

Today, bicycles are elegantly simple machines that are common around the world. Many people ride bicycles for recreation, whereas others use them as a means of transportation. The first bicycle, called a draisienne, was invented in Germany in 1818 by Baron Karl de Drais de Sauerbrun.. Because it was made of wood, the draisienne wasn't very durable nor did it have pedals. Riders moved it by pushing their feet against the ground.

In 1839, Kirkpatrick Macmillan, a Scottish blacksmith, invented a much better bicycle.
Macmillan's machine had tires with iron rims to keep them from getting worn down. He also used foot-operated cranks, similar to pedals, so his bicycle could be ridden at a quick pace. It didn't look much like the modern bicycle, though, because its back wheel was substantially larger than its front wheel, Although Macmillan's bicycles could be ridden easily, they were never produced in large numbers.

In 1861, Frenchman Pierre Michaux and his brother Ernest invented a bicycle with an improved crank mechanism. They called their bicycle a velocipede, but most people called it a " bone shaker" because of the jarring effect of the wood and iron frame. Despite the unflattering nickname, the velocipede was a hit. After a few years, the Michaux family was making hundreds of machines annually, mostly for fun-seeking young people.

Ten years later, James Starley, an English inventor, made several innovations that revolutionized bicycle design. He made the front wheel many times larger than the back wheel, put a gear on the pedals to make the bicycle more efficient, and lightened the wheels by using wire spokes. Although this bicycle was much lighter and less tiring to ride, it was still clumsy, extremely top-heavy, and ridden mostly for entertainment.

## 1-Answer these questions:

1-1 Who invented a bicycle with iron rims around the tires?

## Kirkpatrik Macmillan, a Scottish blacksmith

1-2 Why the draisienne bicycle was not durable?
Because it was made of wood
1-3 What is a Velocipede? a bicycle with an improved crank mechanism. It was invented by Frenchman Pierre Michaux and his brother Ernest.

## 2- Match the words in (A) with the correct meaning in (B):

## (A)

(B)

Clue a piece of information that helps explain a situation.

Outlandish extremely strange and unusual
Encased to completely cover something
Ventilation the movement of fresh air around a room or building
Lost not knowing your way
Shade where light does not go

## 3-True ( $\sqrt{ }$ ) or false ( $\times$ ) :

3-1 If you're in a testing situation you are allowed to use a dictionary . ( $\underline{x}$ )
3-2 walnut trees exude a chemical into the soil near their roots which is useful. ( $\underline{x}$ )
3-3 Flames shooting up from a building is not a potential backdraft warning sign. ( $\underline{\boldsymbol{V}}$ )
3-4 a map- reading course is a course for soldiers in the army. ( $\underline{\boldsymbol{v}}$ )
4- complete the following sentences using: ( Must, ought to ,ought to have, can't have, or could)

4-1 I ought to have replied to your letter earlier but I have been very busy.
4-2 He left his office, he is not at home, he must be at the club.
4-3 The patient can't have a little exercise yet.
4-4 it's hot today! The thermometer must be showing a hundred degrees.

## 5- Translate into Arabic:

Well knowing my abilities, the soldiers smiled as they saw me looking at the map and they made all sorts of helpful suggestions. I folded the map up, put it in my pocket, and said that we would head east. After walking through cornfields for over an hour we came to a wide stream. I again looked at the map. It seems to be covered with masses of thin blue lines.
ولأنهم يعرفون قدر اتي جيدا، ابتسم الجنود عندما رأوني أنظر للخريطة وقدموا كل اقتر احات المساعدة
المككنة. فقمت بطي الخريطة ووضعتها في جيبي وقلت سنتجه شرقا. وبعد مسير في حقول الذرة لمدة تزيد
عن الساعة، وصلنا لمجري نهري متسع، فنظرت للخريطة مرة أخري وكانت تبدو كأنها مغطاة بأعداد من
الخطوط الزرقاء الضيقة.

