DNA, inheritance & evolution

Science At Home With Lisa

Gregor Johann Mendel was a scientist and monk. He was born in a German-speaking family in the Austrian Empire (today's Czech Republic).

Farmers had long known that crossbreeding of animals and plants could favour certain desirable traits. Mendel's pea plant experiments conducted between 1856 and 1863 established many of the rules of heredity.

Mendel worked with seven characteristics of pea plants: plant height, pod shape and colour, seed shape and colour, and flower position and colour. Taking seed colour as an example, Mendel showed that when a true-breeding yellow pea and a true-breeding green pea were cross-bred their offspring always produced yellow seeds. However, in the next generation, the green peas reappeared at a ratio of one green to three yellow.

To explain this phenomenon, Mendel coined the terms *recessive* and *dominant* in reference to certain traits. In the example above, the green trait, which seems to have vanished in the first generation, is recessive and the yellow is dominant. He published his work in 1866 demonstrating the actions of invisible *factors*, now called *genes*, in predictably determining the traits of an organism.

[Text developed from the Wikipedia article on Mendel]

1. Circle a fronted adverbial phrase in the text.

2. Underline a subordinate clause in the text.

3. Explain the meaning of the phrase which is in brackets.

   _____

   _____

4. Draw lines to link both words on the left to their closest synonyms on the right.

	inactive
recessive	prevailing
dominant	reversed
	aggressive

5. What does the word *trait* mean?

   _____

   _____

6. In your own words, summarise what Mendel discovered.

   _____

   _____

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1. Circle a fronted adverbial phrase in the text. There are 3 to choose from. Not 'However' as it's not a phrase.

2. Underline a subordinate clause in the text. There are 3 to choose from.

3. Explain the meaning of the phrase which is in brackets. When he was born, the place was in the Austrian Empire, but the land it has since changed its name to Czech Republic.

4. Draw lines to link both words on the left to their closest synonyms on the right.

inactive

recessive   prevailing

dominant   reversed

aggressive

5. What does the word *trait* mean? A characteristic

6. In your own words, summarise what Mendel discovered. The main point to get across is that offspring get their characteristics from their parents. Secondary point is that some characteristics are 'stronger' than others, but hidden factors might appear in the next generation.