action and all cell functions.

In the human body homeostasis includes control of blood glucose concentration, body temperature, and water levels.

- The automatic control systems may involve nervous or chemical responses.
- All control systems include receptors, coordination centres, and effectors.

Homeostasis- THIS IS YOUR HEADING!

Internal conditions

salt

constant

Your organs cannot work properly if this keeps changing.

Stimuli

Glands

control

information

Coordination

regulation

Restore conditions

Lose water

sweating

Nervous system

Effectors

Muscles

Maintain optimum conditions

organisms

Hot weather

Receptors

Brain

Hormonal system

Coordination centre

Blood/glucose concentration

Eaten a meal, blood sugar goes up

Body temperature

Hormone system

Water content

Spinal Cord

Chemical responses

changes

Levels of sunlight

Muscles get hotter

process

Nervous system

Nervous responses

Pancreas

Cue Card

Homeostasis

Organs cannot work properly if internal environment changing.
-Regulation
-Maintain optimum conditions

- Coordination
- Control
- Organisms detect changes=Temperature/Sunlight

Exercise= hot muscles
Eat food= blood sugar levels UP
Hot weather= Lose Water/Salt through sweat.

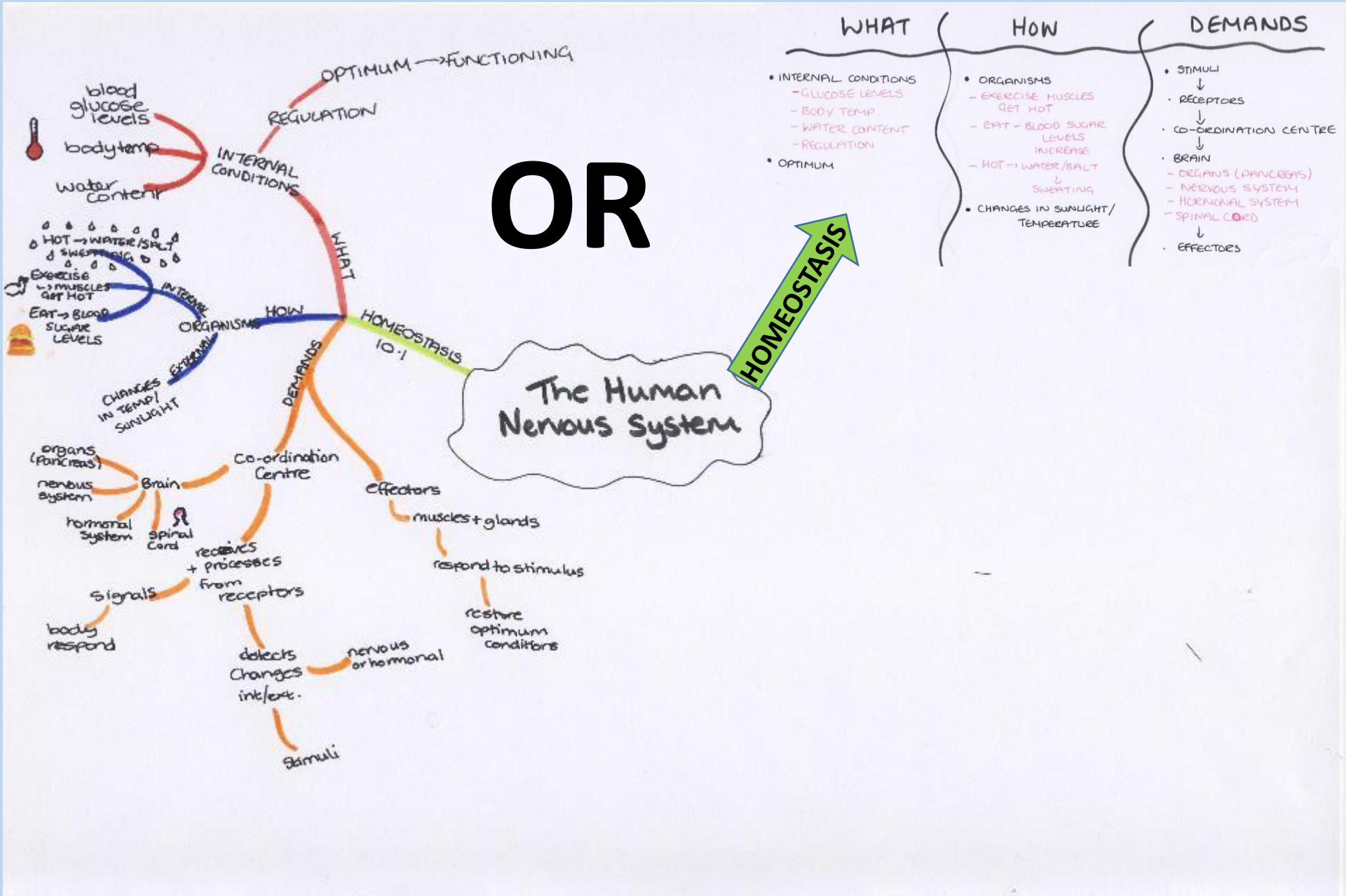
- Body Temperature
- Water Content
- Blood Glucose Concentration

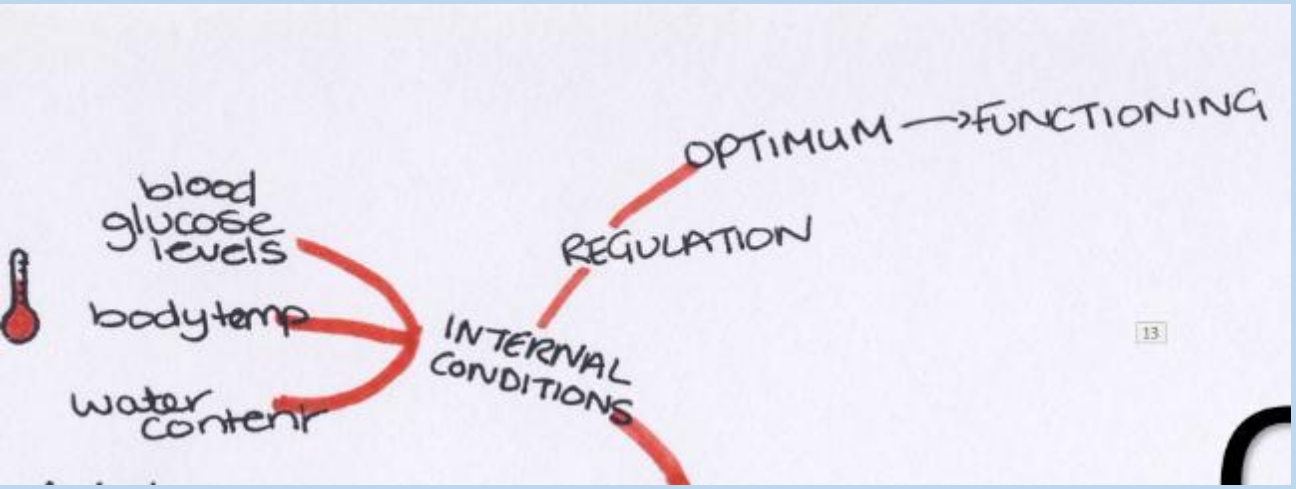
Receptors- Detect changes (**Stimuli)**

Coordination Centre- Process Info- Brain/Nervous System/Hormonal System/Spinal Cord/Pancreas

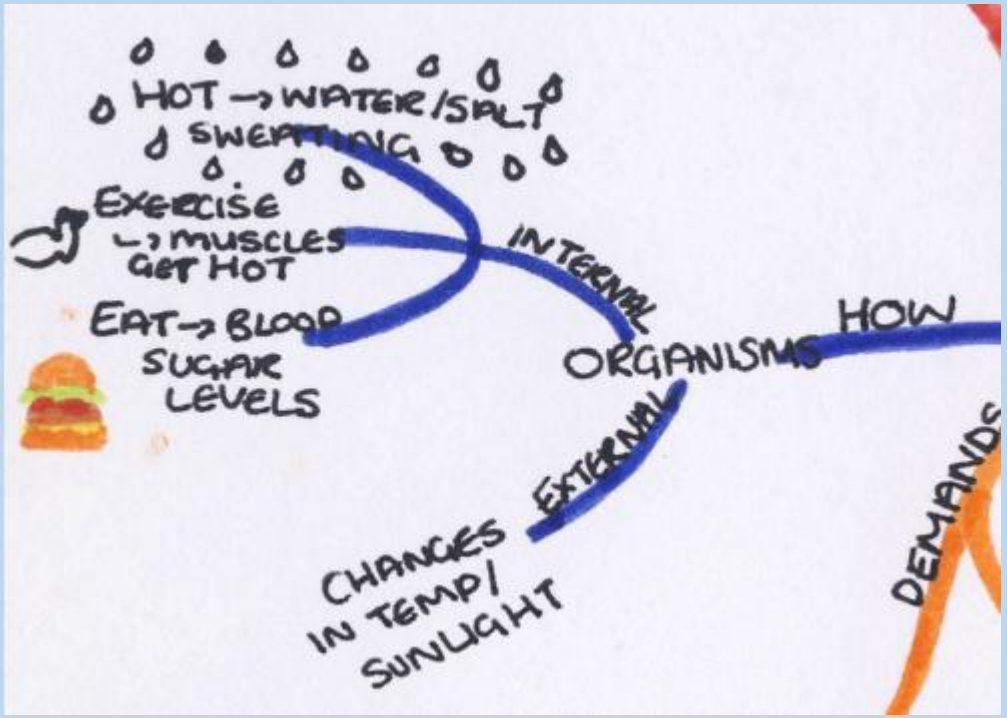
Effectors- Muscles/Glands Restore Conditions.

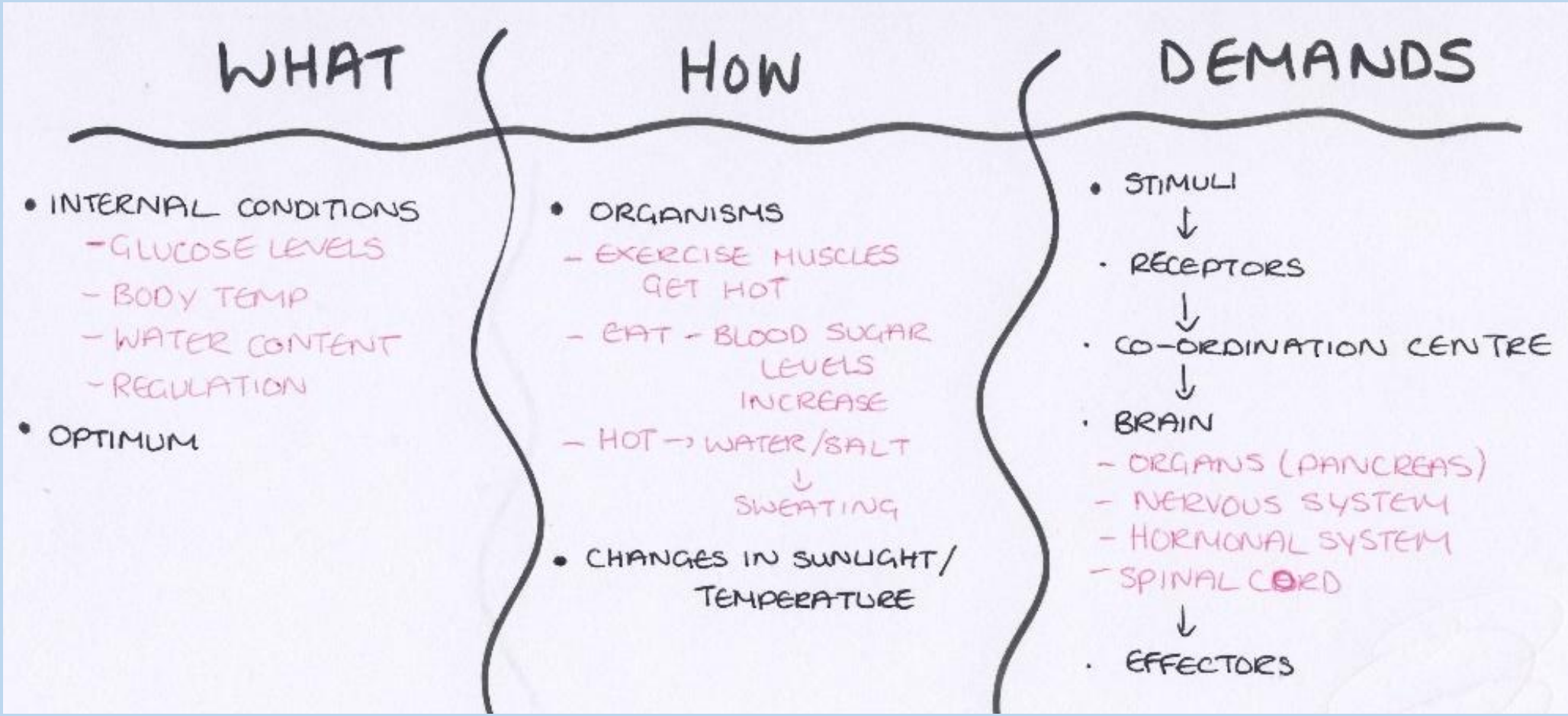
Build your Mindmap…





Close-ups of the mind-map.




WHAT
HOW
DEMANDS
• INTERNAL CONDITIONS
- GLUCOSE LEVELS
- BODY TEMP
- WATER CONTENT
- REGULATION
• OPTIMUM
• ORGANISMS
- EXERCISE MUSCLES GET HOT
- EAT - BLOOD SUGAR LEVELS INCREASE
- HOT → WATER/SALT ↓ SWEATING
• CHANGES IN SUNLIGHT/ TEMPERATURE
• STIMULI
↓
• RECEPTORS
↓
• CO-ORDINATION CENTRE
↓
• BRAIN
- ORGANS (PANCREAS)
- NERVOUS SYSTEM
- HORMONAL SYSTEM
- SPINAL CORD
↓
• EFFECTORS

Learning objectives

After this topic, you should know:

- why it is important to control your internal environment
- the key elements of control systems.

Homeostasis in action

The conditions inside your body are known as its internal environment. Your organs cannot work properly if this keeps changing. Many of the processes that go on inside your body aim to keep everything as constant as possible. As well as the body as a whole, this includes the regulation of the internal conditions of cells to maintain optimum conditions for functioning, in response to internal and external changes. This balancing act is called **homeostasis**.

B3.4

You know that enzymes only work at their best in specific conditions of temperature and pH. Enzymes control all the functions of a cell. The functioning of individual cells is vital for the way tissues, organs, and whole organisms work. It is important to respond to changes in the internal or external environment to maintain optimum conditions for the cellular enzymes.

Internal conditions that are controlled include:

- body temperature
- the water content of the body
- blood glucose concentration.

Working together

Homeostasis involves coordination and control. Organisms need to be aware of changes in the world around them, such as changes in temperature or levels of sunlight. They also need to respond to changes in the internal environment. When you exercise your muscles get hotter, when you have eaten a meal your blood sugar levels go up, and in hot weather you lose water and salt through sweating.

Detecting changes and responding to them involves automatic control systems. These automatic systems include nervous responses in your nervous system and chemical responses in your hormone system. They also involve many of your body organs.

The demands of a control system

All control systems in the body need certain key features to function:

- **Receptors**: cells that detect changes in the internal or external environment. These changes are known as **stimuli**. Receptors may be part of the nervous or the hormonal control systems of the body.
- **Coordination centres**: areas that receive and process the information from the receptors. They send out signals and coordinate the response of the body. They include the brain, which acts as a coordination centre for both the nervous system and parts of the hormonal system; the spinal cord, and some organs such as the pancreas.
- **Effectors**: muscles or glands that bring about responses to the stimulus that has been received. These responses restore conditions in the body to the optimum levels.

A Which of these are internal conditions controlled by homeostasis?

Tick the correct boxes.

V blood glucose concentration ☐

W heart rate ☐

X blood temperature ☐

Y water content of the body ☐

Z blood oxygen concentration ☐

[2]

B Devin is exercising on a hot day. He does not stop to drink any water or eat any food.

Circle the correct **bold** words in the statements below to show what happens to his internal conditions.

A His body temperature **decreases/increases.**

B His body water level **decreases/increases.**

C His blood glucose level **decrease/increase.**

[3]

Explain your answers to part **b.**

_____

_____

_____

_____

[3]

C Draw a line to match each key feature of a control system to its function.

Key Feature	**Function**
Receptors	muscles or glands that bring about a response
Coordination centres	cells that detect stimuli (changes in the environment)
Effectors	receives and processes information

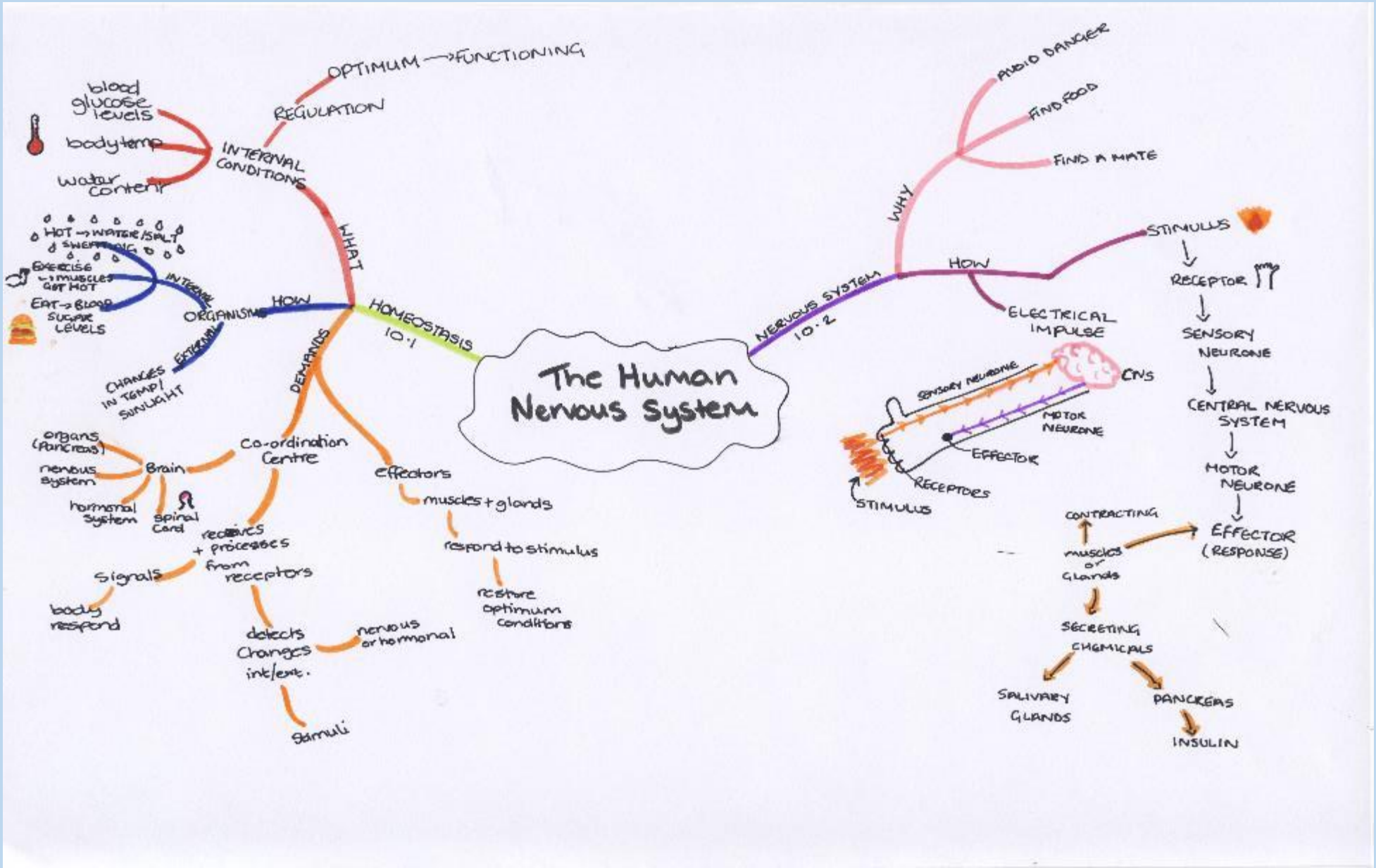
[3]

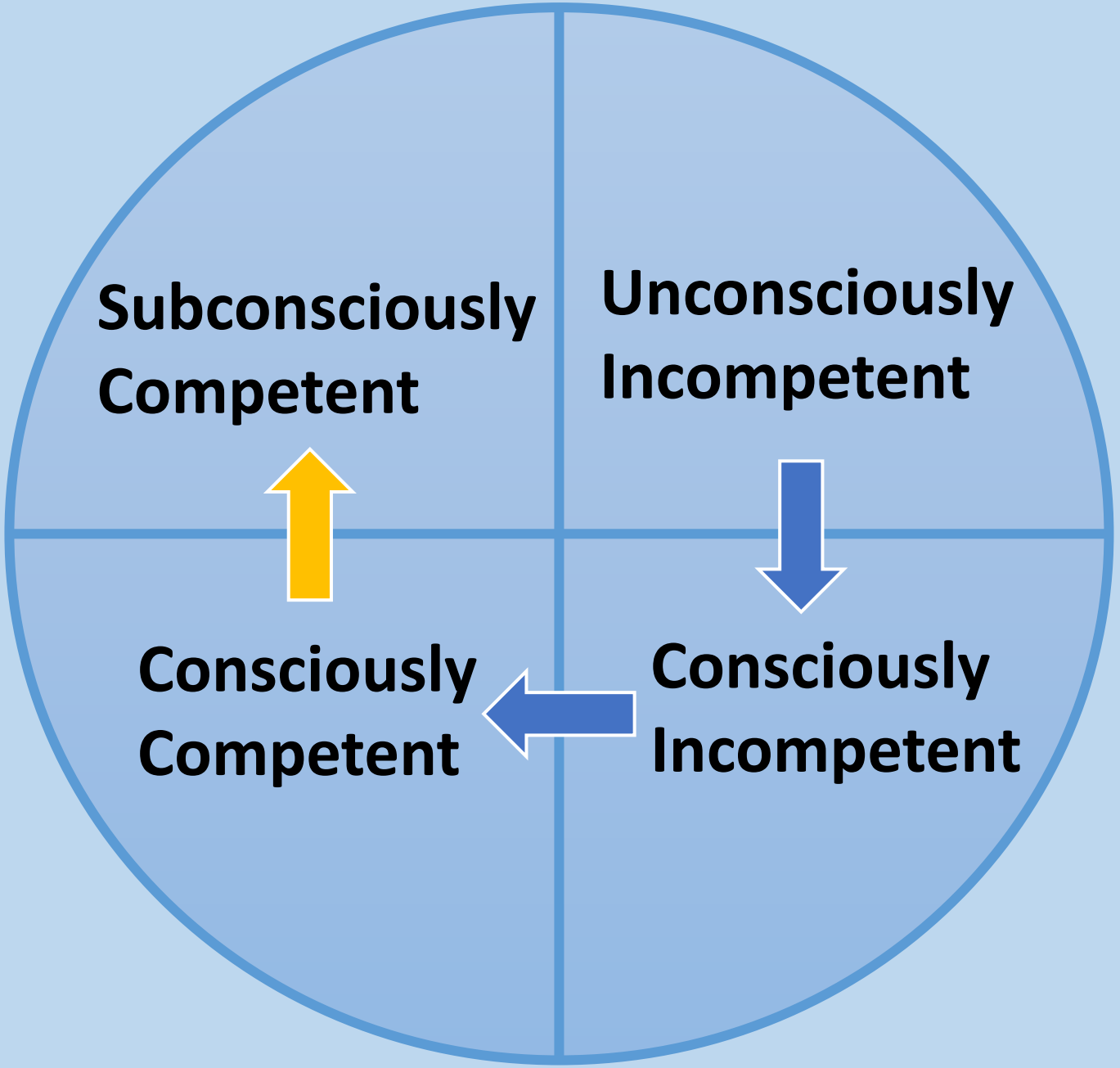
Evaluate your revision

Did you know all the answers?

Is there anything you need to go back over?

Adding to your mind-map…




Subconsciously
Competent
Unconsciously
Incompetent
Consciously
Competent
Consciously
Incompetent


the secret
to getting
ahead is
getting
started

Need more support?

Students - come visit us in Raising Achievement (RA)

New Block, Top Floor