Inheritance, variation and evolution

Answers

GCSE science knowledge recall

This topic online

Q	Answer	Remember
1	meiosis	Meiosis makes Me (sex cells); mitosis makes body cells for growth and repair.
2	23	Half of 46 - fertilisation restores the full number.
3	Plasmodium	Some organisms switch between both ways of reproducing depending on conditions.
4	double helix	Like a twisted ladder - the rungs are pairs of bases.
5	genome	The whole human genome has been studied, helping doctors find genes linked to disease.
6	gene	Gene to protein: the order of bases sets the order of amino acids.
7	nucleotides	Each nucleotide is a sugar, a phosphate group and one base.
8	thymine	A with T, C with G - straight letters pair together, curved letters pair together.
9	3	Three bases is often called a triplet.
10	alleles	You get one allele of each gene from each parent.
11	dominant	Dominant alleles get a capital letter; recessive ones need two copies to show.
12	homozygous	Homo = same; hetero = different (Bb is heterozygous).
13	phenotype	Genotype is the alleles you have; phenotype is what you see.
14	0.25	A Punnett square gives AA, Aa, Aa, aa - one out of four.
15	cystic fibrosis	Both parents must pass on the recessive allele; carriers have no symptoms.
16	XY	Females are XX, so the father's sperm decides the sex of the baby.
17	0.5	Half of all sperm carry X and half carry Y.
18	mutation	Mutations happen all the time; most have no effect, very few give a new phenotype.
19	natural selection	Individuals best suited to their environment survive, breed and pass on their alleles.
20	It challenged the idea that God made all living things, or there was not enough evidence at the time, or the way characteristics are inherited was not yet known.	Genes and DNA were not understood until decades after Darwin published in 1859.

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Q	Answer	Remember
21	selective breeding	It has given us dairy cows, big crops and gentle dogs - but over many generations.
22	inbreeding	Inbreeding shrinks the gene pool, so harmful recessive alleles pair up more often.
23	plasmid	Bacteria with the human insulin gene in a plasmid now make insulin for diabetics.
24	restriction enzyme	Restriction enzymes cut; ligase enzymes stick the gene into the vector.
25	tissue culture	Garden centres and seed banks use it to make many identical plants quickly.
26	Mendel	He called genes 'units'; his work was ignored until long after he died.
27	Wallace	Wallace studied warning colouration in animals and published jointly with Darwin.
28	fossils	Soft-bodied organisms rarely fossilise, so the record has gaps.
29	MRSA	Finishing a course of antibiotics helps stop resistant strains surviving.
30	Eukaryota	Carl Woese proposed the three domains after studying chemicals inside cells.

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