CAMBRIDGE
INTERNATIONAL EXAMINATIONS

On-line Science Simulations – Rabbit Genetics Student Worksheet

An investigation of the inheritance of coat colour in rabbits

You should assume that any two of the rabbits you select are able to breed with each other.

Task 1

1   By clicking on them, and dragging, move a black rabbit and a white rabbit into the oval areas, for breeding.

2   Click on 'Breed' repeatedly, then note the recorded number of each colour of offspring.

3   Leave the white parent in the breeding cage, then return the black parent to its original cage.

4   Place one of the offspring in the unoccupied space in the breeding area.

5   Remove the other offspring.

6   Click on 'Breed' repeatedly, then note the recorded number of each colour of offspring.

Explain, giving full genetic diagrams, why the results in 2 and 6, (above), differ, despite the fact that in each case there is one black and one white parent.

You should select appropriate symbols, and make clear in your answer, which is the dominant phenotype.

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Task 2

1   Repeat stages 1 and 2 from Task 1.

2   Return both of the parents to their cages.

3   Place any two of the offspring into the ovals in the breeding area.

4   Remove the other offspring.

5   Click on 'Breed' repeatedly, then note the recorded number of each colour of offspring.

Explain your results, giving a full genetic diagram.