9A Genetics and Evolution- Revision Worksheet

Describe what **environmental variation** is.

……

Give 3 examples of **environmental variation** in plants.

1.

2.

3.

Give 3 examples of **environmental variation** in humans.

1.

2.

3.

Complete the table below:

Type of Variation	Definition	Examples
Continuous		
Discontinuous		

Define the term '**classification**'.

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Define the term '**species**'.

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Explain how **environmental variation** can cause problems with **classification**.

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Describe, with examples, what **inherited variation** is.

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Describe what happens during **fertilisation** and what is formed.

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In a class, 6 people have the **blood group A**, 3 **B**, 1 **AB** and 10 **O**.
Draw a bar chart to represent this data.

Describe the **variation** in the question above.

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Describe, with the use of a diagram, what the **normal distribution** is.

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Explain why a specific **characteristic** is both **inherited** and **environmental**.

……

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Describe how **chromosomes**, **DNA** and **genes** are linked together.

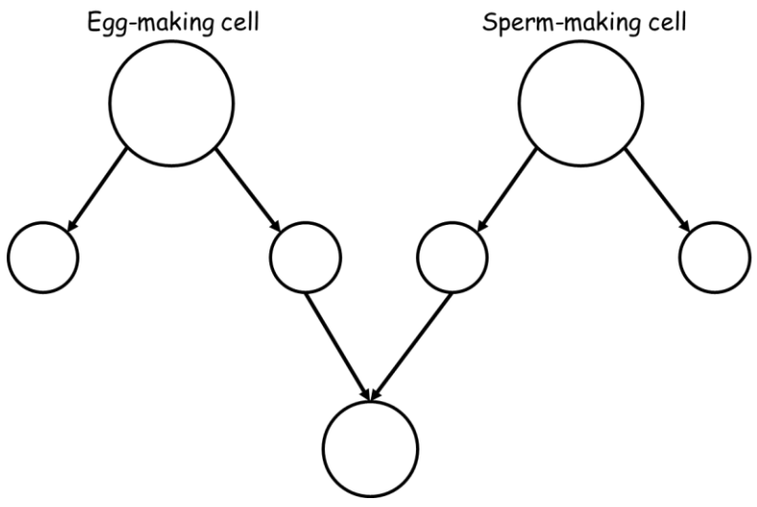
……

……

Complete the table below to show the role each **scientist** played in the **discovery** of **DNA**.

James Watson	
Francis Crick	
Rosalind Franklin	
Maurice Wilkins	

On the diagram below label the **gametes**, when **fertilisation** occurs and the **zygote**. Within each circle write the number of **chromosomes** present in that **cell**.



Describe what happens after the **zygote** has formed in the diagram above.

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Describe what **sex chromosomes** are.

……

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Define the term '**adaptation**'

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Complete the table by defining each word:

Endangered	
Extinct	
Competition	
Native	
Biodiversity	

State some changes that might cause an organism to become **endangered** / **extinct**.

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Explain why the relationship between red and grey squirrels is an example of **competition**.

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State 3 ways we can preserve **biodiversity**.

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Describe what **natural selection** is.

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Explain how **peppered moths** are an example of **natural selection**.

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Explain how the **tilapia** fish are an example of **natural selection**.

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Describe what **evolution** is and how it can form new **species**.

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……

Rate the following on how well you think you can do them:



I can…

- ☐ Identify different types of environmental variation and explain their causes.
- ☐ Explain how environmental variation can cause problems with classification.
- ☐ Identify different types of inherited variation.
- ☐ Explain how sexual reproduction causes inherited variation.
- ☐ Identify a normal distribution.
- ☐ Explain what probability is.
- ☐ Calculate probabilities and display them in different forms.
- ☐ Outline how the structure of DNA was discovered.
- ☐ Explain the importance of DNA.
- ☐ Describe the relationship between chromosomes, DNA, genes, genetic information and nuclei.
- ☐ Explain how organisms become endangered or extinct.
- ☐ Explain how adaptations affect the survival of organisms.
- ☐ Explain some ways of preserving biodiversity.
- ☐ Recall that individuals in a population vary genetically.
- ☐ Explain how natural selection works on these variations.
- ☐ Construct balanced, convincing arguments.