Energy and Living Things Summary – ANSWERS (See Summary)

The place where an organism lives is called its 1. HABITAT

A 2. QUADRAT can be used to sample plants so that an estimate of their numbers can be made.
It must be placed 3.RANDOMLY, many times to ensure that the estimate is as reliable as possible.

A 4PITFALL trap can be used to sample ground living animals.
The trap should be set level with the surface of the ground and should be emptied 5.REGULARLYto minimise trapped organisms being eaten by others.

Light intensity can be measured with a 6 LIGHT METER
Care must be taken to make sure that the light sensitive strip is not shaded.

pH can be measured using 7 UNIVERSAL INDICATOR and comparing the colour to a chart or by using a pH 8. METER
Some plants are only found in soil with a particular range of pH values.

A 9. KEY can be used to identify organisms. There are 2 types, 10. BRANCH and numbered 11. PAIRED statements.

A 12 CHOICE CHAMBER can be used to find out which of 2 different conditions an organism prefers. e.g. woodlice prefer dark conditions to light and moist conditions to dry.

Plants make their own food by a process called 13.PHOTOSYNTHESIS
Plants need 14.WATER, 15CARBON DIOXIDE and green 16.CHLOROPHYLL to make their own food.
Carbon dioxide comes into the leaf through tiny holes called 17. PORES.
Water comes into the plant through the 18. ROOTS
The products of photosynthesis are 19.GLUCOSE (food) and 20.OXYGEN.

Photosynthesis can be written as a word equation as follows:-

$$\text{Carbon dioxide + water} \xrightarrow[\text{chlorophyll}]{\text{Light}} \text{Glucose + Oxygen}$$

Leaves can be tested for 21.STARCH to prove that they have carried out photosynthesis.
To test a leaf for starch, the following steps are carried out:
a. Boil the leaf in 22.WATER for 1 minute to remove the waterproof covering
b. Switch off the 23.BUNSEN BURNER as a safety precaution
c. Boil the leaf in 24.ALCOHOL until all the green colour is removed
d. Rinse the leaf in cold water
e. Place the leaf on a dimple tile and add 25.IODINE solution to it
If starch is present in the leaf, 26.IODINE will turn from 27.BROWN to 28.BLUE/BLACK.

All life on Earth depends on the 29 GREEN PLANTS for food.
A food 30.CHAIN shows a feeding relationship between organisms. The 31.ARROW in a food chain show the direction of energy flow from one link to the next. A 32.CONSUMER eats other organisms for its food. A 33.PRODUCER makes food and is usually a green plant. A food chain always starts with a 34.GREEN PLANT.
A 35.PREDATOR hunts other animals for its food. The animal that is hunted by a predator is called its 36. PREY.