**PAILSEY GRAMMAR SCHOOL BIOLOGY DEPARTMENT**

**VARIATION HOMEWORK**

**TEACHER COMMENT:**

|  |  |
| --- | --- |
| **http://www.schooljotter.com/imagefolders/stambrose/smiling_star-2188.gif** |  |
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| **http://t0.gstatic.com/images?q=tbn:ANd9GcT2MzG95a8vJs9iyBblKSFDCpTkMA3nSbFUMEHa6-gAbQt29OplFT4SzRwh** |  |

**PUPIL COMMENT:**

**PARENT COMMENT:**

**Homework 1**

1. Read the following passage about differences within the bird species and answer the questions.

*The term “raptor” refers to birds of prey. This group includes diurnal types (such as hawks, eagles, falcons and vultures) which feed in daylight. It also includes nocturnal types (such as owls) which feed mostly at night.*

*With the exception of the vultures, which feed on the leftovers other hunters leave behind, all of the raptors use their feet to catch and kill their prey. Many falcons have an elongated middle toe which they wrap around the prey while still in flight. Hawks’ feet have a ratchet-like mechanism to aid capturing and holding their prey without too much exertion. Once the toes and talons have tightened around the prey, they remain locked in place without further effort.*

*Raptors are completely carnivorous, obtaining all of their required nutrients from their prey. The nutrients which normally come from vegetable matter are often found in the stomachs of their prey. A lot of the water required for survival is also extracted from the prey. Raptors devour the prey entirely,*

*regurgitating the indigestible matter in pellet form once or twice a day.*

*All of the raptors have hook-tipped beaks which are used for ripping the dead prey. Falcons have a notch on each side of the upper beak forming a tooth-like projection, while some hawks have a more prominent hooked tip to the beak, probably for a similar reason. Vultures have developed a much larger, stronger beak for tearing the hides of dead animals and cracking their bones.*

1. Although members of the same species, hawks, eagles and falcons are not all the same. What term is used to describe the differences between members of the same species?
2. Describe the main difference, mentioned in the passage, between hawks and owls
3. Describe the feeding habits of vultures which make them different from other raptors
4. Explain how raptors can obtain vitamins and minerals found only in plants, even though they are entirely carnivorous.
5. Describe **two** differences mentioned in the passage between falcons and hawks
6. a) Complete the table showing the parents of the following animals. You may use the internet to research your answers

|  |  |  |
| --- | --- | --- |
| **Animal** | **Parent 1** | **Parent 2** |
| Wholphin | Whale | Dolphin |
| Cama |  |  |
| Zorse |  |  |
| Liger |  |  |
| Beefalo |  |  |
| Donkra |  |  |

b) What would happen if two ligers reproduced?

**Homework 2**

1. Complete the table below to sort the different types of variation from the word bank

|  |  |
| --- | --- |
| **CONTINUOUS VARIATION** | **DISCONTINUOUS VARIATION** |
|  |  |

blood type hair colour tongue rolling weight gender

length of nose hand span breathing rate foot length height

1. Foresters planted a variety of native Scottish trees. Five years later, the

heights of a sample of silver birch trees were measured in centimetres. The results are shown below:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 295 | 230 | 275 | 305 | 260 | 195 |
| 250  | 220 | 285 | 315 | 255 | 235 |

1. Is the variation in height of silver birch continuous or discontinuous?
2. What is the average height of the silver birch trees in this sample?

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_cm**

1. What is the advantage of making the sample as large as possible?

1. Use the results of the sample to complete the bar chart by:
2. Labelling each axis and adding suitable scales
3. Completing the remaining bars



1. In total, 480 silver birch and 360 rowan trees were planted. Calculate the simple whole number ratio of silver birch to rowan trees planted.

 \_\_\_\_\_\_\_\_\_\_ : \_\_\_\_\_\_\_\_\_\_

1. After five years, 384 of the original silver birch trees were still alive. What percentage of the silver birch trees had survived?

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_%