

U2/ M2-L 3

ST name: ..... 41 .....

**Q1: Put correct number of meaning near each word:**

A-(.....) Engineer مهندس

B-(.....) Design process عملية تصميم

C- (.....) Prototype نموذج أولى

D- (.....) Constraint قيود

E- (.....) Criteria معايير

**1-An original or first model of something from which other forms are developed.****شيء يحد او يقيد شخص من الاتجاه.****سلسلة خطوات يتبعها المهندسون لحل مشكلة.****شخص يصمم حلول للمشاكل.****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.

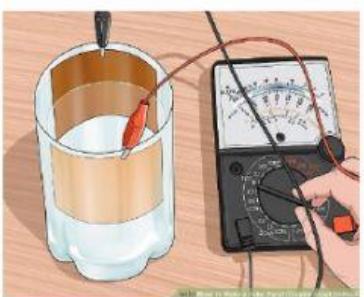
3- Engineers designing a new energy efficient product will make the first model, called a

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

**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**

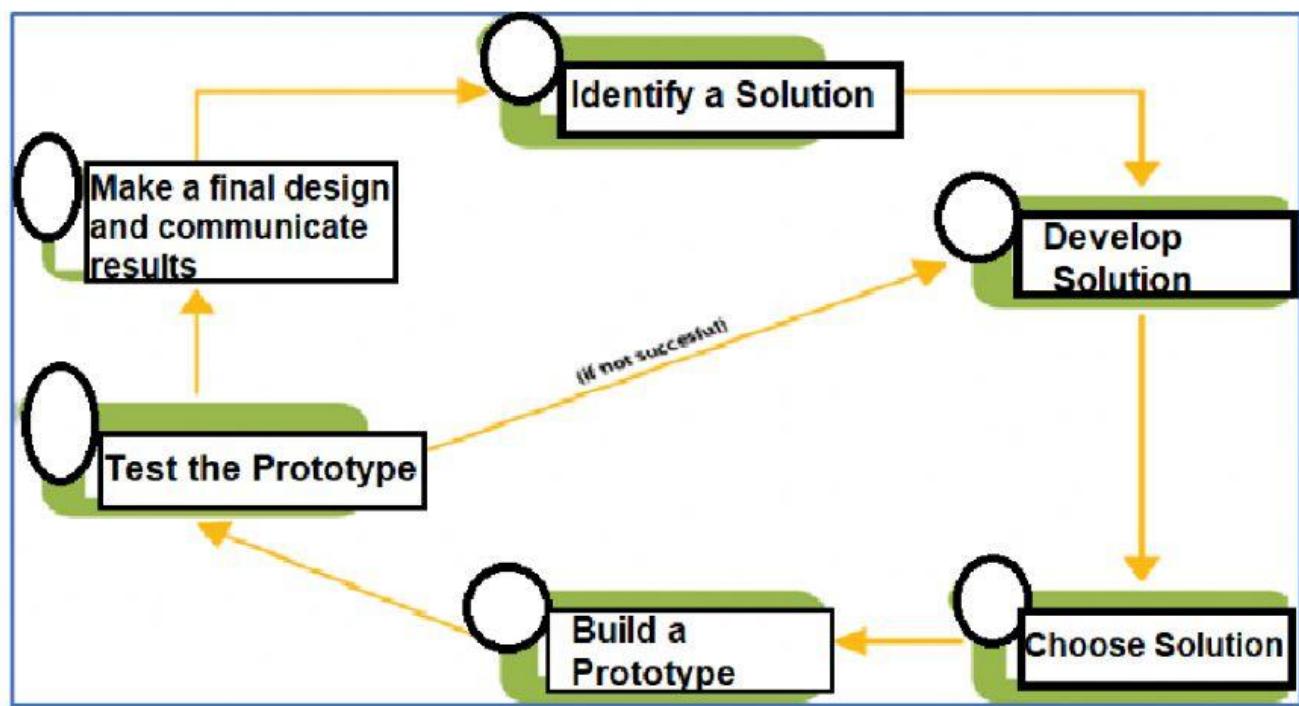
II. A windmill converts: **a- Store energy** **b- kinetic energy.**

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 خطوة من خطوات حلقة التصميم الهندسي



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

