

GCSE Biology B (Twenty First Century Science)
J257/01 Breadth in Biology (Foundation)

Question Set 22

Multiple Choice Questions

1. Some people can roll their tongues, others cannot.

Tongue rolling is inherited.

- The allele for tongue rolling is represented by **R**
- The allele for non-tongue rolling is represented by **r**.

(a) (i) Jack's genotype is **RR**.

Which **two** words can be used to describe Jack's genotype?

Put a (ring) around the **two** correct answers.

dominant heterozygous **homozygous** recessive

[2]

(ii) Jack's friend is unable to roll their tongue.

What will their genotype be?

Tick (✓) **one** box.

RR

Rr

rr

[1]

(iii) A male with the genotype **Rr** and a female with the genotype **Rr** have a baby.

Complete the Punnett square to show how the male and female can have a baby that can roll its tongue.

State the probability of the baby being able to roll its tongue.

| | | | |
|---|----|----|---|
| | | R | r |
| R | RR | Rr | |
| r | Rr | rr | |

Probability = $\frac{3}{4}$

[3]

(b) What word is used to describe the physical features observed as a result of genes?

Put a **ring** around the correct answer.

allele

environment

phenotype

[1]

(c) (i) Which statement defines the term **genome**?

Tick (✓) **one** box.

The chromosomes inherited from the mother.

The DNA found in the sperm cell.

The entire genetic material of an organism.

[1]

(ii) Where is DNA stored in an animal cell?

Tick (✓) **one** box.

Chloroplast

Cytoplasm

Nucleus

[1]

Total Marks for Question Set 22: 9

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