

GCSE Biology B (Twenty First Century Science)
J257/01 Breadth in Biology (Foundation)

Question Set 5

Multiple Choice Questions

1. (a) Jane's dog has arthritis in its hip joint. This makes the joint stiff and painful.

Jane reads an article in a magazine. Here is the article's headline:

Stem cell therapy to help dogs with arthritis

(i) Explain what a stem cell is and why they are used in medicine.

[2]

(ii) The article explains that stem cells were removed from a dog's fat tissues and were then grown in a laboratory.

Explain why a vet would have used aseptic techniques when growing the stem cells.

[1]

(iii) Which of the following are also sources of stem cells?

Tick (✓) **two** boxes.

- Bone marrow
- Embryos
- Hair
- Nerve cells
- Red blood cells

[2]

(iv) The use of stem cells in veterinary medicine is increasing but there are no peer reviewed case studies.

Describe the peer review process and explain why peer review is important.

[2]

(b) Dogs have 78 chromosomes.

Complete the table to show the number of chromosomes in different cells of a dog.

Cell	Number of chromosomes
Nerve	78
Skin	
Sperm	

[2]

Total Marks for Question Set 5: 9

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