National 3 Biology
Life on Earth
HOMEWORK
Ecosystems - Homework 1

1. Name and describe a technique you would use to find out the abundance of daisies on a football pitch. (1)

2. Linda set up a pitfall trap in her back garden. After 1 day she counted the 8 beetles, 5 centipedes, 2 woodlice and 1 spider. On day 2 she had 10 beetles, 1 centipede and 6 woodlice. Copy and complete the following table using these results.

<table>
<thead>
<tr>
<th>Animal</th>
<th>No. on Day 1</th>
<th>No. on Day 2</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>beetles</td>
<td>8</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

(2)

3. Which animal was most common in Linda’s garden? (1)

4. Use the paired statement key to identify the following:

   a [ ] b [ ] c [ ] d [ ]

   1 Wings
   No Wings
   Go to 2
   Go to 4

   2 Thick body
   Bumble Bee
   Thin Body
   Common Mosquito

   3 Eight Legs
   House Spider
   Six Legs
   Black Ant

(2)
5. Use the branching key below to identify the insects.  

A

[Image of a mosquito]

B

[Image of a ladybug]

INSECTS

Spots present

- Two spots
  - Two spot ladybird

- More than two spots

- Horn on head
  - Rhinoceros beetle

Spots absent

- No horn on head
  - Wings
    - Cranefly
  - No wings
    - Greently
6. Copy and complete the following sentences using the correct term from the options provided:

(i) The place where an organism lives is called its \{Habitat, Ecosystem\}. (1)

\{Community, Biodiversity\} is the term used to describe the total variety of living things in an ecosystem. (1)

7. (a) Name the instrument used to measure light intensity? (1)

(b) Give an example of a different sampling technique and draw or describe how it is used. (2)

13 Marks
Chemicals in agriculture - Homework 2

1. Using an arrow, match up the following minerals with their importance to plant growth

Nitrogen  Flower/fruit growth
Phosphorous  Root growth
Potassium  Leaf growth

2. State two reasons why farmers use fertilisers  
(i)  
(ii)  

3. What are pesticides used for and why are they important
   Use  
   Importance  

4. What is 'organic farming'?
   

5. Why must care be taken when using herbicides?
   

6. State one advantage and one disadvantage of using chemicals in agriculture.

Advantage_____________________________________

Disadvantage__________________________________ (2)

10 marks