



**Adult Education and Training (AET)  
Site-Based Assessment  
Portfolio of Evidence**

**Natural Sciences:** NQF Level 1  
**Total:** 50 marks  
**Duration:** 8 hours  
**Task 3:** Worksheet

**Learner Information**

**Name** : \_\_\_\_\_  
**Surname** : \_\_\_\_\_  
**Identity/  
Passport Number** : \_\_\_\_\_  
**Employee Number** : \_\_\_\_\_  
**Company** : \_\_\_\_\_  
**Centre** : \_\_\_\_\_  
**Date** : \_\_\_\_\_

**Declaration**

*I declare that this portfolio of evidence is my own work:* \_\_\_\_\_

**Signature**



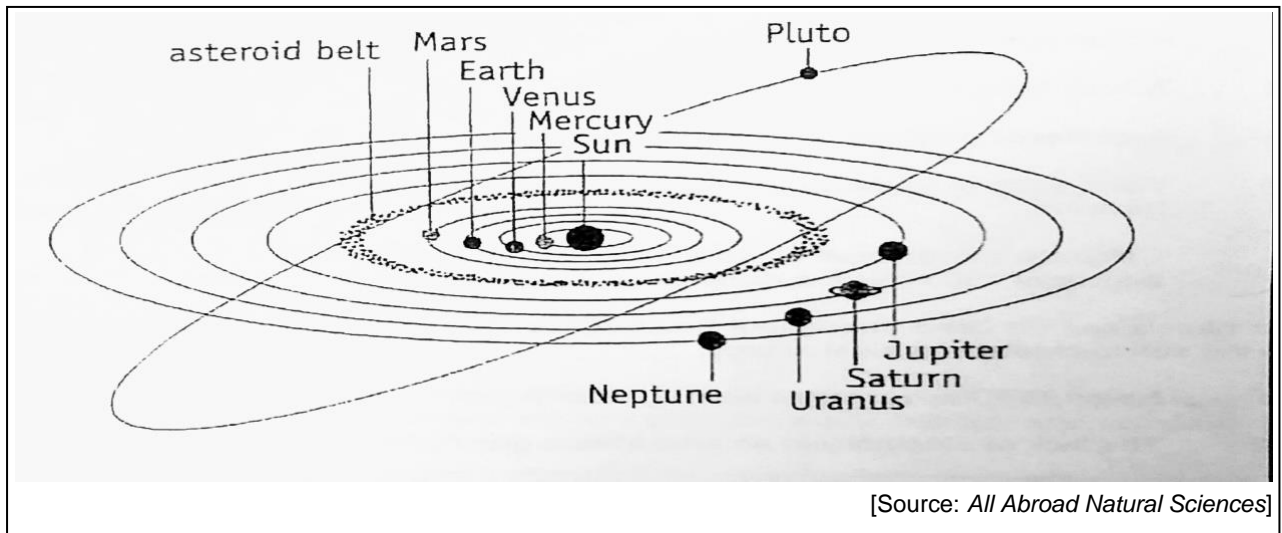
**INSTRUCTIONS**

1. This worksheet consists of **FOUR ACTIVITIES**.
2. This task must be done individually.
3. This task comprises assesses themes: **ENERGY AND CHANGE, AND EARTH AND BEYOND**.
4. Complete **ALL** the **ACTIVITIES**.



**ACTIVITY 1**

1.1 Study the diagram of planets below and answer the question.



1.1.1 How many planets orbit the sun?

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(1)

1.1.2 Name ONE planet that supports life.

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(1)

1.1.3 Identify an instrument used by scientists to study space and its components.

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(1)

1.1.4 Scientists who study spaces and other planets are called:

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(1)

1.1.5 List THREE types of artificial satellites.

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(3)

1.2 Define the following terms:

1.2.1 Astrology

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(2)

1.2.2 Astronomy

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(2)

1.3 Which ONE of the terms in QUESTION 1.2 above, belongs to the non-natural science field of study?

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(1)

**TOTAL MARKS FOR ACTIVITY 1**

**[12]**



**ACTIVITY 2**

2.1 When the engine of a car burns petrol during combustion, transformation energy takes place in the stored energy.

2.1.1 Name TWO forms of energy in which the stored energy in petrol is transformed to.

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(2)

2.1.2 State the Law of Conservation of Energy.

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(2)

2.1.3 Is petrol a natural or synthetic resource? Give ONE reason for your answer.

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(3)

2.2 Complete the following:

2.2.1 Energy is the ability to do \_\_\_\_\_ .  
(1)

2.2.2 Work is done whenever \_\_\_\_\_  
moves something over a \_\_\_\_\_ .  
(2)

2.2.3 Both energy and work done are measured in \_\_\_\_\_ .  
(1)



2.3 An incandescent light bulb of 60 watts has a lighting lifespan of 1 200 hours. How much kilowatt hour will this light bulb produce?

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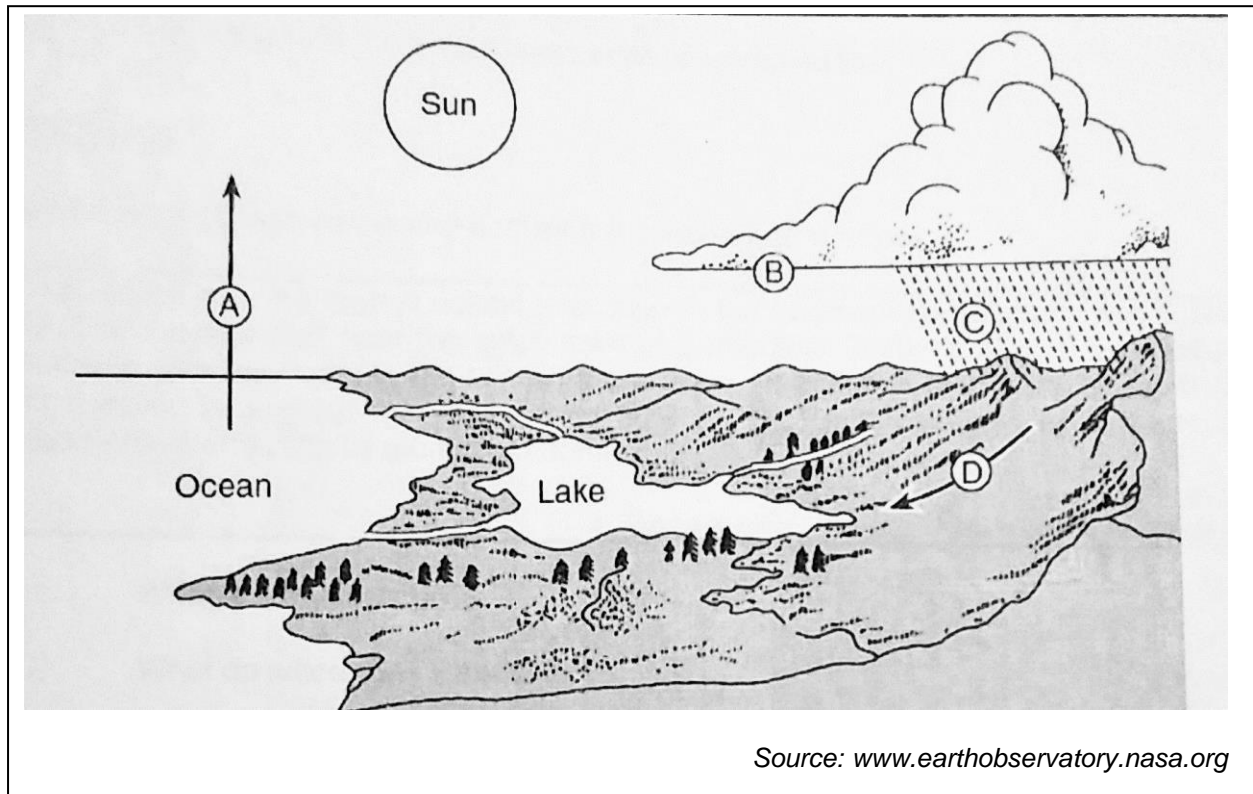
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(3)

**TOTAL MARKS FOR ACTIVITY 2****[14]**

**ACTIVITY 3**

Study the illustration of the water cycle below and answer the questions that follow.



3.1 Name the energy that is responsible for the process in the diagram above.

\_\_\_\_\_ (1)

3.2 Identify the processes labelled:

A: \_\_\_\_\_

B: \_\_\_\_\_

C: \_\_\_\_\_

D: \_\_\_\_\_

(4)

3.3 Explain the process labelled C.

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(2)

3.4 What is the effect of climate change on the water cycle and how does it result in flooding?

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(4)

**TOTAL MARKS FOR ACTIVITY 3**

**[11]**





**ACTIVITY 4**

Read the paragraph below and answer the questions.

Koeberg power station is the only nuclear power station in Africa. It provides about 5% of South Africa's electricity needs. It is owned and operated by the country's only national supplier called Eskom.

*(Adapted from: [www.eskom.co.za](http://www.eskom.co.za))*

4.1 Which element is used to produce nuclear power?

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(1)

4.2 Give ONE advantage of using nuclear power to generate electricity.

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(2)

4.3 Is nuclear power renewable or non-renewable? Give a reason for your answer.

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(3)

4.4 Name TWO other sources of energy used to generate electricity.

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(2)



4.5 Write down THREE industries that rely on electricity for their operation.

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(3)

4.6 What is the main source of electricity in South Africa?

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(2)

**TOTAL MARKS FOR ACTIVITY 4** **[13]**

**GRAND TOTAL FOR TASK 4** **[50]**



**Total for Task 3: 50 Marks**

<b>Task</b>	<b>Activity</b>	<b>Maximum Mark</b>	<b>Learner's Mark</b>	<b>Moderated Mark</b>
<b>Task 3</b>	<b>Activity 1</b>	<b>12</b>		
	<b>Activity 2</b>	<b>14</b>		
	<b>Activity 3</b>	<b>11</b>		
	<b>Activity 4</b>	<b>13</b>		
	<b>Total: Task 3</b>	<b>50</b>		

