**Cell structure**

1. Label a plant cell.

2. Label an animal cell.

3. Label a bacteria cell.

4. Give two different specialist cells.

5. What is differentiation?

6. How do you calculate magnification?

7. Where are chromosomes?

8. What do chromosomes do?

9. What is mitosis?

10. What is a stem cell?

11. What is diffusion?

12. What is osmosis?

13. What is active transport?

**Organisation**

1. What is an organ system?

2. Name the parts of the digestive system?

3. What happens to enzymes at low temperatures?

4. What happens to enzymes at high temperatures?

5. What happens enzymes are there outside their optimal pH?

6. What is the lock and key mechanism?

7. Where is amylase produced?

8. What does amylase do?

9. Where is lipase produced?

10. What does lipase do?

11. Where is protease produced?

12. What does protease do?

13. Where is bile produced?

14. What does bile do?

15. Label the respiratory system

16. What does the heart do?

17. What do the lungs do?

18. Label the heart

20. What does the aorta do?

21. What does the vena cava do?

22. What does the pulmonary artery do?

23. What does pulmonary vein do?

24. What is natural resting heart rate?

25. Why might you need artificial pacemaker?

26. What do red blood cells do?

27. What do white blood cells do?

28. What do platelets do?

29. What does plasma do?

30. What is cardiovascular disease?

31. What lifestyle factors can affect health?

32. What is cancer?

33. What is a benign tumour?

34. What is a malignant tumour?

35. What is epidermal tissue?

36. What is palisade mesophyll?

37. What is spongy mesophyll?

38. What is the xylem?

39. What is the phloem?

40. What is transpiration?

41. How can we measure transpiration?

**Infection and response**

1. Define pathogen.

2. What is a virus?

3. What is bacteria?

4. What is a protist?

5. What is fungi?

6. How can diseases be spread in plants?

7. How can diseases be spread in animals?

8. How do bacteria reproduce inside the body?

9. How do viruses reproduce inside body?

10. How can bacteria make a person feel ill?

11. How can a virus make a person feel ill?

12. What is measles?

13. What is HIV?

14. What is TMV?

15. What is salmonella?

16. What is gonorrhoea?

17. What is Rose Black Spot?

18. What is malaria?

19. How does the skin help protect the body?

20. How does the nose help protect the body?

21. How does the trachea help protect the body?

22. How does the bronchi help protect the body?

23. How does the stomach help protect the body?

24. What is the role of the immune system?

25. What do white blood cells do?

26. How do vaccinations work?

27. What are antibiotics?

28. What is antibiotic resistance?

29. What are painkillers for?

30. Where it is digitalis come from?

31. Where does aspirin come from?

32. Where does penicillin come from?

33. What are the three things that new drugs need to be tested for?

**Bioenergetics**

1. What is the word equation for photosynthesis?

2. What is the chemical symbol for carbon dioxide?

3. What is the chemical symbol for water?

4. What is the chemical symbol for oxygen gas?

5. What is the chemical symbol for glucose?

6. What is the symbol equation for photosynthesis?

7. How is energy transferred in photosynthesis?

8. What factors might affect photosynthesis?

9. How does temperature affect photosynthesis?

10. How does light intensity affect photosynthesis?

11. How does carbon dioxide concentration affect photosynthesis?

12. Sketch the graph to show how light intensity affect photosynthesis (Higher tier only)

13. Sketch the graph to show how temperature affects photosynthesis (Higher tier only)

14. Sketch the graph to show how carbon dioxide concentration affects photosynthesis (Higher tier only)

15. Is respiration exothermic or endothermic?

16. What is the word equation for respiration?

17. What is the symbol equation for respiration?

18. What is anaerobic respiration?

19. What is equation for anaerobic respiration?

20. What is anaerobic respiration in yeast cells?

21. How are the products of anaerobic respiration useful in the food industry?

22. What is oxygen debt?

23. Define metabolism.

24. What do sugars do?

25. What do amino acids do?

26. What do fatty acids do?

27. What does glycerol do?

28. What do carbohydrates do?

29. What do proteins do?

30. What do lipids do?

31. What can glucose be converted to?

32. What are lipids formed from?

33. What are proteins formed from?

34. What are amino acid formed from?

35. What do proteins are broken down into?

**Homeostasis and Response**

1. Define homoeostasis.

2. What does the brain do in homeostasis?

3. What does central nervous system do in homeostasis?

4. What is the endocrine system?

5. Where is the pituitary gland?

6. Where is the pancreas?

7. Where is the thyroid?

8. Where is the adrenal gland?

9. Where are the ovaries?

10. Where are the testis?

11. How is blood glucose monitored?

12. What happens when blood glucose is too high?

13. What is the menstrual cycle?

14. What is ovulation?

15. What is testosterone?

16. What is contraception?

Higher tier only

17. What happens when blood glucose is too low?

18. What is a negative feedback loop?

19. What is FSH?

20. What is LH?

21. What is oestrogen?

22. Where is FSH produced?

23. Where does FSH act?

24. Where is LH produced?

25. Where does LH act?

26. Where is oestrogen produced?

27. Where does oestrogen act?

28. What is IVF?

29. Give two positives about IVF?

30. Give two negatives about IVF?

31. What is thyroxine?

32. Where is thyroxine produced?

33. Where does thyroxine act?

34. What is adrenaline?

35. Where is adrenaline produced?

36. Where does adrenaline act?

Biology Only

37. Label these different parts of the brain.

39. What is short-sightedness?

40. What is long-sightedness?

41. How can short-sightedness be corrected?

42. How can long-sightedness be corrected?

43. What is osmosis?

44. How does water leave the body?

45. How does water get into the body?

46. What happens to cells if they lose too much water?

47. What happens to cells if there is too much water?

48. What do the kidneys do?

49. What is the treatment for kidney failure?

50. What is phototropism?

51. What is geotropism?

52. What is the role of gibberellins?

53. What does ADH stand for?

54. What does ADHD do?

**Inheritance, variation and evolution**

1. How many cells are produced at the end of mitosis?

2. How many cells are produced at the end of meiosis?

3. What are the male gametes in plants?

4. What the female gametes in plants?

5. What are the male gametes in animals?

6. What are the female gametes in animals?

7. What is the basic structure of DNA?

8. Define gene.

9. Define genome.

10. Define gamete.

11. Define chromosome.

12. Define allele.

13. Define dominant.

14. Define recessive.

15. Define homozygous.

16. Define heterozygous.

17. Defined genotype.

18. Define phenotype.

19. What is polydactyly?

20. Is polydactyly dominant or recessive?

21. What is cystic fibrosis?

22. Is cystic fibrosis dominant or recessive?

23. How many pairs of chromosomes in human body cell?

24. What sex is XX?

25. What sex is XY?

26. Define evolution.

27. Define natural selection.

28. Despite the speciation.

29. What evidence is there for evolution?

30. How do fossils arise?

31. Define extinction.

32. What things lead to extinction?

33. Why can bacteria evolve quickly?

34. What is MRSA?

35. Why is the development of antibiotics so slow?

36. What are the advantages of sexual reproduction?

37. With the disadvantages of sexual production?

38. What are the advantages of asexual reproduction?

39. What are the disadvantages of asexual reproduction?

40. What is the basic structure of DNA?

41. What are the bases in DNA?

42. How does DNA code for amino acids?

43. How do amino acids produce proteins?

44. How do variations in DNA affect the protein being made?

45. What affect might a mutation have on an enzyme?

46. What was Darwin’s theory?

47. What was the controversy behind Darwin’s theory?

48. What was the Lamarck’s theory?

**Ecology**

1. Define ecosystem.

2. Define community.

3. Define interdependence.

4. Define competition.

5. What does an organism need to survive and reproduce?

6. What do different organisms compete for?

7. Define abiotic factor.

8. List eight abiotic factors.

9. How can a change in abiotic factors affect the community?

10. Define biotic factors.

11. How can a change in biotic factors affect the community?

12. List three biotic factors.

13. Define adaptation.

14. Why do animals need to adapt?

15. Define extremophile.

16. Give an example of a plant adaptation.

17. Give an example of an animal adaptation.

18. Where does energy in a food chain come from?

19. Define the term producer.

20. Define the term primary consumer.

21. Define the term secondary consumer.

22. Define the term tertiary consumer.

23. Define the term prey.

24. Define the term biodiversity.

25. Why do we need biodiversity?

26. What is pollution?

27. What impact can pollution have on plants?

28. What impact can pollution have on animals?

29. What impact can humans have on land usage?

30. What is the impact of deforestation?

31. What are the reasons for deforestation?

32. What the consequences of global warming?

33. What gases contribute to global warming?

34. Define the term decay.

35. Define the term decomposition.

36. How can temperature affect the rate of decomposition?

37. How can oxygen affect the rate of decomposition?

38. How can water affect the rate of decomposition?

39. How can decay lead to the production of biogas?

40. Define the term biodiversity.

41. What is the differences between trophic levels?

42. What is the role of a decomposer?

43. How is energy lost between trophic levels?

44. What is food security?

45. How can we increase efficiency of the production?

46. How can microorganisms be cultured for food?