

**AQA, OCR, Edexcel**

# GCSE Science

## GCSE Biology

### Variation Answers

Name:

**M M E**

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Total Marks: /21

Q1: Tick one example of genetic variation.



Eye Colour



Scar

(1 mark)

Q2: Explain the differences between genetic and environmental variation.

A= 1 mark for each of the following:

- Genetic – traits inherited from parents
- Environmental – result of local environment

(2 marks)

Q3: Give 2 examples of factors causing environmental variation in plants.

A= Accept any 2 of the following:

- Light
- CO<sub>2</sub> / Carbon dioxide
- Mineral ions

(2marks)

Q4: Give an example of combined variance.

A= Accept one of the following:

- Weight
- Skin tone

(1 mark)

Q5: Explain why scientists don't separate identical twins when researching variance.

A= Ethics

(1 mark)

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Q6: Discuss the differences scientists might see when studying identical twins that have grown up in different environments.

A= Accept any 3 of the following:

- IQ
- Hobbies
- Personality
- Weight

(3 marks)

Q7: Design an experiment to show the differences between genetic and environmental variation.

A= 1 mark for continuous prose and any 5 of the following:

- Cloned seedlings
- Equal groups
- Alter 1 environmental factor in test group and nothing in the control group
- Record data for both groups
- Analyse to see what effect change of temperature has
- State if genetic or environmental.

(6 marks)

Q8: Looking at the 2 dogs below what is the main genetic variance between the 2?



A= Size

(1 mark)

Q9: What term is used to describe the genetic control of physical characteristics?

A= Phenotype

(1 mark)

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Q10: Give 3 common physical variations that humans can inherit from their parents.

A= Accept any 3 of the following:

- Eye colour
- Dimples
- Nose Shape
- Ear lobes
- Sex
- Skin tone

(3 marks)