

# Option G Ecology and Conservation: Knowledge Audit

Name:

## G.1 Community and Ecology – Only SL

|               | Assessment statement   | OK                       | Review                   | Get help                 |
|---------------|--|--------------------------|--------------------------|--------------------------|
| <b>G.1.1</b>  | Outline the factors that affect the distribution of plant species, including temperature, water, light, soil pH, salinity and mineral nutrients.     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>G.1.2</b>  | Explain the factors that affect the distribution of animal species, including temperature, water, breeding sites, food supply and territory.         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>G.1.3</b>  | Describe one method of random sampling, based on quadrat methods, that is used to compare the population size of two plant or two animal species.    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>G.1.4</b>  | Outline the use of a transect to correlate the distribution of plant or animal species with an abiotic variable.                                     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>G.1.5</b>  | Explain what is meant by the niche concept, including an organism's spatial habitat, its feeding activities and its interactions with other species. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>G.1.6</b>  | Outline the following interactions between species, giving two examples of each: competition, herbivory, predation, parasitism and mutualism.        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>G.1.7</b>  | Explain the principle of competitive exclusion.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>G.1.8</b>  | Distinguish between fundamental and realized niches.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>G.1.9</b>  | Define biomass.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>G.1.10</b> | Describe one method for the measurement of biomass of different trophic levels in an ecosystem.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

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## G.2 Ecosystem and Biomes – Only SL

|               | Assessment statement   | OK                       | Review                   | Get help                 |
|---------------|--|--------------------------|--------------------------|--------------------------|
| <b>G.2.1</b>  | Define gross production, net production and biomass.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>G.2.2</b>  | Calculate values for gross production and net production using the equation: gross production – respiration = net production.          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>G.2.3</b>  | Discuss the difficulties of classifying organisms into trophic levels.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>G.2.4</b>  | Explain the small biomass and low numbers of organisms in higher trophic levels.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>G.2.5</b>  | Construct a pyramid of energy, given appropriate information.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>G.2.6</b>  | Distinguish between primary and secondary succession, using an example of each.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>G.2.7</b>  | Outline the changes in species diversity and production during primary succession.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>G.2.8</b>  | Explain the effects of living organisms on the abiotic environment, with reference to the changes occurring during primary succession. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>G.2.9</b>  | Distinguish between biome and biosphere.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>G.2.10</b> | Explain how rainfall and temperature affect the distribution of biomes.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>G.2.11</b> | Outline the characteristics of six major biomes.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

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## G.3 Impacts of Humans on Ecosystems – Only SL

|               | Assessment statement  | OK                       | Review                   | Get help                 |
|---------------|---|--------------------------|--------------------------|--------------------------|
| <b>G.3.1</b>  | Calculate the Simpson diversity index for two local communities.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>G.3.2</b>  | Analyse the biodiversity of the two local communities using the Simpson index.                            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>G.3.3</b>  | Discuss reasons for the conservation of biodiversity using rainforests as an example.                     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>G.3.4</b>  | List three examples of the introduction of alien species that have had significant impacts on ecosystems. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>G.3.5</b>  | Discuss the impacts of alien species on ecosystems.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>G.3.6</b>  | Outline one example of biological control of invasive species.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>G.3.7</b>  | Define biomagnification.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>G.3.8</b>  | Explain the cause and consequences of biomagnification, using a named example.                            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>G.3.9</b>  | Outline the effects of ultraviolet (UV) radiation on living tissues and biological productivity.          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>G.3.10</b> | Outline the effect of chlorofluorocarbons (CFCs) on the ozone layer.                                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>G.3.11</b> | State that ozone in the stratosphere absorbs UV radiation.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |