

Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

Lesson	Aiming for 4		Aiming for 6		Aiming for 8	
B14.1 Variation	I can list some examples of human variation.	<input type="checkbox"/>	I can list some examples of variation in plants and categorise as being due to genetic, environmental causes or both.	<input type="checkbox"/>	I can explain why some traits are only due to genetic causes.	<input type="checkbox"/>
	I can categorise some human traits as being due to genetic, environmental causes or both.	<input type="checkbox"/>	I can suggest reasons why identical twins will start to show variation as they get older.	<input type="checkbox"/>	I can explain why it is so hard to get valid results from identical-twin studies.	<input type="checkbox"/>
	I can describe why identical twins share the same genes.	<input type="checkbox"/>	I can use data to explain why studying identical twins helps scientists investigate which traits have genetic causes.	<input type="checkbox"/>	I can discuss some of the issues scientists face when conducting twin studies.	<input type="checkbox"/>
B14.2 Evolution by natural selection	I can state that a mutation is a change in the DNA code.	<input type="checkbox"/>	I can explain how a mutation may lead to a new phenotype.	<input type="checkbox"/>	I can explain why it is rare that a mutation leads to a new phenotype.	<input type="checkbox"/>
	I can describe the theory of evolution by natural selection as a process by which living things have evolved from simple life forms.	<input type="checkbox"/>	I can describe the steps that take place during evolution by natural selection.	<input type="checkbox"/>	I can apply the theory of evolution by natural selection to suggest how a specific organism evolved.	<input type="checkbox"/>
	I can state some useful adaptations.	<input type="checkbox"/>	I can analyse data from an activity modelling natural selection.	<input type="checkbox"/>	I can explain how a change in a model can make it useful for explaining something else.	<input type="checkbox"/>
B14.3 Selective breeding	I can describe selective breeding as a process where humans choose which plants or animals to breed together.	<input type="checkbox"/>	I can explain the process of selective breeding.	<input type="checkbox"/>	I can compare and contrast natural and artificial selection.	<input type="checkbox"/>
	I can give one examples where selective breeding has been used.	<input type="checkbox"/>	I can explain why humans have used selective breeding.	<input type="checkbox"/>	I can explain in detail how the variation of alleles in a population is reduced through selective breeding.	<input type="checkbox"/>
	I can choose organisms to breed together to result in desired traits in the offspring.	<input type="checkbox"/>	I can explain what inbreeding is and why it is a problem in dog breeding.	<input type="checkbox"/>	I can explain in detail why the reduction of variation is a problem.	<input type="checkbox"/>

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B14.4 Genetic engineering	I can describe GM organisms as containing a gene from another organism and order the stages of genetic engineering.	<input type="checkbox"/>	I can describe the steps used in genetic engineering to produce GM organisms.	<input type="checkbox"/>	I can explain the process of genetic engineering using technical vocabulary, e.g. plasmid, vector, restriction enzymes, marker genes, recombinant DNA.	<input type="checkbox"/>
	I can give examples of GM organisms and describe why they are useful to humans.	<input type="checkbox"/>	I can analyse data to describe why growing GM crops maybe be beneficial to a farmer.	<input type="checkbox"/>	I can explain how genetic engineering could be used to cure people with inherited disorders and discuss the limitations.	<input type="checkbox"/>
		<input type="checkbox"/>				
B14.5 Cloning	I can describe how to take stem and leaf cuttings of plants.	<input type="checkbox"/>	Describe the benefits of reproduction using cuttings or tissue culture rather than seeds, for plant growers.	<input type="checkbox"/>	I can explain the benefits of embryo transplants over sexual reproduction for farmers.	<input type="checkbox"/>
	I can define the term clone and use a diagram to describe why embryo transplants are clone.	<input type="checkbox"/>	I can describe how embryo transplants are produced and why they are clones.	<input type="checkbox"/>	I can compare and contrast tissue culture in plants and embryo transplantation in animals.	<input type="checkbox"/>
B14.6 Adult cell cloning	I can describe adult cell cloning as producing a complete clone of an adult animal.	<input type="checkbox"/>	I can explain why the animal produced using adult cells cloning is a clone.	<input type="checkbox"/>	I can use advanced terminology to explain the process of adult cell cloning.	<input type="checkbox"/>
	I can describe the process of adult cell cloning using a diagram.	<input type="checkbox"/>	I can design a flow chart to describe the process of adult cell cloning.	<input type="checkbox"/>	I can compare and contrast the process of adult and embryo cloning.	<input type="checkbox"/>
	I can state one reason why scientists may want to clone an adult animal.	<input type="checkbox"/>	I can list some benefits and drawbacks of adult cell cloning.	<input type="checkbox"/>	I can evaluate the possible uses of adult cell cloning.	<input type="checkbox"/>

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B14.7 Making choices about genetic technologies	I can state one concern people may have about growing GM crops.	<input type="checkbox"/>	I can outline the potential benefits and risks of genetic engineering.	<input type="checkbox"/>	I can evaluate the potential benefits and risks of genetic engineering.	<input type="checkbox"/>
	I can describe why some people are against the cloning of animals.	<input type="checkbox"/>	I can describe economic and ethical concerns that people may have about cloning animals.	<input type="checkbox"/>	I can explain in detail the significance of events in the field of genetics.	<input type="checkbox"/>