



Mutations & Mutagens Worksheet

WHAT ARE MUTATIONS?

What is the definition of 'mutations'?			
What are the THREE types of mutagens ?			
What are the TWO types of mutations ?			
Can these types of mutations be inherited ?			
What are the THREE potential consequences of gametic mutations?			
What are their consequences on the individual in terms of survival and reproduction ?			

Success Criteria: List some mutagens that can cause DNA mutations. Describe the consequences of gametic and somatic mutations. Describe how mutations cause genetic variation.



SOURCES OF GENETIC VARIATION

Source of genetic variation			
Describe the processes in general.			
What kind of variation does it produce? <ul style="list-style-type: none"> New alleles? New genes? 			
Is it necessary for the evolution of a species? Why?			

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ANSWER THE FOLLOWING QUESTION ABOUT MUTATIONS

"Mutations that occur in body cells (somatic mutations) of sexually reproducing organisms will not be passed onto the next generation while mutations that occur in gametes (gametic mutations) may be inherited."

Explain this statement.

Describe some of the general effects of mutations.

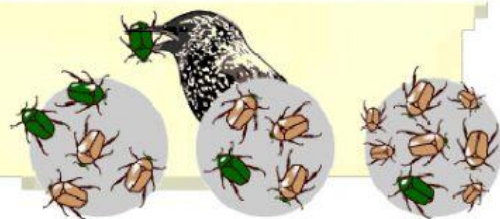
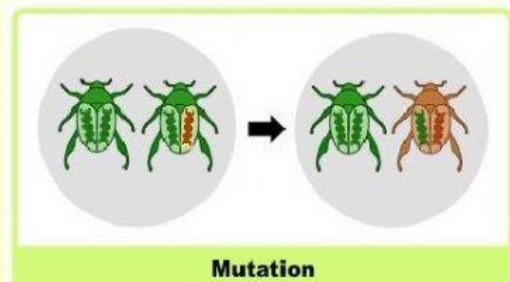
Explain how somatic mutations differ from gametic mutations. Comment on the significance of the difference between them.

Explain why the mutation seen in the golden delicious apple will not be inherited?



Analyse the diagrams to the left. Then discuss what the diagrams are illustrating in terms of:

- Mutation in beetles (gametic? Or somatic?)
- Offspring of the mutant beetle
- Phenotype variation caused by genetic variation
- Natural selection as a result of the bird preying on beetles
- Evolution of the beetle population in the long run.



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