

## Contents

	<i>Page no.</i>
A1 Life Care – Workbook answers	A1-F2

There are no further activities or notes associated with this module.

## Further guidance

## A1 Life care – Workbook answers

1		<ul style="list-style-type: none"> <li>• Lifestyle factors – use of drugs or alcohol, diet, physical activity level</li> <li>• Health indicators – body temperature, genetic disorder, overweight or underweight</li> </ul>	
2	a	i	Physical activity readiness questionnaire
		ii	<ul style="list-style-type: none"> <li>• A questionnaire to find out if an activity will pose a risk or hazard to someone because of their state of physical health and their age.</li> <li>• It might identify heart trouble, joint problems or other medical conditions (including pregnancy) that should be referred to a doctor before commencing the activity.</li> </ul>
	b		Underlined: stamina, recovery time after vigorous exercise, flexibility, physical activity level, pulse rate, blood pressure,
	c		<ul style="list-style-type: none"> <li>• 120/80 mm Hg</li> <li>• 60–100 beats per minute</li> <li>• 37 °C</li> </ul>
	d	i	BMI person A = 32.8, person B = 22.0
		ii	Person A is obese, person B is within the advisable range
		iii	Lose weight by eating more healthily (e.g. less fat and sugar), drinking less alcohol, and exercising more (e.g. taking more brisk walks and some other aerobic exercise at least 3 times a week).
	e	i	Aerobic fitness
		ii	Find your pulse (e.g. in the wrist), apply enough pressure with your fingertips to feel the pulse beating, count the number of beats per minute using a stopwatch or watch with a second hand.
		iii	<ul style="list-style-type: none"> <li>• <math>A = 30\,000</math> seconds (<math>5 \times 60 \times 100</math>)</li> <li>• <math>B = 300</math> beats per minute (<math>120 + 100 + 80</math>)</li> <li>• step test score = 100 (<math>A/B</math>)</li> </ul>
		iv	Excellent
	f	i	Correctly labelled diagram: the trachea is the tube at the top where the air comes in; a rib is one of the pale-tint ovals in the side; an intercostal muscle is one of the dark-tint parts between the ribs; the diaphragm is the dark tinted dome of muscle under the lungs.
		ii	Arrows from the ribs moving outwards, arrows from the diaphragm moving downwards
		iii	To supply oxygen to the body and remove carbon dioxide
		iv	It gets deeper and faster
	g		A – trachea, B – bronchus, C – bronchiole, D – alveoli
	h		<ul style="list-style-type: none"> <li>• For a correctly labelled diagram, see Textbook page 26.</li> <li>• The walls of alveoli have a large surface area and are very thin so gases can pass between blood and lungs easily.</li> </ul>

## Further guidance

	<b>i</b>	<ul style="list-style-type: none"> <li>• A clinical thermometer is used...to record temperature.</li> <li>• A sphygmomanometer is used...to measure blood pressure.</li> <li>• An electronic pulse monitor is used...to measure pulse rate.</li> <li>• An ECG is used...to show the electrical activity of the heart.</li> <li>• Body Mass Index is used...to assess if a person is over or under weight.</li> <li>• Skin callipers are used...to estimate body fat.</li> </ul>
	<b>j</b>	<ul style="list-style-type: none"> <li>• A small sample of muscle tissue</li> <li>• To assess an athlete's muscle fibre type</li> <li>• More slow-twitch fibres – the athlete is better suited to endurance sports</li> <li>• More fast-twitch fibres – the athlete is better suited to sprinting</li> </ul>
<b>3</b>	<b>a</b>	<ul style="list-style-type: none"> <li>• Red: shivering, respiration, exercising, breathing</li> <li>• Blue: cool surroundings, urinating, sweating</li> </ul>
	<b>b</b>	Missing words: wider, more, cool down, narrower, less, warm up
	<b>c</b>	<ul style="list-style-type: none"> <li>• respiration – releases energy</li> <li>• temperature receptor – in the skin</li> <li>• temperature control centre – in the brain</li> <li>• hypothermia – body core temperature below normal</li> <li>• wind – speeds up evaporation</li> <li>• warm clothing – provides thermal insulation</li> </ul>
	<b>d</b>	<ul style="list-style-type: none"> <li>• e.g. infection, heat stroke</li> <li>• e.g. hypothermia</li> </ul>
<b>4</b>	<b>a</b>	Blood vessels, the heart, blood
	<b>b</b>	<ul style="list-style-type: none"> <li>• arteries – have thick muscular walls, carry blood away from the heart</li> <li>• veins – carry blood back to the heart, are thin-walled wide vessels that carry slowly flowing blood</li> <li>• capillaries – have very thin leaky walls, allow important substances in the blood to pass into the fluid around cells</li> </ul>
	<b>c</b>	<b>i</b> Labels: right atrium (top left), right ventricle (bottom left), left atrium (top right), left ventricle (bottom right)
		<b>ii</b> Ensure that blood flows in only one direction
	<b>d</b>	<b>i</b> For a correctly labelled diagram see Textbook page 29.
		<b>ii</b> <ul style="list-style-type: none"> <li>• red blood cells – cells that contain haemoglobin, and have no nucleus to make more space for haemoglobin; they are biconcave discs, to increase the surface area</li> <li>• plasma – a pale yellowy liquid; contains nutrients, hormones and proteins</li> <li>• white blood cells – cells with various shapes that have a nucleus; you have more of these cells when you have an infection</li> <li>• platelets – small fragments of cells involved in clotting; important in stopping blood flow after injury</li> </ul>

## Further guidance

	<b>e</b>	<ul style="list-style-type: none"> <li>Regulate the amount of water in the body</li> <li>Remove wastes from blood</li> <li>Help keep the chemistry of body fluids in balance</li> </ul>
	<b>f</b>	<ul style="list-style-type: none"> <li>anaemia</li> <li>infection</li> <li>diabetes</li> <li>pregnancy</li> <li>kidney damage</li> </ul>
	<b>g</b>	<p>Advantages: easy to use, result known quickly, sensitive</p> <p>Disadvantages: expensive, semi-quantitative (results not quantitative)</p>
<b>5</b>	<b>a</b>	<ul style="list-style-type: none"> <li>Protects internal organs</li> <li>Stores minerals such as calcium and phosphorus</li> <li>Makes red blood cells, plasma, and some white blood cells</li> </ul>
	<b>b</b>	Labels from the top: skull, clavicle/collar bone, scapula/shoulder blade, sternum/breast bone, humerus, vertebral column, ulna, radius, pelvis, femur, tibia, fibula
	<b>c</b>	Missing words: tendon, ligament, cartilage, membrane, fluid
	<b>d</b>	Simple sketches based on the diagrams on Textbook page 33
	<b>e i</b>	Rest, Ice, Compression, Elevation
	<b>ii</b>	Simple stretching routines, gradual increase in aerobic exercising
	<b>iii</b>	When at least 75% of the previous level of fitness before the injury has been regained
<b>6</b>	<b>a</b>	<ul style="list-style-type: none"> <li>Healthcare facility – antenatal clinic, sports injury clinic, dentist’s surgery, blood screening, opticians, ambulance service, hospital</li> <li>Fitness facility – sports centre, football club, racecourse, swimming pool</li> </ul>
	<b>b</b>	Any two examples and descriptions of their work, e.g. a midwife (cares for mother and baby during pregnancy), fitness instructor (advises and supervises individuals in a personal fitness programme).
	<b>c i</b>	<ul style="list-style-type: none"> <li>Primary care – pharmacist, dentist, local health centre nurse, paramedic, GP, midwife, health visitor, optician</li> <li>Local or specialist hospital – pharmacist, dentist, radiologist, surgeon, pathologist, midwife, paediatrician</li> </ul>
	<b>ii</b>	<p>Any five of:</p> <ul style="list-style-type: none"> <li>provides health care for everybody</li> <li>provides specialist care that is not always available locally</li> <li>monitors national trends</li> <li>plans suitable health care</li> <li>decides where and when resources should be used</li> <li>balances providing direct health care with organising and managing the service</li> </ul>

## Further guidance

	<b>d</b>	Missing words: managers, efficiently, treatment, prevention, public health, health education/public information, public information/health education, expensive, money, less
	<b>e</b>	Describe in sufficient detail any one example, e.g. stop smoking campaign, 5-a-day campaign for healthy eating
	<b>f</b>	One example, with a correct description of the role and why it is essential, e.g. pathologist – a scientist in a laboratory who examines samples for signs abnormalities and signs of disease, providing information which the doctor needs for diagnosis
<b>7</b>	<b>a</b>	Triage 2, 1, 3
	<b>b</b>	Vital signs – temperature, blood pressure, breathing rate, pulse rate and heartbeat
	<b>c</b>	<b>i</b> Electrical activity of the heart as it beats
		<b>ii</b> heart disorders
	<b>d</b>	<ul style="list-style-type: none"> <li>• current symptoms – help with diagnosis of medical condition</li> <li>• gender and age – medical condition may be related to menstrual cycle or pregnancy</li> <li>• current medication being taken – further medication may not be suitable</li> <li>• family medical history – may indicate a potential health problem</li> <li>• general level of activity – medical condition may be related to lifestyle</li> </ul>
	<b>e</b>	<ul style="list-style-type: none"> <li>• kidney, heart or circulatory disease, anxiety or a panic attack</li> <li>• low blood pressure, shock or heart disorder</li> </ul>
	<b>f</b>	Correct order: 2, 3, 1, 8, 6, 9, 7, 4, 5
	<b>g</b>	Three examples, e.g. urine, faeces, saliva, pus
	<b>h</b>	Missing words: test/treatment, treatment/test, understand, informed consent, side-effects, benefits, budgets, expensive, available
<b>8</b>	<b>a</b>	<ul style="list-style-type: none"> <li>• kidney failure – S</li> <li>• diabetes mellitus – D, DT</li> <li>• obesity – D, P</li> <li>• increase in cases of sexually transmitted diseases – P</li> <li>• high blood pressure – D, DT</li> <li>• increase in smoking related deaths – P</li> <li>• blocked coronary artery – S</li> </ul>
	<b>b</b>	<b>i</b> One example, e.g. during surgery, monitoring vital signs for trends or changes
		<b>ii</b> One example, e.g. testing blood, urine, etc. to compare results before and after treatment
	<b>c</b>	You can alleviate symptoms, e.g. take medicines to lower temperature, ease a sore throat, decongestants. Antibiotics will kill bacteria causing secondary infection, but there is no anti-viral drug to kill the cold-causing virus in the first place.

## Further guidance

	<b>d</b>	For example, you can take medication to help reduce blood pressure, but this needs to be backed up with lifestyle changes as well (diet, stress, etc.).										
	<b>e</b>	1 e.g. if a medication is having serious side-effects, a different medication may be prescribed 2 e.g. if there is a complication and further medication needs to be given that is not compatible with current medication.										
	<b>f</b>	<b>i</b> Vital signs (temperature, blood pressure, breathing rate, pulse rate and heartbeat); perhaps also lab results, or stools and urine										
		<b>ii</b> Nurses and doctors										
	<b>g</b>	<b>i</b> So that the correct drugs are given to the correct patients at the correct doses										
		<b>ii</b> Nurses and doctors										
	<b>h</b>	Four ward staff, e.g. nurses, doctors, health care assistants; therapists, medical students, porters, chaplains										
	<b>i</b>	Missing words: surgery, non-invasive, inside, structure, functioning										
	<b>j</b>	<ul style="list-style-type: none"> <li>• X-ray – e.g. to identify broken bones</li> <li>• CT scan – e.g. to show bleeding in the brain</li> <li>• MRI scan – e.g. to give detailed images of internal organs and tissues</li> <li>• PET scan – to identify cancerous tumours</li> </ul>										
	<b>k</b>	1 – CT scan, 2 – ultrasound scan, 3 – X-ray										
	<b>l</b>	<b>i</b> For example, a paramedic needs empathy to understand how the patient is feeling in an emergency situation (pain, panic, etc.), patience when dealing with the extreme emotions of patients and their relatives/friends, and tact when giving information about the patient's condition which could be life-threatening or otherwise serious.										
		<b>ii</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Health practitioners ...</th> <th style="text-align: left;">This is important because ...</th> </tr> </thead> <tbody> <tr> <td>develop a detached yet personal relationship with their patients</td> <td>✓ a personal relationship improves trust and communication with the patient</td> </tr> <tr> <td>make judgements when patient statements and medical evidence conflict</td> <td>✓ patients can fail to tell the whole truth because they are embarrassed, or do not realize that something is important</td> </tr> <tr> <td>recognize the importance of teamwork</td> <td>✓ patients depend on a team of health practitioners working to a common purpose ... each patient's health</td> </tr> <tr> <td>consider the whole person, including family, workplace and community</td> <td>✓ environmental factors and how a person feels can affect their health</td> </tr> </tbody> </table>	Health practitioners ...	This is important because ...	develop a detached yet personal relationship with their patients	✓ a personal relationship improves trust and communication with the patient	make judgements when patient statements and medical evidence conflict	✓ patients can fail to tell the whole truth because they are embarrassed, or do not realize that something is important	recognize the importance of teamwork	✓ patients depend on a team of health practitioners working to a common purpose ... each patient's health	consider the whole person, including family, workplace and community	✓ environmental factors and how a person feels can affect their health
Health practitioners ...	This is important because ...											
develop a detached yet personal relationship with their patients	✓ a personal relationship improves trust and communication with the patient											
make judgements when patient statements and medical evidence conflict	✓ patients can fail to tell the whole truth because they are embarrassed, or do not realize that something is important											
recognize the importance of teamwork	✓ patients depend on a team of health practitioners working to a common purpose ... each patient's health											
consider the whole person, including family, workplace and community	✓ environmental factors and how a person feels can affect their health											
<b>9</b>	<b>a</b>	<b>i</b> and <b>ii</b> Correctly labelled diagram (see textbook page 37): 1 ovary, 2 uterus, 3 cervix, 4 Fallopian tubes, 5 vagina										
	<b>b</b>	HCG										

## Further guidance

	<b>c</b>	<ul style="list-style-type: none"> <li>• First trimester – the mother’s breasts become tender and enlarge; the area around the nipples darkens; morning sickness is common, she begins to gain weight.</li> <li>• Second trimester – the mother’s heart rate increases and her uterus enlarges; from about 20 weeks on she can usually feel the baby move.</li> <li>• Third trimester – the mother’s skin stretches over the abdomen; she feels slight contractions of the uterus, which become more intense as birth approaches; the enlarged uterus may press on the bladder, increasing the need to urinate; she may feel tired and breathless; back pain and heartburn are common.</li> </ul>
	<b>d</b>	<b>i</b> Blood group, infections such as HIV, immunity to rubella
		<b>ii</b> Protein – possible infection Sugar – diabetes
	<b>e</b>	Missing words: fetus, sound, image, gel, scanner, organs
	<b>f</b>	The birth plan describes where and how the mother wants to have the baby (at home, in hospital, water birth, etc.), the type of pain relief she would prefer, and any other special requests.
<b>10</b>	<b>a</b>	<ul style="list-style-type: none"> <li>• First stage – contractions of the uterus force the baby’s head into the cervix, which dilates to 10 cm and its mucus plug is discharged; the amnion may break so fluid escapes from the vagina (‘breaking of the waters’).</li> <li>• Second stage – birth contractions become stronger and closer together, the mother feels a strong urge to push with each contraction until the baby is born.</li> <li>• Third stage – further contractions of the uterus push the placenta and umbilical cord (the ‘afterbirth’) out of the mother’s body.</li> </ul>
	<b>b</b>	<b>i</b> Labour is induced (started artificially) using artificial hormones.
		<b>ii</b> Gas and air, epidural, pethidine
	<b>c</b>	The baby is developing properly, and the mother is well
	<b>d</b>	Good communication skills, empathy with the mother’s feelings, a calm and reassuring manner, sensitivity to the parent’s wishes, etc.
	<b>e</b>	<b>i</b> NHS primary health care team
		<b>ii</b> For example, breastfeeding problems, excessive crying, breathing difficulties, bleeding, odd behaviour suggesting congenital or developmental problems
		<b>iii</b> For example, a parent may have difficulty explaining their worries, understanding questions and giving clear answers, so the health visitor needs a range of communication skills to establish that the baby is feeding well, being kept at the right temperature, producing normal nappies, etc.
	<b>f</b>	Missing words: height/weight, weight/height, growth chart, norm, paediatrician, doctor