



Give the marks for the points in the marking scheme; an answer in other words that says the same is right.

**1 Key words**

1. environment
2. chlorophyll
3. food
4. hibernation
5. renewable
6. fossil fuels
7. electricity

K • 3.5

Each carries 0.5 mark.

**2 Label the diagram**

1. sunlight
2. carbon dioxide in through the stomata

3. green leaf makes glucose, stored as starch
4. oxygen out
5. water from the soil, through the roots

K • 2.5

Each carries 0.5 mark.

**3 Multiple choice**

- i. d. the Sun

K • 1

The Sun heats the whole Earth. Fire, gas and lamps give heat only to the things near them.

- ii. c. light, chlorophyll and carbon dioxide

K • 1

A leaf uses **light**, caught by its **chlorophyll**, to make food from water and **carbon dioxide**. Oxygen is not needed. The leaf gives oxygen out.

- iii. b. not enough heat

U • 1

Winter in Nepal is sunny on most days, but **cold**. The cold slows plants down, and frost can kill them. Look at the tunnel: inside, the plants get the same winter light, but more warmth, and they grow well. So the main reason is the lack of **heat**. Less light is a smaller reason: winter days are shorter, so plants get fewer hours of sunlight to make food.

- iv. a. diesel

U • 1

Burning **diesel** gives out black smoke and harmful gases. Hydropower and the Sun burn nothing. Biogas burns cleanly.

- v. c. using a pressure cooker on an improved stove

A • 1

A **pressure cooker** cooks food fast, and an **improved stove** sends more of the heat to the pot. Together they save a lot of fuel. Using less than you need doesn't help: you should use what you need, and not waste it.

**4 Correct or wrong?**

MARKING SCHEME

U • 4

- ✓ i. Wrong, X (she needs heat, not light).
- ✓ ii. Correct, ✓ (spruce, fir and juniper).
- ✓ iii. Wrong, X (they burn no fuel, so they give out no smoke on the road).
- ✓ iv. Wrong, X (it took millions of years to form; once burnt, it is gone).



## 5 Very short answers

- a. MARKING SCHEME K · 1  
✓ Yellow.
- b. MARKING SCHEME K · 1  
✓ Any one of: the Sun, wind, flowing water, biogas, replanted forests.

## 6 Short answers

- a. MARKING SCHEME U · 2  
✓ Any one reason, e.g. biogas burns with no smoke, so the kitchen and our lungs stay clean.  
✓ Any second reason, e.g. no trees are cut (it is made from dung); it is renewable; what is left makes good manure.
- b. MARKING SCHEME A · 2  
✓ Any one way, e.g. switching off lights, fans and TV when nobody is using them.  
✓ Any second way, e.g. cooking with a pressure cooker on an improved stove; using LED bulbs; drying clothes in the sun; walking or cycling for short trips.

## 7 Think

- MARKING SCHEME HA · 2  
✓ The plants would turn yellow and grow thin and weak (and in the end die).  
✓ Black plastic blocks the light, and plants need light to make their food; clear plastic lets in light and keeps in warmth.

## 8 Activity: A box in the sun

(not marked)

### WHAT STUDENTS SHOULD FIND

Before, the inside and outside read the same. After half an hour in the sun, the inside is warmer, often by 10 °C or more. Sunlight gets in through the clear sides and the warm air inside can't get out, just as in a plastic tunnel.

| Marks by level | Knowledge | Understanding | Application | Higher ability | Total |
|----------------|-----------|---------------|-------------|----------------|-------|
| Marks          | 10        | 8             | 3           | 2              | 23    |

