Cystic Fibrosis Trust

CF Guided Reading Sheet

Instructions: First, closely read the text. Then for each paragraph, underline three keywords or terms. In the spaces underneath the paragraph, write a definition for each term. Finally, come up with a title for each paragraph that neatly summarises its contents.

Paragraph 1 Title: .....

For someone to be born with CF, both of their parents must carry a variant (fault) of the CF gene. When two people who carry the faulty gene have a baby, there is a 25% chance that their child will have CF. This is the same for each pregnancy. There is also a 50% chance that the baby will carry the faulty gene and a 25% chance that they will not be a gene carrier. People with CF have two faulty or 'mutated' genes. The two genes could be the same variant (or mutation) or they could be two different ones. The specific combination of mutations a person with CF has is known as their 'genotype'. The genotype, along with other factors, determines which body parts are most affected and how severe the condition is. There are over 2,000 known mutations that can cause CF.

Keyword 1 definition: .....

Keyword 2 definition: .....

Keyword 3 definition: .....

Paragraph 2 Title: .....

Genes instruct the body on how to make proteins and where to send them in cells in order for them to work. CF mutations affect the body's ability to make or direct the CFTR protein, which helps salt and water move into and out of cells.

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Coping Strategies

The mutations that cause CF can be split into five different categories based on how they affect the CFTR protein. Around 7% of people with CF in Europe have the Class I mutation and this leads to a shortened CFTR protein. The most common class of mutation is Class II and this is the type of mutation that 85% of people with CF in Europe have. Class II results in the CFTR protein not being transported to the surface of the cells in which it is required. The most common type of Class II mutation is F508del. Less than 3% of people with CF in Europe have a Class III type of mutation. This causes the CFTR protein to form a channel in the cell surface which means it cannot be regulated properly. Class IV mutations affect less than 3% of people with CF in Europe. These mutations change the shape of the protein channel which prevents chlorine from easily moving in and out of the cells. Class V also affects less than 3% of people with CF in Europe. These mutations result in a reduction in the amount of CFTR protein produced by the cells.

Keyword 1 definition: .....

Keyword 2 definition: .....

Keyword 3 definition: .....