Grade 4-Term 2 | **Impact of Energy use** | Ms. Arwa Al Messabi

U2/ M2-L 3 | **ST name**: ..... 4\ .....

Q1: Put correct number of meaning near each word:

A-(.....) Engineer مهندس **B-(**.....) Design process **عملية تصميم**

C- (.....) Prototype نموذج أولي **D-** (.....) Constraint قيود **E-** (.....) Criteria معايير

1-An original or first model of something from which other forms are developed.

2-Something that limits or restricts someone or something. **شيء يحد او يقيد شخص من الإنجاز**

3-A series of steps that engineers follow to solve a problem. **سلسلة خطوات يتبعها المهندسون لحل مشكلة**

4-Someone who designs solutions to problems. **شخص يصمم حلول للمشاكل**

5-A standard on which a judgement or decision is based. **معيار يعتمد عليه الحكم او القرار**

Q2: choose correct answer:

1- Which method of powering a vehicle will help to reduce air pollution?

a- Using oil **b- Using biofuels** **c- Using gasoline**

2- How does the solar panel solve a design problem? كيف استطاع تصميم الخلايا الشمسية حل المشكلة

a- It transforms energy without producing air pollution.

b- It transforms sunlight energy to wind energy.

c- **It uses nonrenewable resources for power**.

3- Engineers designing a new energy efficient product will make the first model, called a

a- **New type** **b- Prototype** **c-Modern type**

4- Rashed is making a solar cell to provide power using a plastic bottle, copper, and salt water.

What can Rashed test to make her solar cell better?

a- How do additional hours in the sun improve the solar cell?

b- How does humidity in atmosphere improve the solar cell?

c- **How does adding more salt to water improve the solar cell**?

5-Suppose you connect a solar cell to the connectors of a lightbulb.

Which factor would increase the brightness of the lightbulb?

a-The size of the lightbulb **b- Exposure to full sun** **c-Exposure to partial sun**

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Q2: What do a solar panel, a windmill, and a battery have in common? How are they different? ما هو المشترك بين الخلايا الشمسية طواحين الهواء والبطاريات؟ وما هو الاختلاف

1- They common in:يتشابهون All of these convert energy into: **a-Heat** **b- Electricity**

2- They are different in:يختلفون All of them convert different types of energy into electricity:

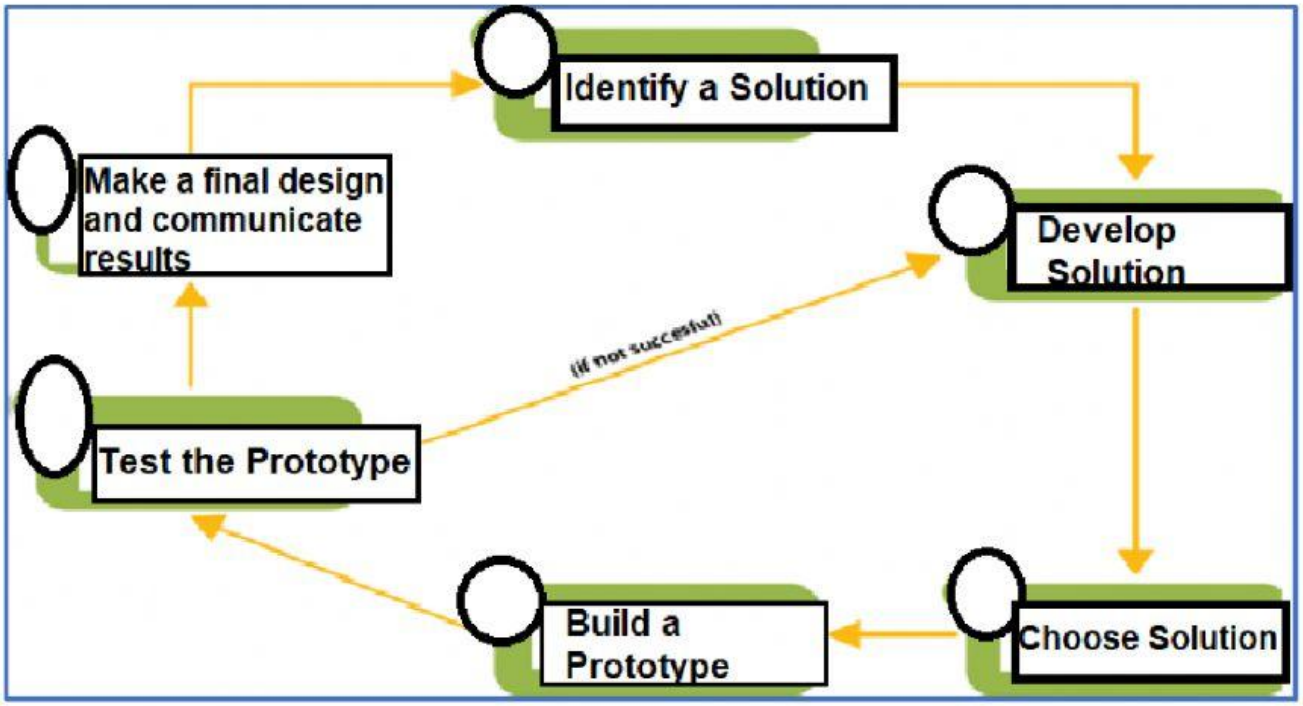
I. A **solar panel** converts: **a- Light energy** **b- Chemical energy**

II. A **windmill** converts: **a- Store energy** **b- kinetic energy.**

III. **A battery** converts: **a-Kinetic energy** **b-chemical energy.**

Q3: Look in your book page 146 **Engineering Design Loop, which help you to answer this diagram below: Put correct number near each one of loop step on the diagram below:**

اكتب الرقم الصحيح بجوار كل خطورة من خطوات حلقة التصميم الهندسي



Q4: Label each picture as Problem Or Solution: **1 is Problem** **2 is solution**

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