National 5 Biology revision questions: Multicellular Organisms.

1. Using the terms chromatids, equator and spindle fibres, describe the process of mitosis.

2. Why do cells need to undergo mitosis?

3. What are stem cells?

4. What does specialisation of cells lead to?

5. Describe how body systems are formed.

6. What is the nervous system composed of?

7. What is the CNS?
8. Give the functions of the following parts of the brain – cerebrum, cerebellum and medulla.

9. What are the three types of neuron and what do they do?

10. How are messages transferred between neurons? Where does this transfer of information take place?

11. What is the structure and function of a reflex arc?

12. What do endocrine glands release?

13. What are hormones?

14. How are target tissues affected by hormones?

15. What does insulin do?

16. What does glucagon do?

17. What does glycogen do?

18. What happens in the pancreas and the liver?

19. What is meant by the terms haploid and diploid?

20. Which type of cells are haploid?

21. Draw and label a sperm cell and an egg cell.

22. Name the organs in plants and animals where gametes are produced.

23. What is fertilisation?

24. When the zygote divides, what is formed?

25. What is the difference between discrete and continuous variation?

26. Give the definitions of the words: gene, allele, phenotype, genotype, dominant and recessive.

27. Why are predicted phenotype ratios not always seen in real life.

28. Name three plant organs.

29. Describe the structure of a leaf.

30. Describe the pathway of water movement from roots.

31. What is transpiration and what conditions affect this?

32. How is sugar transported around the plant?

33. What are the differences in structure between the xylem and phloem?

34. What are three components of blood?

35. What three things does blood contain?

36. Describe the main features of red blood cells and what they do.

37. What do white blood cells do?

38. Name two types of white blood cells and describe what each of them does.

39. Describe the pathway of blood through the heart starting with the vena cava,

40. Draw a diagram of the heart showing the four chambers and valves.

41. Give four features of arteries.

42. Give four features of veins.

43. Give two structural features of capillaries and state why these are important.

44. What useful materials pass from the blood to cells?

45. What waste material is removed from the cells by the blood?

46. Give three features that any surface involved in the absorption of materials have?

47. What structures in the lungs provide a large surface area?

48. What structures absorb nutrients in the small intestine?

49. Describe the structure of a villus stating the function of each part.