Science Department

Multiple Choice Answer Sheet

Test Topic: 10 PreBTAR **Name:** ANSWERS **Year:** __

Task 9 Biology and Evolution.

Multiple Choice – 15 questions.

Circle your choice. If you change your mind, scrub your choice out and circle the one you want. If it is messy, clearly write your choice next to question.

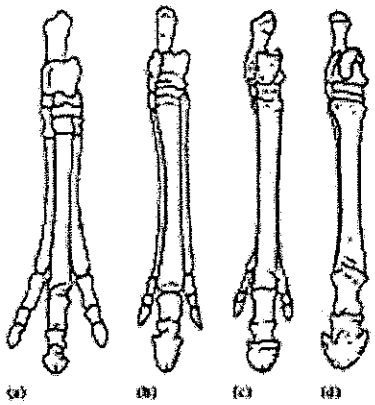
1.	A	B	**C**	D
2.	A	**B**	C	D
3.	A	**B**	C	D
4.	A	**B**	C	D
5.	A	B	**C**	D
6.	A	B	**C**	D
7.	A	B	C	**D**
8.	A	B	C	**D**
9.	A	**B**	C	D
10.	A	**B**	C	D
11.	**A**	B	C	D
12.	A	B	C	**D**
13.	**A**	B	C	D
14.	**A**	B	C	D
15.	**A**	B	C	D

Written Section:

Write your answers for the written section below. Ask your teacher if you need more paper.

SECTION 2: WRITTEN
Write your answers in the spaces provided.

1. It is thought that modern horses with hooves evolved from ancient horses with three toes.



   a) What type of evidence for evolution does this assumption rely on? (2 marks) 1

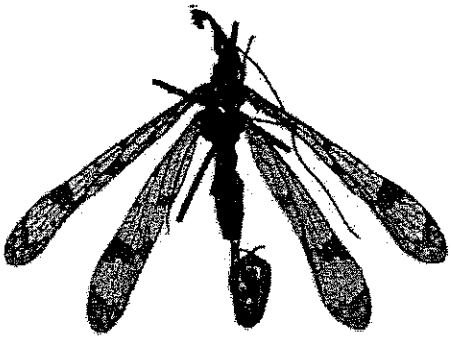
fossils showing change over time with accept comparative anatomy (fingers)

1 mark vestigial

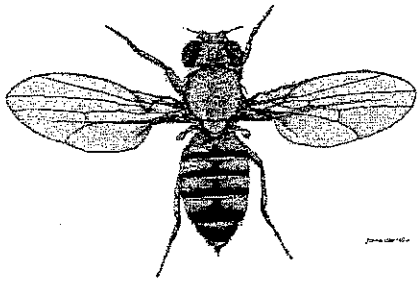
   b) List or briefly describe the **processes** that would have resulted in this change over time. (3marks)

variation, selection pressures, survival of the fittest. with accept competition

2. Scorpionflies (*Mecoptera*) and true flies (*Diptera*) have enough similarities that entomologists (scientists who study insects) consider them to be closely related. Scorpionflies have four wings of about the same size, and true flies have a large front pair of wings but the back pair is replaced by small club-shaped structures.



Mecoptera



Diptera

   a) Name this type of evidence for evolution. (1 mark)

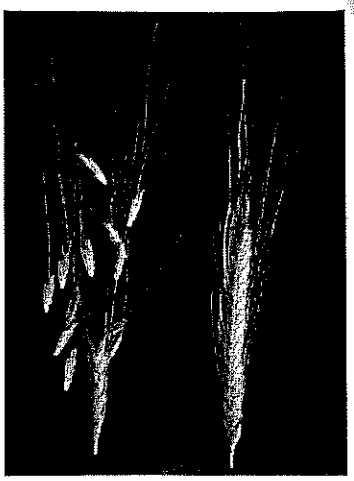
Comparative anatomy / vestigial

   b) Briefly describe one other way that scientists could support their idea that these species have evolved from common ancestors? (2 marks)

compare their DNA to see how much they have in common / look for fossil ancestors.

Need to answer the question being asked - highlighting would help

3. Wild and ancient wheat varieties have shattering stalks that cause the grain to break off from the stalks while still green. Domesticated modern wheat varieties have non-shattering stalks that hold the grain together, even after the grain has ripened and dried. This allows the grain to be more easily harvested, as it does not fall to the ground.



a) Is this an example of natural or artificial selection? (1 mark)

artificial

b) Where did this non-shattering gene come from? (1 mark)

mutation wheat was domesticated 2-10 000 yrs.

c) What do you think would happen to the wild wheat population if domestic wheat was released into the wild?

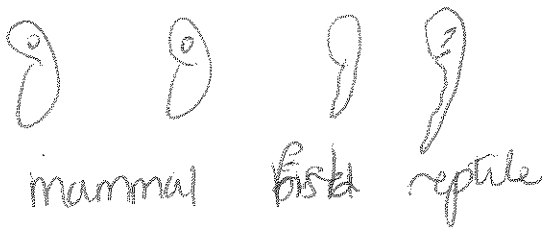
it would outcompete the domestic wheat

(1 marks)

4. Explain how embryology is used to support the theory of evolution. Diagrams and examples may be useful.

more closely related species have embryos that are similar for longer, as they follow very close patterns of development, whereas more distant species are different earlier in development.

(4 marks)



END OF TEST (OUT OF 30 MARKS)