

Year 10 – Research Task – Biotechnology

Task:

You are to conduct your own research into a named biotechnology to address the following:

- Identify how that biotechnology is used in society
- Describe how the biotechnology works (include a diagram with the description)
- Explain at least two advantages and two disadvantages of the biotechnology
- Explain at least two possible social impacts of the biotechnology
- Explain a possible ethical impact of the biotechnology
- Provide a clear judgement about the use of the biotechnology in society

You are to present your response in an appropriate format, however, the format is of your choosing. You may wish to use a speech (with transcript), a report, a PowerPoint/Prezi, poster, video or another format. The format you choose must be accessible to your teacher for marking. Consult your teacher about what format of presentation you are choosing.

You must include a reference list of the sources of information you used. Your sources of information must be referenced in an appropriate format. Referencing websites such as citethisforme.com can be helpful to reference appropriately.

Possible types of biotechnology you may wish to research are:

- Stem cells
- Vaccines
- Transgenic species
- Synthetic hormones
- In vitro fertilisation
- Cloning
- Genetically modified organisms
- Artificial blood
- Other – consult your teacher

A scaffold is provided to help you organise your research and help create a well-structured presentation. If you only submit the scaffold, you cannot get the presentation marks.

SCAFFOLD

Key verbs:

Identify - Recognise and name

e.g. Vaccines help to prevent disease.

Describe – Provide characteristics and features

e.g. Vaccines are chemicals injected in the body to promote an immune response and help develop an immunity to diseases.

Explain – Relate cause and effect; make the relationships between things evident; provide why and/or how

e.g. Vaccines are chemicals that contain markers that the body uses to recognise certain diseases. The body develops strategies to find and eliminate these markers. When these markers enter the body as part of a disease, our body already knows how to eliminate it quickly. This means that we do not get as sick as if we did not have the vaccine.

BIOTECHNOLOGY: _____

Identify how it is used in society.

Describe how it works. (DON'T FORGET THE DIAGRAM)

Explain at least TWO advantages of the technology

Advantage:	Advantage:
Explanation:	Explanation:

Explain at least TWO disadvantages of the technology

Disadvantage:	Disadvantage:
Explanation:	Explanation:

Explain at least TWO social impacts (positive or negative) of the technology

Impact:	Impact:
Explanation:	Explanation:

Explain ONE ethical impacts (positive or negative) of the technology

Impact:

Explanation:

Should we keep the biotechnology as it is, change it in some way or get rid of it completely? Explain why.

References:

MARKING CRITERIA

Criteria	Marks
A type of biotechnology is named	0 – 1
A valid use of the biotechnology in society is identified	0 – 1
A description about how the biotechnology works is included	0 – 1 – 2
A diagram of how the biotechnology works is included and referred to in the text	0 – 1
Two advantages of the biotechnology in society are clearly explained in terms of why they are advantages (<i>describe = 2, identify = 1</i>) (<i>max. 3 marks per advantage</i>)	0 – 1 – 2 – 3 – 4 – 5 – 6
Two disadvantages of the biotechnology in society are clearly explained in terms of why they are disadvantages (<i>describe = 2, identify = 1</i>) (<i>max. 3 marks per disadvantage</i>)	0 – 1 – 2 – 3 – 4 – 5 – 6
Two social impacts of the biotechnology are explained in terms of how they impact society positively and/or negatively (<i>describe = 2, identify = 1</i>) (<i>max. 3 marks per impact</i>)	0 – 1 – 2 – 3 – 4 – 5 – 6
One ethical issue of the biotechnology is explained (<i>describe = 2, identify = 1</i>)	0 – 1 – 2 – 3
A valid judgement is made that is supported with evidence that was addressed in the presentation	0 – 1 – 2
No new information was added in the summation	0 – 1
The information used in the summation supports the judgement made	0 – 1
Sub- total (Processing and Analysing)	/30
The response is clearly structured with a logical progression	0 – 1
Scientific language is used correctly and in context	0 – 1
At least three sources are referenced (<i>3+ = 2, 1 – 2 = 1, none = 0</i>)	0 – 1 – 2
All sources are appropriately referenced	0 – 1
Sub-total (Communicating)	/5
TOTAL	/35

Limited	Basic	Sound	High	Outstanding
0 – 8	9 – 17	18 – 26	27 – 31	32 – 35

FEEDBACK: