

## **GCSE Biology Revision : Unit 2**

= not revised

= getting there

= nailed it.

### **Cells and transport in them**

(p.44—47)

- Functions of nucleus, cytoplasm, membrane, mitochondria ?
- Three additional structures of plant cells—with functions?
- How do yeast and bacterial cells differ?
- What's the definition of "diffusion"?
- What is a "diffusion gradient" (aka "concentration gradient"?)
- How are these adapted to their function?  
palisade cell, guard cell, red blood cell, egg cell, sperm cell.
- What are tissues, organs and systems? Examples?

### **Plant tissues and photosynthesis**

(p.48—51)

- Functions of these tissues in plants:  
mesophyll, xylem, phloem, epidermal.
- Label a cross section of a leaf.
- How is pondweed used to show the rate of photosynthesis?
- What are the limiting factors of photosynthesis?
- What does a graph of any limiting factor look like?
- How does a greenhouse maximise all of the factors for photosynthesis?
- What are the dis/advantages of a greenhouse?
- List five used plants have for the glucose made in photosynthesis.

### **Distribution of organisms**

(p.52—53)

- What factors vary in the environment?
- When is a quadrat used randomly?
- When is a quadrat used along a transect?
- What is the difference between reliability and validity of results?
- When is a quadrat used along a transect?

## Enzymes (and respiration)

(p. 55-60)

- What are the main properties of enzymes?
- How do enzymes work (E-S complex)?
- How (and why) are enzymes affected by heat / pH?
- What substrates and products are involved with amylase, protease and lipase enzymes? (*A big area of weakness in your mock*).
- Which enzymes work in the mouth, stomach, small intestine?
- What are the two key functions of bile?
- What is definition of “respiration”?
- What is the word equation for aerobic respiration?
- What is the energy released in respiration used for?
- In what two ways is the heart affected by exercise?
- In what two ways is breathing affected by exercise?
- How does exercise affect glycogen stores?
- What is the difference between an/aerobic respiration?
- What is the word equation for anaerobic respiration in muscles?
- What is the oxygen debt?
- How are enzymes used commercially in: detergents, food processing, industry?
- What are the dis/advantages of using enzymes in industry?

## DNA, genetics and evolution

(p. 61—71)

- What do genes do?
- What is a DNA fingerprint and how is it used?
- What is mitosis? Where what is it used for?
- What is meiosis? How does it work?
- What are stem cells? How may they be used? Why do some people oppose this?
- How is the sex of a baby determined?
- What do these terms mean: gene, allele, dominant, recessive, homozygous, heterozygous, genotype, phenotype.
- Draw a genetic diagram to show the result of a cross between two heterozygous parents.
- How does the inheritance of cystic fibrosis differ from that of polydactyly?
- What are the pros / cons of genetic screening?
- How can family trees be used to show inheritance of a gene through generations?
- Three ways in which fossils form?
- Why doesn't the fossil record tell us everything about evolution?
- What are the causes of extinction?
- Explain speciation (using “isolation” and “natural selection”)?