Higher Combined version — Higher Tier (★) included; Separate-only (◆) removed.

**Q1. Describe THREE differences between animal and plant cells.**

**[3 marks]**

**Q2. Explain cell specialisation with an example. Include the term differentiation.**

**[3 marks]**

**★ HIGHER TIER**

**Q3. ★ Explain how the SA:V ratio affects gas exchange in organisms of different sizes.**

**[3 marks]**

**Total: 9 marks**

# ll Structure (1.1–1.3)



**Q1 (3 marks)**

*Describe THREE differences between animal and plant cells.*

- Plant has cell wall; animal does not [1]
- Plant has chloroplasts; animal does not [1]
- Plant has permanent vacuole; animal does not [1]

**Q2 (3 marks)**

*Explain cell specialisation with an example. Include the term differentiation.*

- Differentiation: specific genes switched on/off → cell develops unique structure [1]
- Example: red blood cell [1]
- No nucleus → more space for haemoglobin; biconcave → large SA for O■ diffusion [1]

**Q3 (3 marks) [★ HT]**

★ *Explain how the SA:V ratio affects gas exchange in organisms of different sizes.*

- Smaller organisms: higher SA:V ratio — diffusion sufficient [1]
- Larger organisms: lower SA:V ratio — diffusion alone too slow [1]
- Large organisms need specialised surfaces (lungs, gills, villi) with large area and thin membranes [1]