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Lesson	Aiming for 4		Aiming for 6		Aiming for 8	
B13.1 Types of reproduction	I can define asexual and sexual reproduction.	<input type="checkbox"/>	I can describe the differences between asexual and sexual reproduction.	<input type="checkbox"/>	I can compare and contrast sexual and asexual reproduction.	<input type="checkbox"/>
	I can name some organisms that use either asexual or sexual reproduction.	<input type="checkbox"/>	I can describe the advantages and disadvantages of sexual and asexual reproduction.	<input type="checkbox"/>	I can explain in detail why meiosis is important for sexual reproduction.	<input type="checkbox"/>
	I can use a model to show why variation is produced in offspring from sexual reproduction but not in asexual reproduction.	<input type="checkbox"/>	I can design a model to show why variation is produced in offspring from sexual reproduction but not in asexual reproduction.	<input type="checkbox"/>	I can evaluate a model to show that variation is produced in offspring from sexual reproduction but not in asexual reproduction.	<input type="checkbox"/>
B13.2 Cell division in sexual reproduction	I can state that gametes (sex cells) are formed by meiosis.	<input type="checkbox"/>	I can describe the processes of mitosis and meiosis.	<input type="checkbox"/>	I can compare and contrast mitosis and meiosis.	<input type="checkbox"/>
	I can state that meiosis halves the number of chromosomes in gametes and fertilisation restores the full number.	<input type="checkbox"/>	I can explain how meiosis halves the number of chromosomes in gametes and fertilisation restores the full number.	<input type="checkbox"/>	I can explain in detail why gametes are all genetically different to each other.	<input type="checkbox"/>
	I can solve simple probability questions with guidance.	<input type="checkbox"/>	I can solve simple probability questions.	<input type="checkbox"/>	I can solve a complex calculation to determine the number of possible gametes formed during meiosis.	<input type="checkbox"/>
B13.3 The best of both worlds	I can name an organism that can reproduce both asexually and sexually.	<input type="checkbox"/>	I can describe how malarial parasites and fungi reproduce both asexually and sexually.	<input type="checkbox"/>	I can suggest and explain the advantages and disadvantages of using both methods of reproduction.	<input type="checkbox"/>
	I can state a simple reason why an organism reproduces sexually or asexually.	<input type="checkbox"/>	I can list the ways plants can reproduce asexually.	<input type="checkbox"/>	I can explain in detail how plants reproduce sexually.	<input type="checkbox"/>
	I can state that flowers are a plant's reproductive organs.	<input type="checkbox"/>	I can explain in detail how plants reproduce sexually.	<input type="checkbox"/>		<input type="checkbox"/>

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B13.4 DNA and the genome	I can state that genetic material in the nucleus of a cell is DNA.	<input type="checkbox"/>	I can describe the relationship between DNA, genes and chromosomes.	<input type="checkbox"/>	I can describe DNA as a polymer made up of repeating nucleotide units each consisting of a sugar, a phosphate and a base.	<input type="checkbox"/>
	I can state that DNA contains a code to build proteins.	<input type="checkbox"/>	I can describe how the four bases make up a code.	<input type="checkbox"/>	I can explain how the order of bases determines the type of protein made.	<input type="checkbox"/>
	I can follow a method to successfully extract DNA from kiwi fruits.	<input type="checkbox"/>	I can design and build a model of DNA to show each part.	<input type="checkbox"/>	I can evaluate a model of DNA.	<input type="checkbox"/>
B13.5 Looking at genomes	I can state that the genome of an organism is the entire genetic material of that organism.	<input type="checkbox"/>	I can describe some of the benefits of studying the human genome.	<input type="checkbox"/>	I can explain why knowledge of the genomes of other species is useful.	<input type="checkbox"/>
	I can describe what the Human Genome Project was.	<input type="checkbox"/>	I can explain the goal of the 100 000 genomes project.	<input type="checkbox"/>	I can discuss possible issues surrounding genome sequencing.	<input type="checkbox"/>
	I can state one goal of the Human Genome Project.	<input type="checkbox"/>	I can explain why genome projects are costly and take a long time.	<input type="checkbox"/>	I can explain why the cost of genome sequencing has reduced since it was started.	<input type="checkbox"/>
B13.6 Gene expression and mutation		<input type="checkbox"/>	I can describe the steps involved in producing a protein inside the cell.	<input type="checkbox"/>	I can explain how the human body can make so many different proteins with so few genes.	<input type="checkbox"/>
		<input type="checkbox"/>	I can state what a mutation is.	<input type="checkbox"/>	I can outline the reasons why most mutations are harmless.	<input type="checkbox"/>
		<input type="checkbox"/>	I can explain why the correct folding of a protein is important to its function.	<input type="checkbox"/>	I can explain in detail how a mutation can affect the function of a protein.	<input type="checkbox"/>

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B13.7 Inheritance in action	I can recognise examples of inherited traits.	<input type="checkbox"/>	I can use the terms allele, dominant, recessive, homozygous and heterozygous correctly.	<input type="checkbox"/>	I can use the terms homozygous and heterozygous correctly.	<input type="checkbox"/>
	I can recognise a genotype and a phenotype.	<input type="checkbox"/>	I can describe a phenotype when given the genotype.	<input type="checkbox"/>	I can explain how the genotype affects the phenotype at a molecular level.	<input type="checkbox"/>
	I can use a simple diagram to state how offspring have inherited traits.	<input type="checkbox"/>	I can use a Punnett square diagram to predict the outcome of a monohybrid cross using the theory of probability.	<input type="checkbox"/>	I can explain why Punnett squares cannot be used to work out possible genotypes in offspring for the majority of human traits.	<input type="checkbox"/>
B13.8 More about genetics	I can state that in females the sex chromosomes are XX and in males they are XY.	<input type="checkbox"/>	I can carry out a genetic cross to show sex inheritance.	<input type="checkbox"/>	I can explain why we only get the expected ratios in a genetic cross if there are large numbers of offspring.	<input type="checkbox"/>
	I can use a family tree to describe how people are related.	<input type="checkbox"/>	I can use direct proportion and simple ratios to express the outcome of a genetic cross.	<input type="checkbox"/>	I can use a family tree to work out where an individual is likely to be homozygous or heterozygous for particular alleles.	<input type="checkbox"/>
		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
B13.9 Inherited disorders	I can state what is meant by an inherited disorder and recognise examples.	<input type="checkbox"/>	I can name examples of inherited disorders, such as cystic fibrosis and polydactyly.	<input type="checkbox"/>	I can evaluate in to detail the use of using genetic engineering to cure inherited disorders.	<input type="checkbox"/>
	I can use secondary sources of information to describe symptoms of an inherited disorder.	<input type="checkbox"/>	I can use a genetic cross to explain how inherited disorders are passed on.	<input type="checkbox"/>	I can use a genetic cross to predict the probability of a child inheriting an genetic disorder.	<input type="checkbox"/>

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B13.10 Screening for genetic disorders	I state a reason why embryos might be screened.	<input type="checkbox"/>	I can outline the methods used to screen embryos.	<input type="checkbox"/>	I can explain how screening shows if the embryo has a genetic disorder.	<input type="checkbox"/>
	I can state one concern about embryo screening.	<input type="checkbox"/>	I can state advantages and disadvantages of embryo screening.	<input type="checkbox"/>	I can make an informed judgement about embryo screening by evaluating in detail the economic, social and ethical issues.	<input type="checkbox"/>