

FOR OFFICIAL USE

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F

3700/401

	KU	PS
Total Mark		

NATIONAL
QUALIFICATIONS
2010

THURSDAY, 27 MAY
9.00 AM – 10.00 AM

SCIENCE
STANDARD GRADE
Foundation Level

Fill in these boxes and read what is printed below.

Full name of centre

Town

Forename(s)

Surname

Date of birth

Day Month Year

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Scottish candidate number

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Number of seat

- 1 Answer as many questions as you can.
- 2 Read the whole of each question carefully before you answer it.
- 3 Write your answers in the spaces provided. Showing working may help in some questions.
- 4 Before leaving the examination room you must give this book to the Invigilator. If you do not, you may lose all the marks for this paper.



Ears	116	Faeces	13
Ear lobes	118	Fainting	197
Egg cells	90	Families	97
Embryos – human	93	Fats	44
– plant	85	Feeding	177
Emotions	77	Fertilisation – chromosomes	95
Emphysema	45	– human	94
Enzymes – digestion	34	– plant	87
– food	142	Fitness	157
– respiration	42	Fixed joints	63
Excretion	12	Foetus	95
Exercise	156	Food	22

1

1

arthritis	common cold	lung cancer	heart disease
measles	bronchitis	obesity	anorexia

2

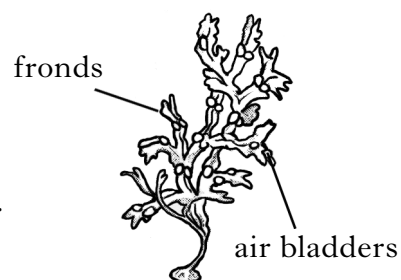
[illegible]

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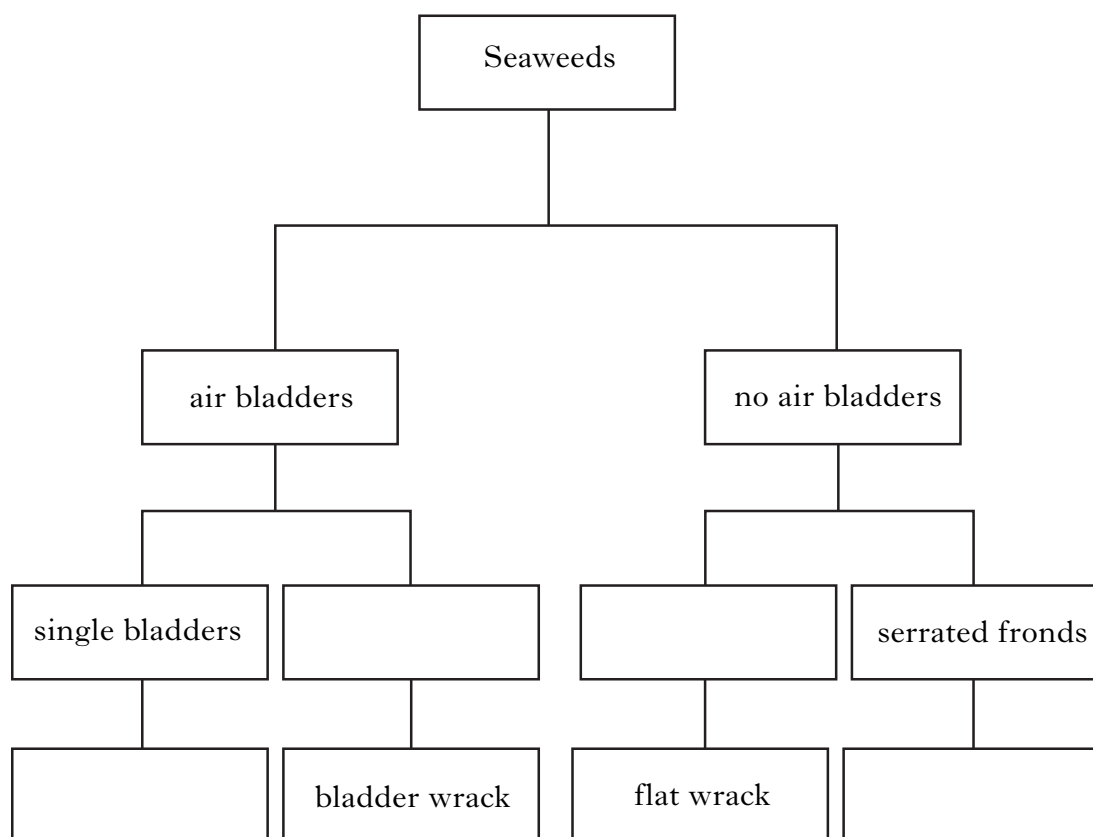
1

-

1



Use this information to complete the following key.



2

Page three

- | | |
|--|--|
| | |
|--|--|

- [illegible]

1

- | | |
|--|--|
| | |
| | |

1

- Her results are shown in the pie chart below.



-%

- How many were siskins?

.....

1

1

1	water pipes electric wiring coins	2	railway lines pylons car bodies
3	carpets climbing ropes fishing nets	4	disposable cups ceiling tiles packaging

(a) steel?

1

Box number

1

(a) Complete the list below to show the four main parts of a balanced diet.

- 2

Name **one** health problem caused by an unhealthy diet.

.....

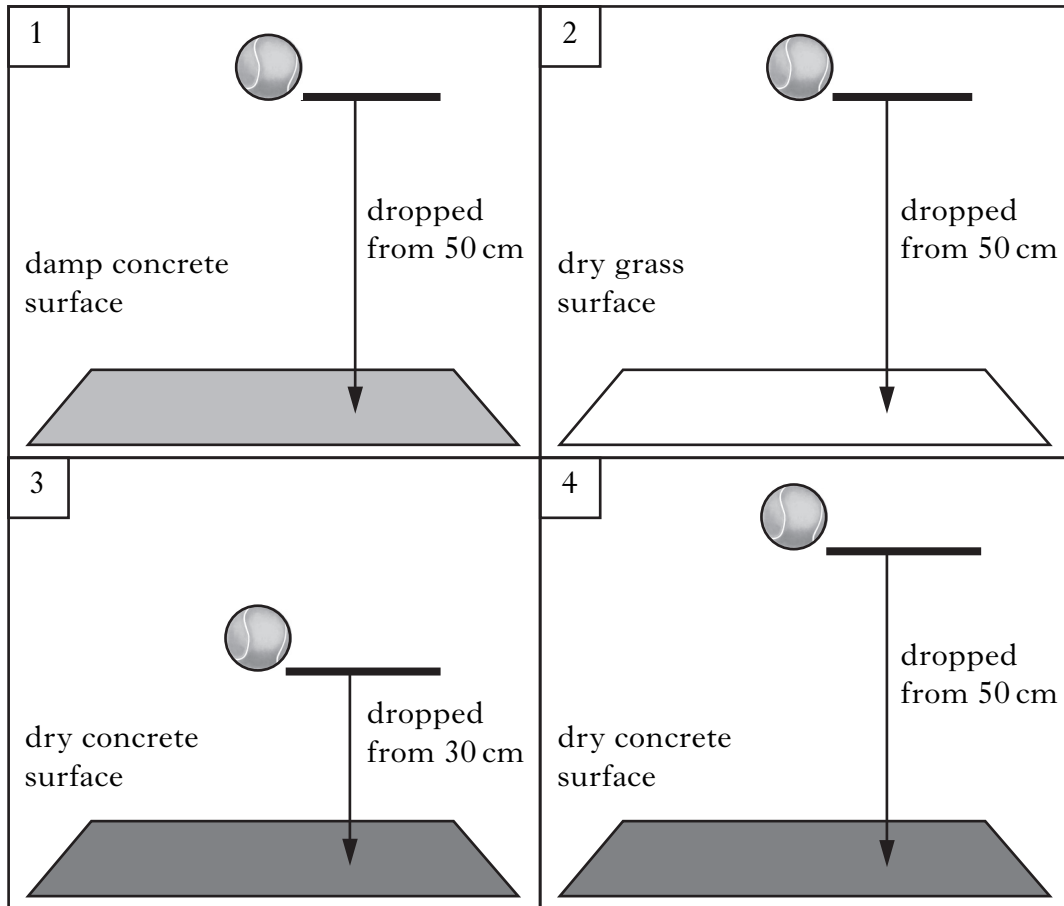
1

Marks

KU PS

9. Marek investigated how high tennis balls bounce.

For each experiment, he measured how high the tennis ball bounced after it hit the surface.



- (a) Marek wanted to find out if the **dampness of the surface** affected how high the tennis ball bounced.

Which **two** boxes show the experiments he should compare for a **fair** test?

Box numbers and

1

- (b) Marek compared the experiments in boxes **3** and **4**.

What was he trying to find out?

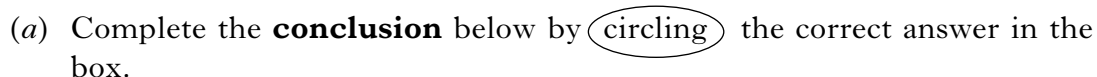
.....

.....

1

[Turn over

- [illegible]



increases
decreases
stays the same

- Space for working

..... mg

- Two of these basic needs are

- Underline** the correct answer.

- | | | | |
|---|----------------------------------|---|---------------------------------------|
| 1 | oil spill
smoke
sewage | 2 | sulphur dioxide
sewage
litter |
| 3 | litter
car fumes
oil spill | 4 | smoke
car fumes
sulphur dioxide |

Box number

- | | | | |
|---|-------------------------------|---|--------------------------------------|
| 1 | nitrogen
cotton
leather | 2 | steel
copper
aluminium |
| 3 | steel
silver
wood | 4 | carbon dioxide
nitrogen
oxygen |

Box number

- Box number

[3700/401]

Marks	KU	PS
1		
1		
1		
1		
2		

13. Tar, nicotine and carbon monoxide are harmful substances.

All three are found in

- A car exhaust fumes
- B water polluted with oil
- C tobacco smoke
- D smoke from a barbecue.

Underline the correct answer.

14. Fossil fuels are our main source of energy.

(a) From which fossil fuel is petrol made?

.....

(b) Why should we try to **conserve** fossil fuels?

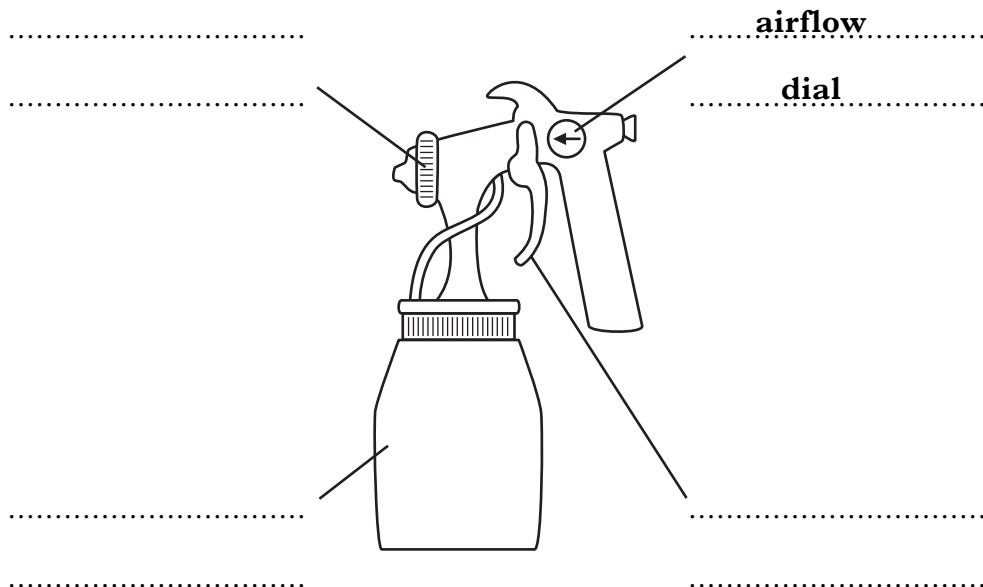
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(c) Which gas from the air is used up when fossil fuels are burned?

.....

15. Read the information below and use it to label the diagram.

Paint spray guns can be used to apply paint to garden fences. The paint is poured into the **metal canister**. When the **spray trigger** is pulled the paint is released in a steady flow. The **airflow dial** controls the rate of flow of the paint. Turning the **pattern dial** gives different paint spray effects.



- Ladybirds are small, brightly-coloured insects. They are often seen on green plants eating aphids, which are their main prey. Aphids are slow-moving and have no defences so they are easily caught by ladybirds. There are eighty-eight species of ladybird found in Britain.



aphid



ladybird

Aphids damage plants, so gardeners use ladybirds as a natural way of controlling the number of aphids. An advantage of using ladybirds to kill aphids is that gardeners do not have to use toxic pesticides. In many European countries, ladybird farms have been set up to provide a supply of ladybirds.

- 1

2

-

-

-

[Turn over

- [illegible]



.....%

1

- (b) Which metal makes up 12% of nichrome wire?

.....

1

2

(c) A reel of nichrome wire weighs 200 g.

Space for working

.....g

[3700/401]

- | | |
|-------------------------|-------------------------|
| strength | electrical conductivity |
| resistance to corrosion | thermal conductivity |

(a) copper used to make electrical wiring?

.....

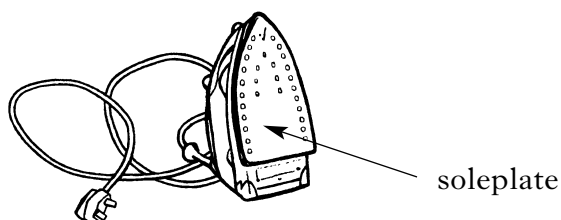
1

- (b) steel used to make bridges?

.....

1

- (c) aluminium used to make the soleplate of an iron?



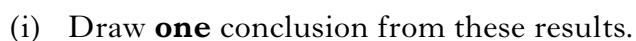
.....

1

2

- and

- The results are shown below.



.....

.....

- mV

- units

[3700/401]

Marks

KU PS

20. Germany is the biggest producer of electrical energy in the European Union. Germany produced 580 billion kWh in one year. France and the United Kingdom were the second and third largest producers with 520 and 370 billion kWh. A total of 280 billion kWh of electrical energy was produced by Italy, the fourth largest producer.

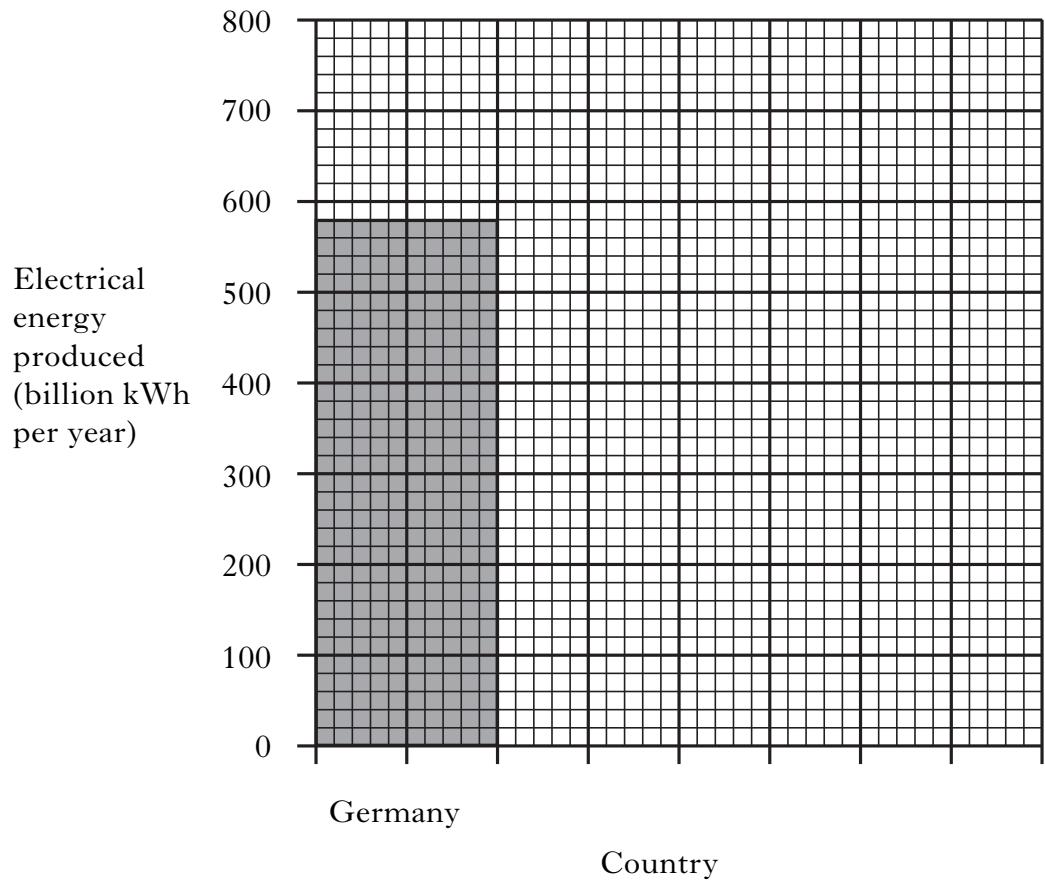
(a) Use this information to complete the table below.

<i>Country</i>	<i>Electrical energy produced (billion kWh per year)</i>

2

(b) Use this information to complete the bar graph.

(Additional graph paper, if required, can be found on page 21)

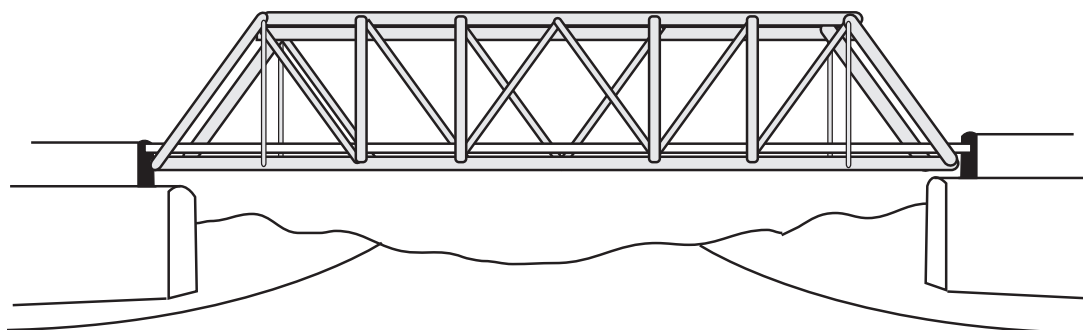


2

- Underline** the correct answer.

1

22. The picture shows a type of bridge called a **truss bridge**.



1

[Turn over

```
graph BT; plankton --> krill; plankton --> squid; krill --> icefish; krill --> toothfish; squid --> toothfish; squid --> emperor_penguin[emperor penguin]; icefish --> crabeater_seal[crabeater seal]; toothfish --> crabeater_seal;
```

(a) Name **two** predators of the toothfish.

..... and

1

.....

1

..... → → → emperor penguin

1

Where does plankton get its energy from?

.....

1

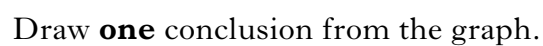
- 1**

1

- [Turn over**

[3700/401]

- The graph below shows how the distance between the birds' nests affects how many are attacked by weasels.



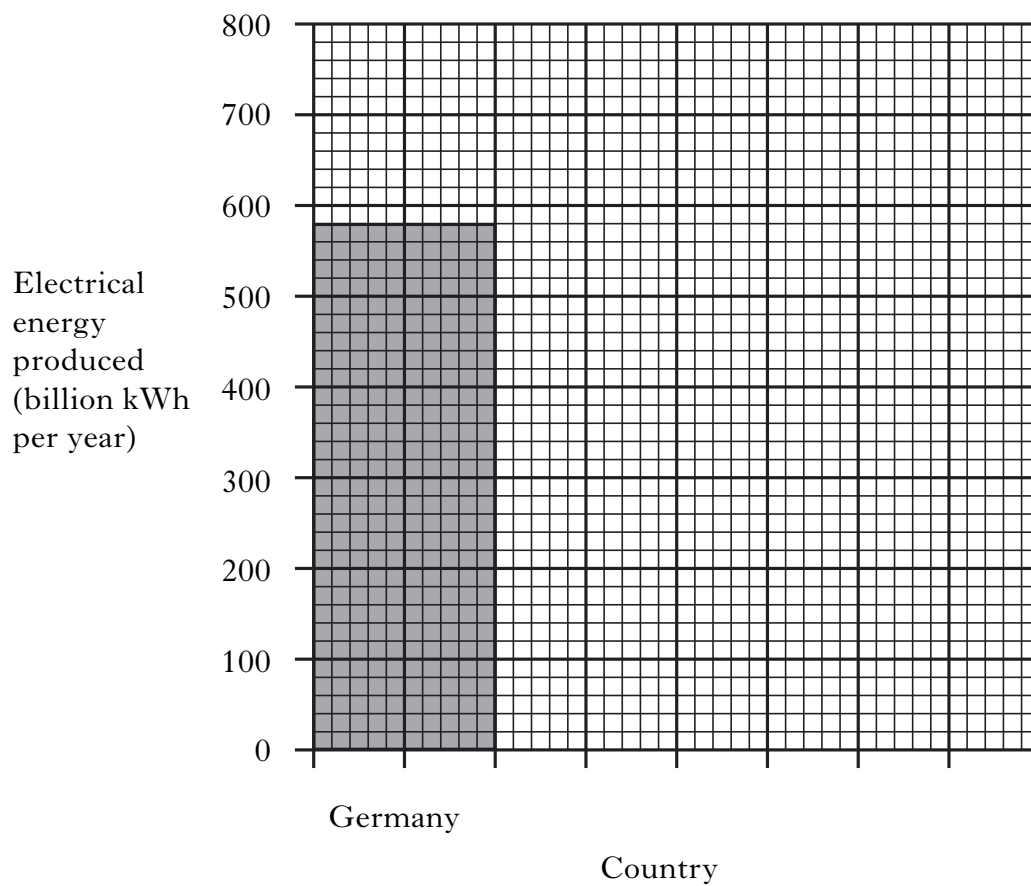
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[END OF QUESTION PAPER]

ADDITIONAL GRAPH PAPER FOR USE IN QUESTION 20(b)



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[BLANK PAGE]

[BLANK PAGE]