

- Give 2 ethical views for the support of using animals in experiments
- What does 'selection pressure' cause
- Describe the 3 phases of a clinical trial
- What is the meaning of the word 'metastatic'
- Give the definition of natural selection

- 1) - Greater Good
- Contribution to humanity
- 2) - Survival of the fittest (competition)
- 3) - Small group of healthy individuals
larger group of patients
Drug is compared to previous drugs

1. Explain how macrophages take up bacteria
2. How does smoking increase risk of CVD?
3. Explain how finches develop their beak shape.
4. Describe 2 ethical issues with the use of animal models
5. Name the non specific immune response
6. What are the stages to drug testing?

1. How do mutations in cells cause cancer? paragraph 8
2. How have changes in environment created evolution? paragraph 10
3. How can evolution be applied to the development of cancer? paragraph 11
4. Why do scientists think that cancerous cells are meant to be at a disadvantage to survive? paragraph 12
5. How do cancerous cells become advantageous given example? paragraph 13

10. Mutations in DNA prevent transcription and translation factors, this often causes them to divide with new properties (hyperactive growth signals for cell division/reduced checkpoints etc.

Article

Questions on page 3:

① ~~How does~~ Explain how evolutionary change occurs? ~~(4)~~ (2)

② ~~2~~ describe the process of natural selection (3)

~~3~~ How does ~~ostriches (see page 3)~~ ~~how~~ ~~do~~ ~~they~~ ~~have~~ ~~the~~ ~~ability~~ ~~to~~ ~~have~~ ~~the~~ ~~adaptations~~ ~~of~~ ~~long~~ ~~legs~~?

③ ~~4~~ describe the stages of mitosis. (3)

④ ~~5~~ ^{Explain} why are healthy volunteers used in clinical trials? (2)

⑤ ~~6~~ describe and explain the stages that occur in pre-clinical trials. (4)

~~(1) Give~~

~~(1) Explain how a mutation~~

- (1) What are the ethical issues surrounding the use of animals in lab experiments/research?
- give 2 (paragraph 17)
- (2) Why is a deletion mutation more likely to have an impact on a cell, and hence the organism in which it is found, than a substitution mutation? (P. 14)
- (3) Why might smoking increase the risk of cancer?
- (4) Define the term 'cancer'.

(1) • causing harm to the animals by subjecting them to painful procedures

(2) deletion causes frame shift which could lead to a different polypeptide chain being synthesised. Since the genetic code is degenerate a substitution could mean that there is

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1. State the meaning of drug resistance. (1)
2. Explain how inflammation cause damage to tissues. (4)
3. Describe the factors increasing CVD.
4. Explain how a gene mutation ~~causes~~ affects cell division (4)

5)

1) Explain the process of drug testing (4)

2) Explain how pre-clinical trials help scientists make drugs (2)

compare and contrast
3) Explain ~~the differences~~ between modern day drug testing and William Withering's drug testing (1)

4) Explain some of the concerns over GMO (4)

1) - pre-clinical trials

tested on cells and animals

- tested on small group of healthy volunteers to check safety and dosage

- group of people with one illness

Page 5)

- 1) Explain how bacteria may become resistant to antibiotics.
- 2) State the two types of antibiotics.
- 3) ~~Explain the stages that occur~~
Explain how side effects of drugs are tested
- 4) paragraph 18 explain how the pests may have evolved.

1) mukohon

2) Bactenacidra (, bacteriovahc

- 1) State the meaning of the term evolution
- 2) State ethical concerns with using animal models
- 3) What is the first stage of clinical trials

1) Change in frequency of alleles in a population overtime in order for a new species to form

2) Causing harm to the animals, animals cannot give consent

3) Testing drugs on animals/cells

- 1 Explain ~~when~~ under what circumstances treatment would be stopped
- 2 Explain why it might be beneficial to stop therapy when the severity of the cancer has become incurable.

Answers

1 When the patient is on anti-cancer drugs for a month and only had a 50% reduction in tumor size.

2