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B1 Revision

Factors affecting health

- People who don't have the right amount of nutrients are called malnourished.
 - Excess carbohydrates and fat can lead to obesity.
 - A poor diet and lack of exercise can also lead to obesity.
 - Too much saturated fat can lead to high cholesterol.
 - Too much salt can lead to high blood pressure and heart problems.
 - Malnutrition can lead to slow growth (in children), fatigue, poor resistance and irregular periods in women.
 - A lack of Vitamin C can cause scurvy which is a problem with skin, joints and gums.
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- Those who do regular exercise are usually healthier than those who don't.
 - Exercise increase the amount of energy used by the body, therefore it isn't stored as fat.
 - Those who do regular exercise are less likely to suffer from problems like obesity.
 - Your health can be affected by inherited factors as well.
 - Some inherited factors can cause an underactive thyroid; this can lead to a lower metabolic rate and obesity.
 - Cholesterol is a fatty substance which is needed for good health. Some inherited factors can increase this and this can cause heart disease.

Fighting disease

Your skin, hair and mucus stop microorganisms getting inside the body.

To prevent microorganisms getting in through cuts, the skin seals the wounds by clotting the blood.

Method of destroying bacteria:

- ❖ Consuming them

White blood cells can engulf and digest foreign cells.

- ❖ Producing antibodies

Every foreign cell has unique molecules on its surface (Antigens)

When the white blood cells find these antigens, they start producing proteins called antibodies to lock on and kill the invading cells.

Antibodies are produced rapidly and carried around the body to kill all similar bacteria.

If the person is infected again with the same pathogen, the white blood cells will rapidly produce the antibodies to kill it, this person is now naturally immune to that pathogen.

- ❖ Producing antitoxins

These are counter toxins produced by the invading bacteria.

Statins

They are prescribed drugs which are used to lower risk of heart and circulatory disease. There is evidence which shows that they lower blood cholesterol and reduce risk of heart disease in diabetic people.

Two groups of people were compared. One was given Statins whilst the other wasn't. This makes the results reproducible because a control group was used.

Cannabis

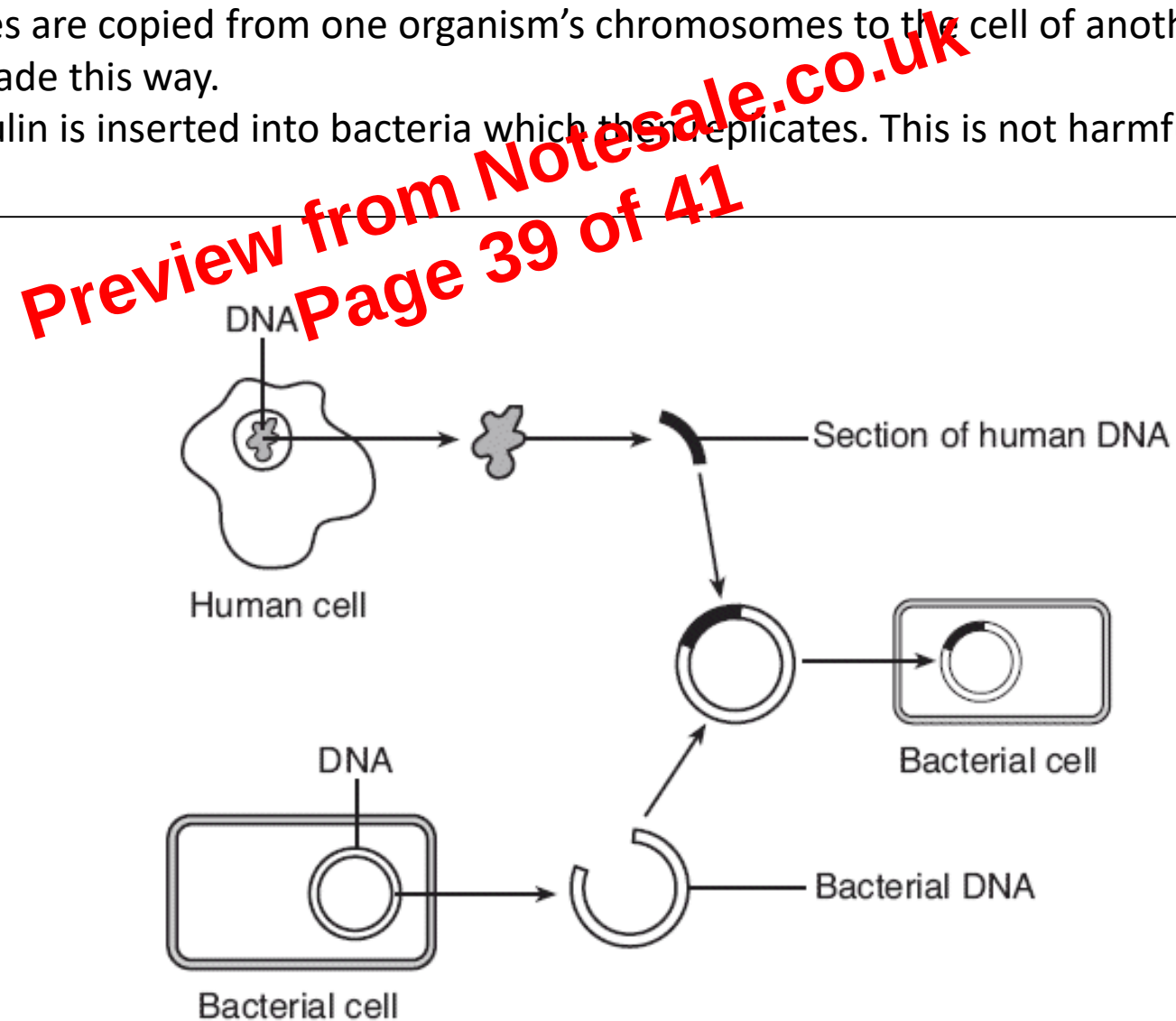
It is an illegal drug.

Scientists are investigating whether or not smoking cannabis can cause mental health problems.

Genetic engineering

Genetic engineering is when special enzymes are used to cut and paste genes. Useful genes are copied from one organism's chromosomes to the cell of another. Insulin is made this way.

Human insulin is inserted into bacteria which then replicates. This is not harmful and is given to diabetics.



Genetic engineering continued

Genetically modified crops are crops which have had their genes altered so that they are resistant to viruses, insects and herbicides.

Genetic disorders are caused by faulty genes. Scientists are trying to treat these disorders by inserting working genes to sufferers.

Pros about Genetically modifying genes are that diseases can be treated and food production can be more effective.

But some people believe that genetic engineering could cause problems which could be passed on to the next generations.

For GM crops	Against GM crops
Increase yield. People in developing countries lack nutrients, crops can be modified to contain these nutrients. GM crops are being grown around the world without many problems.	Reduces farmland biodiversity. Some think GM crops are not safe. Transferred genes may be passed onto other crops that people don't want to be resistant to certain things.