3 Chapter review

Remembering

1 **Name** the system that distributes heat evenly through your body.

2 **State** whether the following statements are true or false.
- a The diaphragm contracts as you inhale.
- b You exhale because the air pressure in the chest cavity has decreased.
- c Mechanical digestion changes food chemically.
- d Arteries carry blood towards the heart.
- e Veins have valves in them to help the flow of blood.
- f In humans there are two separate parts to the circulatory system.

3 **List** these organs in the order food will pass through them in the digestive tract:

small intestine, mouth, stomach, large intestine, duodenum, oesophagus

4 **Name** three things produced in the bone marrow.

5 **Name** three organs in the excretory system.

Understanding

6 **Explain** why the lungs are included in both the respiratory system and the excretory system.

7 **Explain** why urine is a darker colour on a hot day.

8 **Describe** three situations in the body where a large surface area helps the functioning of a system.

9 Major arteries are a long way from the body surface. **Explain** why.

10 **Explain** the advantage of bone being a living tissue.

11 **Describe** the function of:
- a tendons
- b ligaments
- c joints.

Applying

12 You take in about 500 mL of air in one breath, and breathe 12 times a minute. **Calculate** how much air you take into your body every hour.

13 **Identify** the organs labelled A–J in Figure 3.6.1.

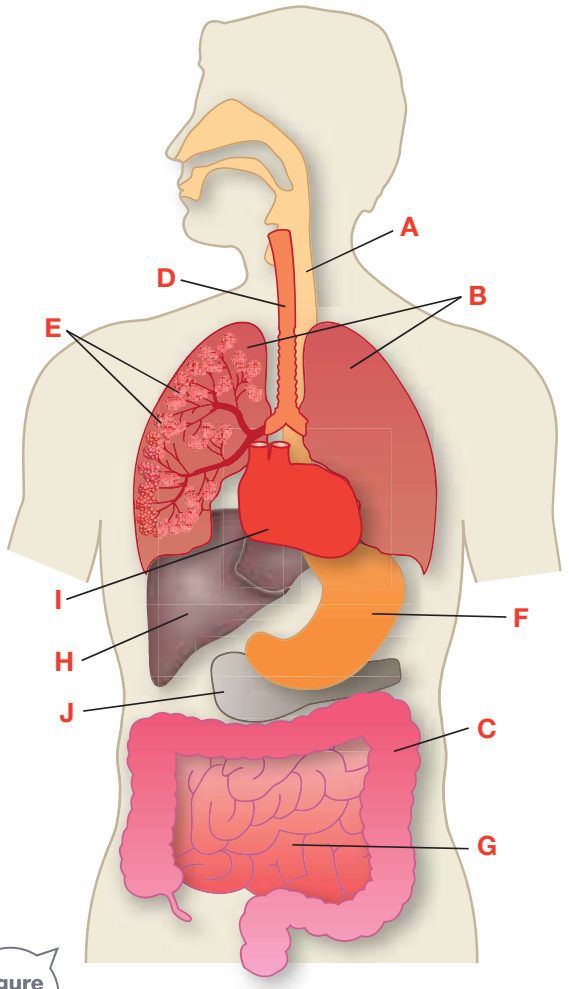

Figure 3.6.1

14 **Identify** each of the following body parts.
- a A slippery elastic tissue found on the ends of bones
- b The structure that carries urine out of the body
- c The joint that allows movement in two directions
- d A tissue that can contract and be stretched but cannot expand

Analysing

15 a **Use** the information in the table below to **calculate** the amount of oxygen that enters your blood for 1 hour while you are sleeping.

b **Calculate** the amount of carbon dioxide you would breathe out in that time.

c i **Compare** the amount of oxygen and carbon dioxide breathed out during sleep and during exercise.

ii **Account** for any differences.

d i **Compare** the amount of nitrogen breathed in and out.

ii **Account** for any differences.

Gas	Composition of air (%)		
	Breathed in	Breathed out during sleep	Breathed out during exercise
Nitrogen	78	78	78
Oxygen	21	16	11
Carbon dioxide	0.03	4	9.5
Water vapour	a little	saturated	saturated

16 **Compare** the part of the lungs where gas exchange takes place with the lining of the small intestine.

Evaluating

17 a **Interpret** Figure 3.6.2 to identify the organs or parts of systems that are represented in the Aboriginal drawing below.

b **Propose** why Aboriginal Australians would have represented these organs or systems in their art.

18 There have been situations where people have drunk their own urine to survive in the desert when they had run out of water. **Assess** how this would change the composition of the urine they would produce the following day.

19 Some athletes strap their wrists, ankles, knees and shoulders when playing sport. **Propose** reasons why.

20 Birds have hollow bones with very little compact bone. **Propose** an advantage of this characteristic.

21 Dialysis is a process that uses a machine to filter wastes out of blood. The process is used if a person's kidneys stop working efficiently. Dialysis must take place at least three times a week and requires the person to be hooked up to the dialysis machine for 4–6 hours each time.

a **Use** this information to **calculate** the minimum time a person needs to be connected to the dialysis machine each week.

b **Propose** a list of disadvantages of kidney dialysis.

Creating

22 Some people say that we should drink 2 litres of water every day and that tea or soft drink should not be included in the 2 litres. Others say that any drink is equally good at hydrating the body. **Design** an investigation that would help settle the argument.

23 **Use** the following ten key terms to **construct** a visual summary of the information presented in this chapter.

digestion
respiration
excretion
circulatory system
heart
enzymes
diffusion
glucose
oxygen
breathing