

FOR OFFICIAL USE

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F

KU

PS

Total Mark

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3700/401

NATIONAL
QUALIFICATIONS
2011

MONDAY, 23 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.



Marks	KU	PS
1		
2		
1		

2. (a) What is normal body temperature?

- A 27°C
- B 35°C
- C 37°C
- D 40°C

Underline the correct answer.

(b) Complete each sentence by circling the correct answer.

Energy must be supplied from

food
the Sun

 to maintain your body temperature.

If the air temperature is lower than your body temperature, your body will lose heat and you may start to

sweat
shiver

.

3. A number of different materials have been grouped together in the table below. Give **three** suitable headings for the table.

water	nylon	oxygen
petrol	concrete	carbon dioxide
milk	wood	air

[Turn over

Marks

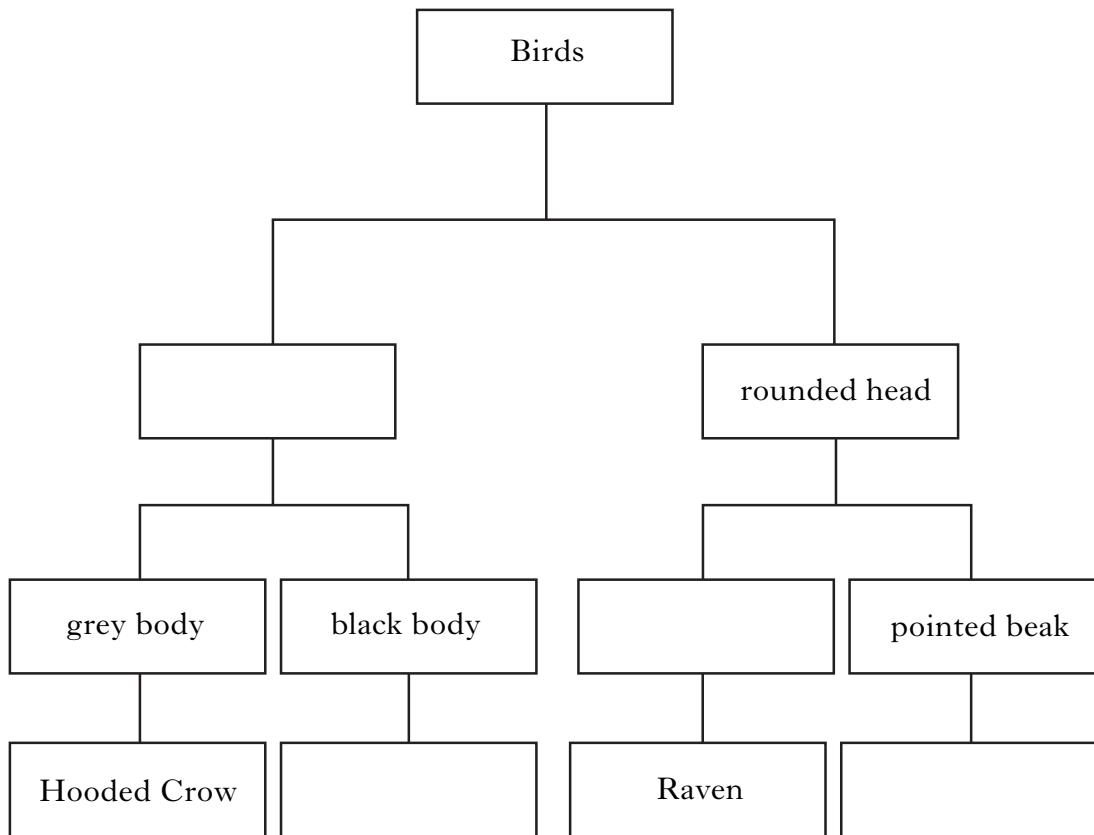
KU	PS

4.

Birds

The Hooded Crow and the Carrion Crow have flat heads.
 The Raven and the Rook have rounded heads.
 The Hooded Crow has a grey body and the Carrion Crow's body is black.
 The Raven has a curved beak and the Rook's beak is pointed.

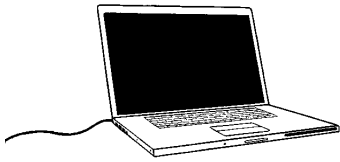
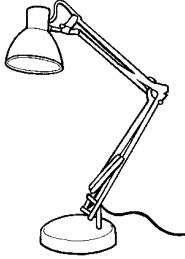


Use the information to complete the following key.



2

Marks

5. Some electrical appliances are shown in the grid below.

1	2
 laptop	 desk lamp
3	4
 hair dryer	 DVD player

Which electrical appliance is the **most expensive** to use for ten minutes?

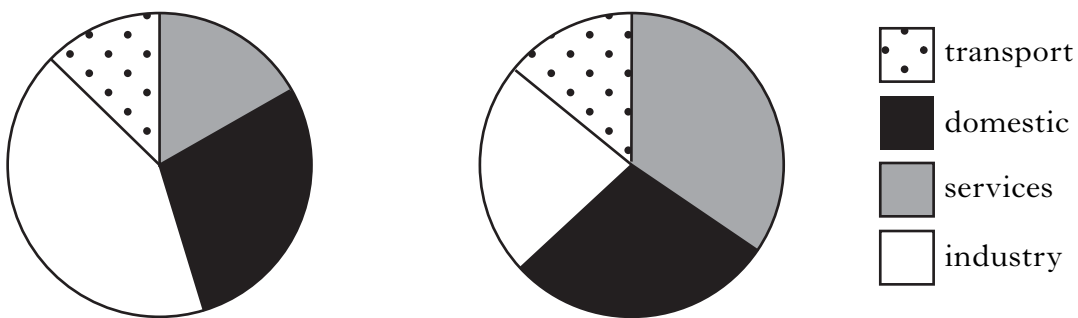
Box number

1

6. The pie charts show the main use of energy in the UK in 1960 and 2000.

Energy use in 1960

Energy use in 2000



(a) What was the largest use of energy in 2000?

.....

1

(b) Which energy use **decreased** from 1960 to 2000?

.....

1

Marks

KU	PS

7. Uses of different materials are shown below.

insulated cups	girders	electrical wiring	toothbrush bristles
carpets	water pipes	railway lines	packaging

Select **two** uses for

(a) polystyrene

1

2

1

(b) copper

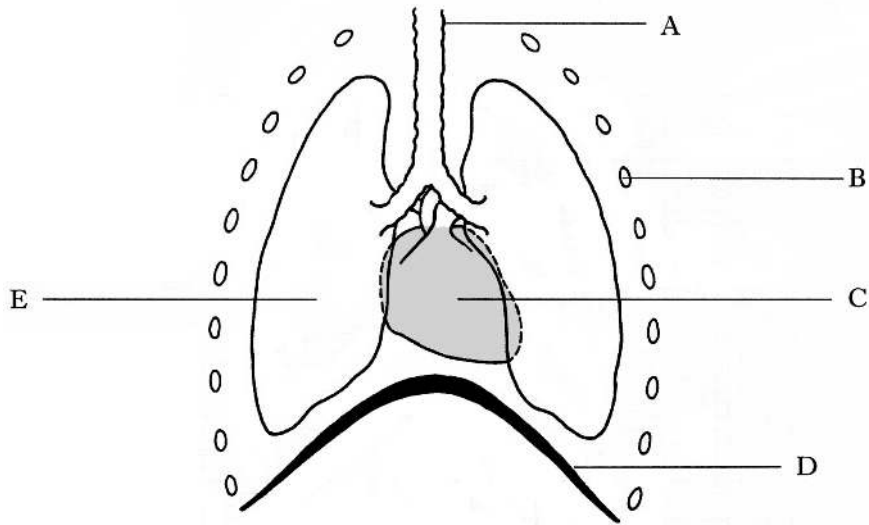
1

2

1

Marks	KU	PS
1		
1		
1		
1		

8. The diagram shows parts of the body.



(a) Which letter shows

(i) the windpipe?

Letter

1

(ii) the heart?

Letter

1

(b) Which of the following statements describes the function of the heart?

- A Cleans the blood
- B Pumps blood around the body
- C Allows oxygen into the blood
- D Maintains the temperature of the blood

Underline the correct answer.

1

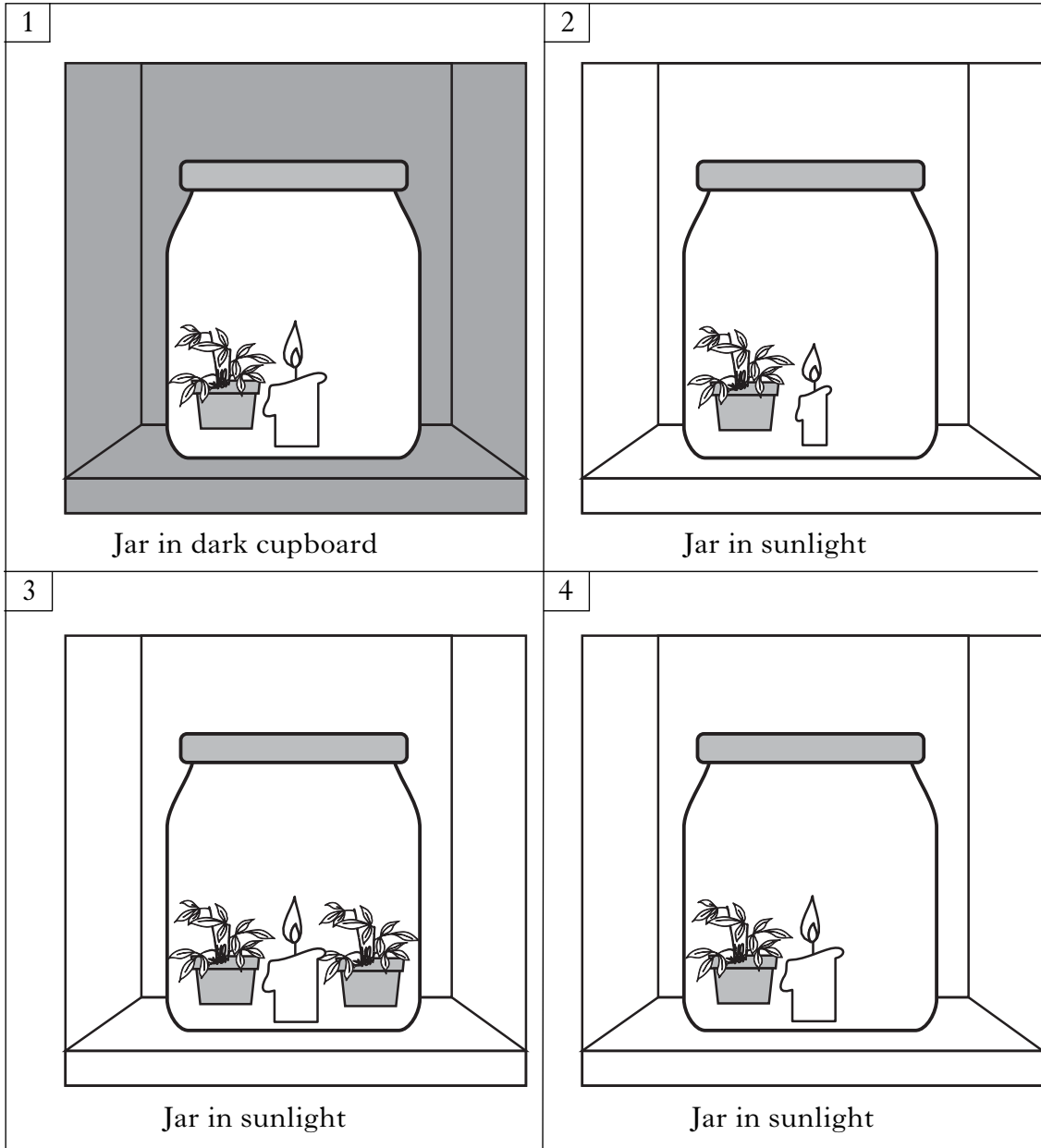
(c) One factor which can increase the risk of heart disease is smoking.
Give **one** other factor which can increase the risk of heart disease.

.....

1

[Turn over

9. Joseph set up experiments with green plants as shown below.
He lit the candles and timed how long each one burned.



(a) Joseph wanted to find out if the number of plants affects how long each candle burned.

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

Box numbers and

1

(b) Joseph compared the experiments in boxes 1 and 4.

What was he trying to find out?

.....

1

Marks

	KU	PS
1		
1		
1		

10. The table shows how the volume of air in the lungs and the lung pressure change during warm-up exercises.

<i>Exercise time</i> (minutes)	<i>Volume of air in the lungs</i> (cm ³)	<i>Lung pressure</i> (kPa)
2	2400	100
4	2750	99
6	3000	98
8	3200	97

(a) (i) Complete the conclusion by circling the correct answer.
As exercise time increases, the volume of air in the lungs

increases	.
decreases	
stays the same	

(ii) Draw **one** other conclusion from these results.

.....

.....

(b) Predict the volume of air in the lungs after 3 minutes.

..... cm³

[Turn over

Marks

	KU	PS
1		
1		
1		
1		
1		

11. The boxes show different substances.

1	metal	2	pesticide
3	smoke	4	water

(a) Which box shows

(i) a basic human need?

Box number

(ii) a substance which can pollute the air?

Box number

(iii) a **type** of household waste which can be easily recycled?

Box number

(b) A building firm cleared land to build houses.

However, they did not cut down all the old trees and also planted some new trees.

What word is used to describe meeting basic needs without damaging the environment?

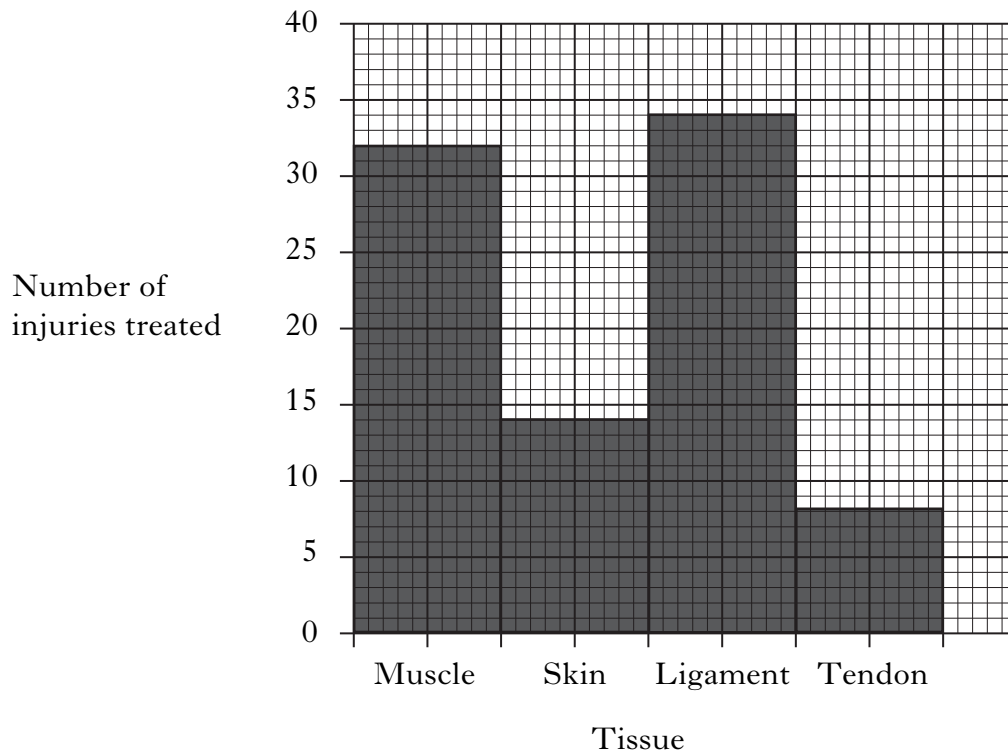
.....

Marks

KU	PS

14. A sports injury clinic recorded the number of different tissue injuries treated in one month.

The results are shown below.



(a) What type of tissue was treated 34 times?

.....

1

(b) What is the total number of muscle and tendon injuries treated?

Space for working

Answer

2

[Turn over

Marks

KU	PS

19. Different types of electrical appliances can be found in a modern kitchen. The power rating of a food blender is 600 watts. An electric can opener has a power rating of 100 watts. A breadmaker has a power rating of 500 watts and the power rating of an ice cube maker is 200 watts.

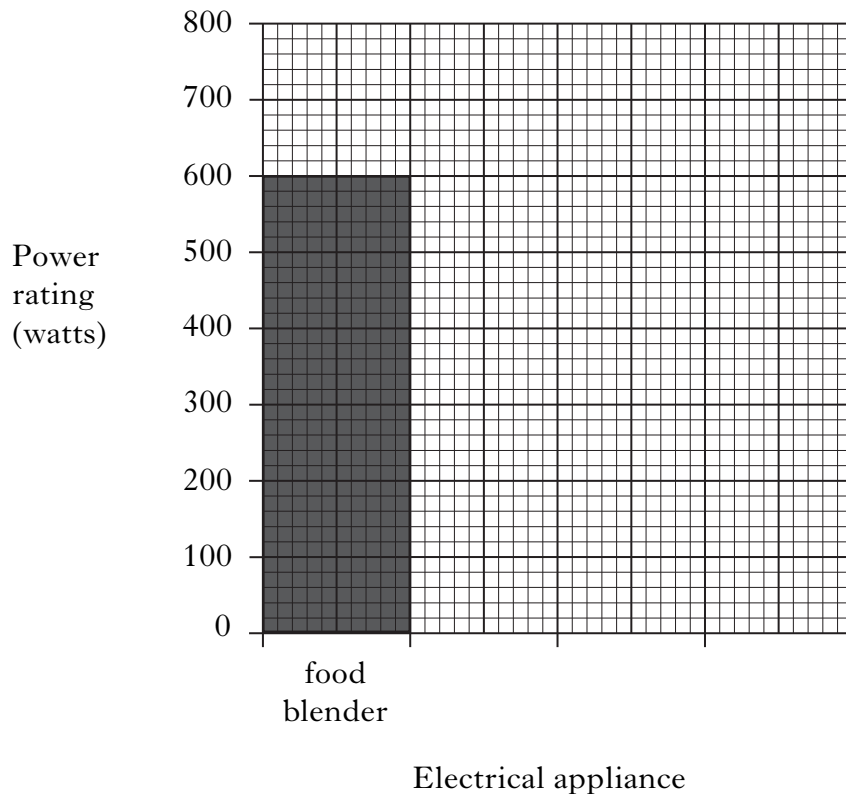
(a) Use this information to complete the table.

<i>Electrical appliance</i>	<i>Power rating (watts)</i>
food blender	
	100
ice cube maker	

2

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

(Additional graph paper, if required, can be found on *Page twenty-one*)



2

[Turn over

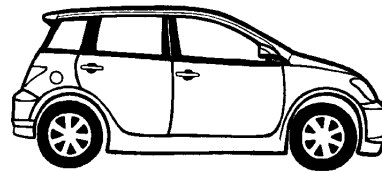
Marks

KU	PS
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20. Some methods of protecting materials are shown below.

water-proofing	painting	packaging
pesticide treatment	anodising	galvanising

Which **two** methods are used to protect the steel body of a car against corrosion?

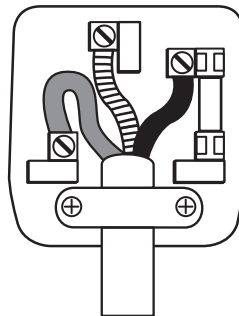


1

2

2

21. Here is a diagram of an electric plug.



(a) The insulation on the three wires is colour coded.

Complete the table below.

<i>Colour of insulation</i>	<i>Name of wire</i>
green and yellow	earth
	live
blue	

2

(b) The earth wire is a safety device.

Name the other safety device in the plug.

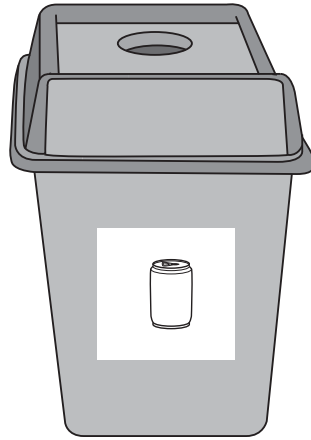
.....

1

Marks

KU	PS
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22. In a school canteen pupils put their empty cans in recycling bins. The cans can be made from steel or aluminium.



- (a) One of the bins contains 150 metal cans. There are 80 aluminium cans. How many steel cans are there?

Space for working

Answer steel cans

1

- (b) Another bin contained 200 metal cans.
50% of the cans were made from aluminium.
How many aluminium cans were there?

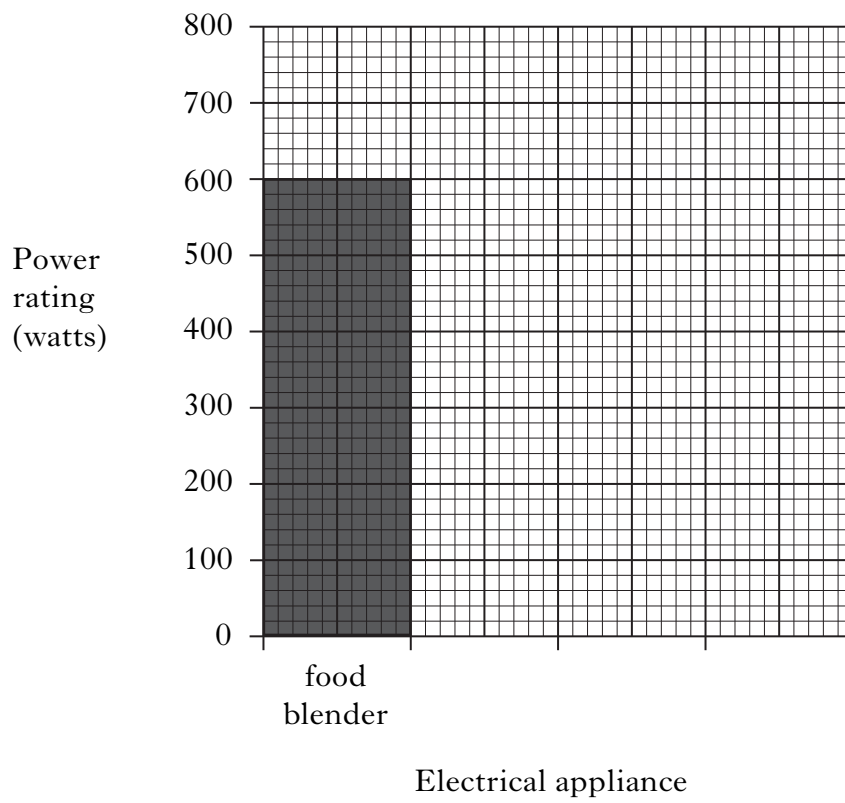
Space for working

Answer aluminium cans

1

[Turn over

ADDITIONAL GRAPH PAPER FOR USE IN QUESTION 19(b)



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