

SUMMER INDEPENDENT LEARNING

Subject/Group	AAQ Extended Certificate in Health and Social Care (Y12-Y13)
Topic	Unit 2: Human Biology and Health
Hours	3 HOURS
To be completed by	This work must be completed and handed in to your subject teacher on the first day of term.

Background/Context

A clear understanding of human biology is essential for most health care professions, and this unit lays the groundwork for your studies in careers such as nursing, midwifery or the allied health professions. Equally, if you are looking to enter the workforce, knowledge of human biology is beneficial to those working in supportive roles in the health and social care sector.

A4: Homeostasis

Homeostasis keeps the body's internal conditions constant so cells can function normally and avoid damage.

Negative feedback is a control process that keeps a mechanism in the body, like temperature, within a set range. When a change in the condition is detected, it triggers a response that reverses the change and restores the condition to its normal level.

ACTIVITY 1: Produce THREE separate negative feedback loops on the following:

- Thermoregulation
- Osmoregulation
- Blood glucose regulation

B2: Respiratory System

The respiratory system allows oxygen in the air to enter the body, and to be taken up by cells and tissues. The respiratory system also eliminates carbon dioxide from the body.

ACTIVITY 2: Label a diagram and explain the function of the following parts of the respiratory system:

- Pharynx
- Larynx
- Trachea
- Bronchus/Bronchioles
- Alveoli
- Lungs
- Diaphragm
- Intercostal muscles

ACTIVITY 3: Complete the table below:

Structure	Inhalation (Inspiration)	Exhalation (Expiration)
Ribs		
External intercostal muscles		
Internal intercostal muscles		
Diaphragm		
Lungs		
Pressure inside the lungs		

ACTIVITY 4: Watch the following video: <https://www.youtube.com/watch?v=57byXpOUpSU>

Using the space provided below, draw a diagram showing the process of 'Gaseous exchange' and 'Diffusion'.

Work experience – Y12-13 HSC/Childcare Certificate

Week commencing 22/6/26 some students attended work experience to gain an understanding of working life in various health care, social care or childcare organisations.

If you ATTENDED work experience then you need to write a 500-word reflection essay on your experience. Include the following:

- Where did you go?
- What activities did you participate in or observe?
- How did people within the organisation work as a team?
- How did people within the organisation communicate effectively?
- Can you apply any of your experience to the units you have studied in Y12?

If you DID NOT attend work experience you need to write a 500-word essay on the importance of work experience in preparation for working in Health, Social or Childcare. You must include appropriate references within your work and a Harvard Reference list at the end.

Make sure you have put your name on all sheets of paper.

Learning Resources

BTEC Pearson's and Tutor2u have produced several learning resources which will be useful for you. They have textbooks and revision guides designed to help you complete the course and do well in the relevant exams. The resources include:

L3 AAQ BTEC National 2025 Health and Social Care Extended Cert Student Book ISBN:9781292487083

BTEC AAQ National Extended Certificate in Health & Social Care Unit 2 Human Biology & Health Knowledge Book Publisher: Tutor2u