1. What is meant by a pyramid of numbers?

**The numbers of organisms at each trophic level**

1. What term is used by ecologists to describe the organisms that form the base of a pyramid of numbers?

**Producers** or **autotrophs**

1. In ecology what is meant by a trophic level?

**The position of an organism in a food chain**

1. What is the source of energy for the earth’s ecosystems?

**The sun**

1. Name the process that takes place in plants in which the sun’s energy is converted to a usable form.

**Photosynthesis**

1. What substance do plants possess that allows them to carry out photosynthesis?

**Chlorophyll**

1. Name a primary producer.

**Any NAMED autotroph, i.e. (plant) organism that makes food**

1. What are secondary consumers?

**An organism which feeds on the primary consumer**

1. Explain the term consumer.

**An organism that eats another organism / heterotroph**

1. Explain the term producer.

**An organism which makes its own food**

1. An organism which makes its own food is called a \_\_\_\_\_\_\_\_\_\_.

**Producer** or **autotroph**

1. An organism that eats another organism is called a \_\_\_\_\_\_\_\_\_\_.

**Consumer** or **heterotroph**

1. The primary source of energy in an ecosystem is the \_\_\_\_\_\_\_\_\_\_.

**Sun** or **light**

1. What is a pyramid of numbers?

**The numbers of organisms at each trophic level**

1. What is the principal source of energy for the Earth’s ecosystems.

**The sun or light**

1. Name the process that converts the sun’s energy into chemical energy in plants.

**Photosynthesis**

1. What does the animal plankton feed on?

**Plant plankton (phytoplankton)**

1. Hawthorn leaves --> Caterpillar --> Blue tit --> Sparrow hawk. The primary consumer in this food chain is \_\_\_\_\_\_\_\_\_\_.

**Caterpillar**

1. Hawthorn leaves --> Caterpillar --> Blue tit --> Sparrow hawk. If the number of sparrow hawks increases, the number of blue tits may \_\_\_\_\_\_\_\_\_\_.

**Decrease**

1. Hawthorn leaves --> Caterpillar --> Blue tit --> Sparrow hawk. In this food chain the hawthorn leaves represent the \_\_\_\_\_\_\_\_\_\_.

**Producer / food for caterpillar / 1st trophic level / Plant/ Autotroph**

1. Hawthorn leaves --> Caterpillar --> Blue tit --> Sparrow hawk. Name a carnivore from this food chain \_\_\_\_\_\_\_\_\_\_.

**Blue tit / Sparrow hawk**

1. Hawthorn leaves --> Caterpillar --> Blue tit --> Sparrow hawk. The number of trophic (feeding) levels in this food chain is limited by the small transfer of \_\_\_\_\_\_\_\_\_\_ from one level to the next.

**Energy / food**

1. Trophic level, Niche, Habitat, Ecosystem, Biosphere. Choose a term from the above list to match the following description: Position in a pyramid of numbers.

**Trophic level**

1. Explain the following term from your study of ecology: Food Web

**Interconnected food chains or more than one species at each trophic level**

1. Where are primary producers found in a pyramid of numbers?

**Base** or **bottom**

1. Say whether the following statement is true or false and give a reason for your choice: The herbivores in an ecosystem normally live long lives.

**False / Usually eaten by 2nd level consumers (or carnivores)**

1. Say whether the following statement is true or false and give a reason for your choice: The only remaining natural ecosystems in Ireland, for example mountain land above the heather line and salt marsh, are ones for which mankind has no use.

**True / Use causes change or no abuse or no economic value OR False / Valid reason**

1. Name an ecosystem you have studied and construct a simple food chain from that ecosystem.

**Name of ecosystem, e.g. grassland. Food chain: Must have at least three members and must match named ecosystem, e.g. grass --> grasshopper --> sparrow**

1. What is meant by a trophic level?

**Feeding (level)**

1. If all the top carnivores (tertiary consumers) were removed (e.g. by disease) suggest what would happen to the secondary consumers?

**(Their number would) increase**

1. Say whether the following statement is true or false and give a reason for your choice: Food chains are usually short.

**True / Energy lost at (or between) levels or described**

1. Organisms capable of making their own food are known as …

**Producers**

1. What is the main source of energy in an ecosystem?

**The Sun**

1. What would happen to the number of caterpillars if all the thrushes died?

**Increase (in number)**

1. Name one primary producer.

**Any NAMED plant**

1. Name one herbivore and one carnivore.

**Herbivore:** Caterpillar, Mouse, Greenfly, etc.; **Carnivore:** Hawk, Spider, Ladybird, etc.

1. Name one omnivore.

**Human, thrush, etc.**

1. Distinguish between a food chain and a food web. Include a clear reference to each in your answer.

**Chain:** One species at each trophic (or feeding) level **or** described **or** diagram; **Web:** Interconnected food chains **or** described **or** diagram **or** more than one species at each trophic (or feeding) level

1. What do ecologists mean by a pyramid of numbers?

**(Diagram) that shows the number of organisms at each trophic level**

1. Where in a food chain are primary producers found?

**First (level)**

1. What term is used to describe organisms that feed on primary producers?

**Primary consumer(s) or herbivore(s)**

1. Why are most food chains short (i.e. only consist of a few trophic levels)?

**(Large) energy loss (from one level to next) or small energy transfer**

1. What deduction may be made if the organisms at the start of the chain are less numerous than those that feed upon them?

**Producers are large or primary consumers are parasites**

1. Can a parasite be the first member of a food chain? Explain your answer.

**No. (Parasites) are not producers or (parasites) are consumers (or explained)**

1. Energy enters food chains in the form of light. In which form do you think most energy is lost from food chains?

**Heat**

1. True or False. Grazing food chains begin with animals.

**FALSE**

1. Explain the term producer as used in ecology.

**Organism that makes its own food**

1. What is the primary source of energy for plant cells?

**Sun / light**

1. Explain the term Competition.

**The struggle for a resource**

1. The following food chain is from a grassland ecosystem: Grass --> Rabbit --> Fox. Name a secondary consumer from this food chain.

**Fox**

1. The following food chain is from a grassland ecosystem: Grass --> Rabbit --> Fox. Name a producer from this food chain.

**Grass**

1. The following food chain is from a grassland ecosystem: Grass --> Rabbit --> Fox. If all the foxes were killed, what would happen to the number of rabbits?

**Number would increase**

1. What is the main source of energy for photosynthesis?

**Light or Sunlight**

1. Explain the term predator.

**Kills / prey or Kill / to eat or Kills/ for food**