



GAUTENG PROVINCE

EDUCATION
REPUBLIC OF SOUTH AFRICA

GRADE 5

SUBJECT : NATURAL SCIENCES & TECHNOLOGY
NAME OF LEARNER : _____
NAME OF SCHOOL : _____
STRAND : ENERGY AND CHANGE
: SYSTEMS AND CONTROL

MARKS: 30

DURATION : 1 HOUR

TOTAL:

30

INSTRUCTIONS AND INFORMATION

1. Answer all questions.
2. Write the answers on the spaces provided on the question paper.
3. Write neatly and legibly.
4. This question paper consists of 6 pages
5. Section A to Section C

Cognitive levels:

	SECTION A: LOWER ORDER QUESTIONS COGNITIVE LEVEL 1	SECTION B: MIDDLE ORDER QUESTIONS COGNITIVE LEVELS 2, 3 & 4	SECTION C: HIGHER ORDER QUESTIONS COGNITIVE LEVELS 5 & 6
Section A Question1 Stored energy in fuel	5		
Section A Question2 Stored energy in fuels	10		
Section B Question 3 Energy and		5	

electricity			
Section B		6	
Question 4			
Mains electricity			
Section C			4
Question 5			
Energy and movement,			
Systems for moving things			
	15	11	4

SECTION A Stored energy in fuels

Multiple choice questions

Question 1

Choose and circle the correct answer from the questions below.

1.1 Energy comes from a

- A. Fire
- B. Plants
- C. Source

[1]

1.2. The source of energy of the Earth is the

- A. Wood
- B. Sun
- C. Paraffin

[1]

1.3 Plants take the energy and store in the

- A. Soil
- B. Leaves
- C. Air

[1]

1.4 Combustion need heat, fuel and

- A. Sun
- B. Oxygen
- C. Food

[1]

1.5 Electricity flow in a pathway called

- A. Battery
- B. Stored
- C. Circuit

[1]

[5]

QUESTION 2

2.1 Complete the following table on output energy and state how the type of fuel is useful to humans.

Type of fuel	Output energy	Use for humans
Wood	a) _____ 1 _____	b) _____ 2 _____ _____ 3 _____
Coal	c) _____ 4 _____	d) _____ 5 _____ _____ 6 _____
Petrol	e) _____ 7 _____	f) _____ 8 _____
Wax	g) _____ 9 _____	h) _____ 10 _____

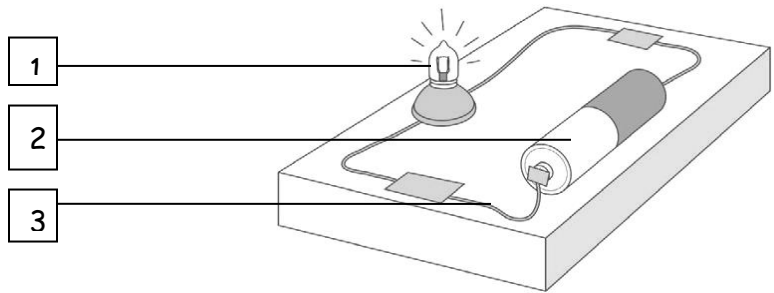
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[10]

SECTION B **Energy and electricity**

Question 3

Study the following diagram of a simple circuit and answer the questions that follow.



1.

3.1 Label the parts of a circuit 1-4

3.1.1 _____

(1)

3.1.2 _____

(1)

3.1.3 _____

(1)

3.1.4 _____

(1)

3.2 What is the function of part 1?

(1)

[5]

Question 4 Mains Electricity

4.1 Match column A with the correct description in column B and write the correct symbol in column C

Column A	Column B	Column C
1. Mains electricity	A. Provide safe places to plug electricity appliances into mains electricity	
2. National grid	B. Supply of electricity to the national grid.	
3. Substation	C. Allows electricity energy to be transferred to the electrical appliance.	
4. Wall sockets	D. Network of cables and power lines to transfer electricity from the power stations to houses, schools, and work places.	
5. Plugs	E. Reduce high-voltage electricity to lower voltages to be used.	
6. Wheels and axle	F. System for moving vehicles	

[6]

SECTION C. Energy and movement
Systems for moving things.

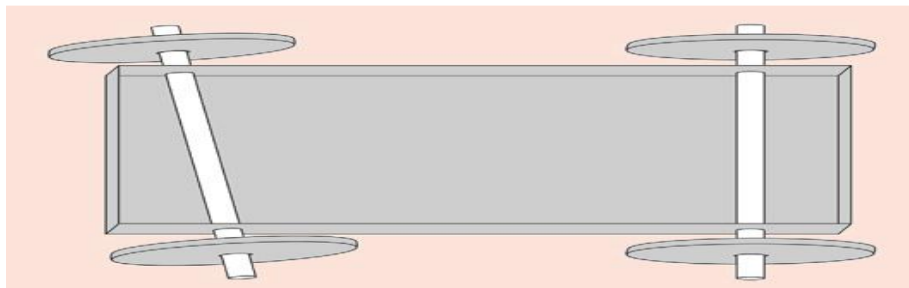
Question 5

5.1 Study the pictures below:



5.1.1 Why would you say that a spring has stored energy?

(2)



5.1.2. Describe the movement of the vehicle. Give a reason for your answer.

[4]

MEMORANDUM

SECTION A

Question 1

Choose and circle the correct answer from the questions below.

1.2 Energy comes from a

D. Fire

E. Plants

F. Source

[1]

1.2 The source of energy of the Earth is the

D. Wood

E. Sun

F. Paraffin

[1]

1.3 Plants take the energy and store in the

D. Soil

E. Leaves

F. Air

[1]

1.4 Combustion need heat, fuel and

D. Sun

E. Oxygen

F. Food

[1]

1.5 Electricity flow in a pathway called

D. Battery

E. Stored

F. **Circuit**

[1]

[5]

QUESTION 2

2.1 Complete the following table on output energy and state how the type of fuel is useful to humans.

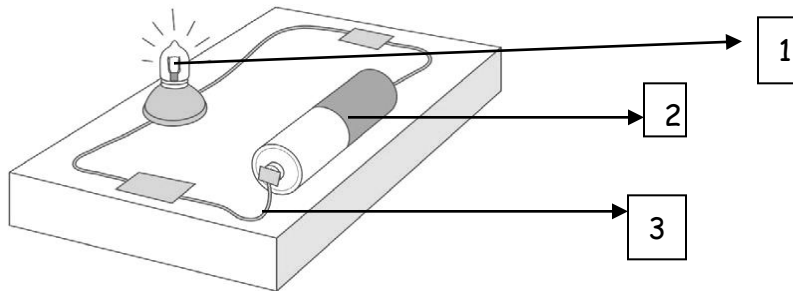
Type of fuel	Output energy	Use for humans
Wood	a) Heat	b) <u>Cooking</u> and <u>Heating</u> of houses
Coal	c) Heat	d) <u>Heating</u> and <u>Cooking</u> of food
Petrol	e) Heat	f) Movement of cars or trucks
Wax	g) Heat	h) Light and heat

[10]

SECTION B **Energy and electricity**

Question 3

3.1 Study the following diagram of a simple circuit and answer the questions that follow.



3.1 Label the parts of a circuit 1-4

3.1.1 Bulb (1)

3.1.2 Cell (1)

3.1.3 Wire (1)

3.2 What is the function of part 3?

(1) Wire transfers energy from the cell to the bulb. (1)

3.3 What is the difference between a Cell and a Battery?

(1) Battery consists of more than one cell (1)

[5]

Question 4 Mains Electricity

4.1 Match column A with the correct description in column B and write the correct symbol in column C

Column A	Column B	Column C
1. Mains electricity	A. Provide safe places to plug electricity appliances into mains electricity	B
2. National grid	B. Supply of electricity to the national grid.	D
3. Substation	C. Allows electricity energy to be transferred to the electrical appliance.	E
4. Wall sockets	D. Network of cables and power lines to transfer electricity from the power stations to houses, schools, and work places.	A
5. Plugs	E. Reduce high-voltage electricity to lower voltages to be used.	C
6. Wheels and axle	F. System for moving vehicles	f

[5]

SECTION C. Energy and movement Systems for moving things.

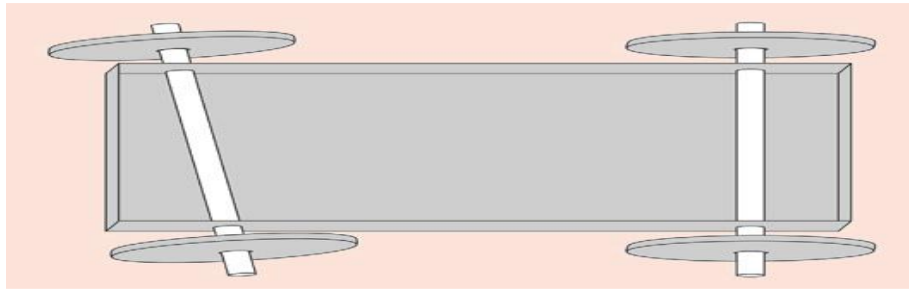
Question 5

5.1 Study the pictures below:



When the spring is compressed it gets smaller but when it is released it goes back to its normal size.

5.1.1 Why would you say that a spring has stored energy? (2)



5.1.2. Describe the movement of the vehicle. Give a reason for your answer.

The one axle is skew which will make the tractor move in a curve to the one side. He should improve the design by making the axles parallel to each other and perpendicular to the side of the tractor. (Perhaps explain the words parallel and perpendicular to your class by drawing pictures on the board)

[4]

TOTAL: 30

