Sadiq Public School

Do the right, fear no man

Subject: Biology **Class: S1** **Day: Saturday (16/11/2024)**

This lesson is about A. F. A. King's observations malaria.

A: Inquiry

A biology investigation usually starts with an observation—that is, something that catches the biologist's attention. For instance, a cancer biologist might notice that a certain kind of cancer can't be treated with chemotherapy and wonder why this is the case. A marine ecologist, seeing that the coral reefs of her field sites are bleaching—turning white—might set out to understand why.

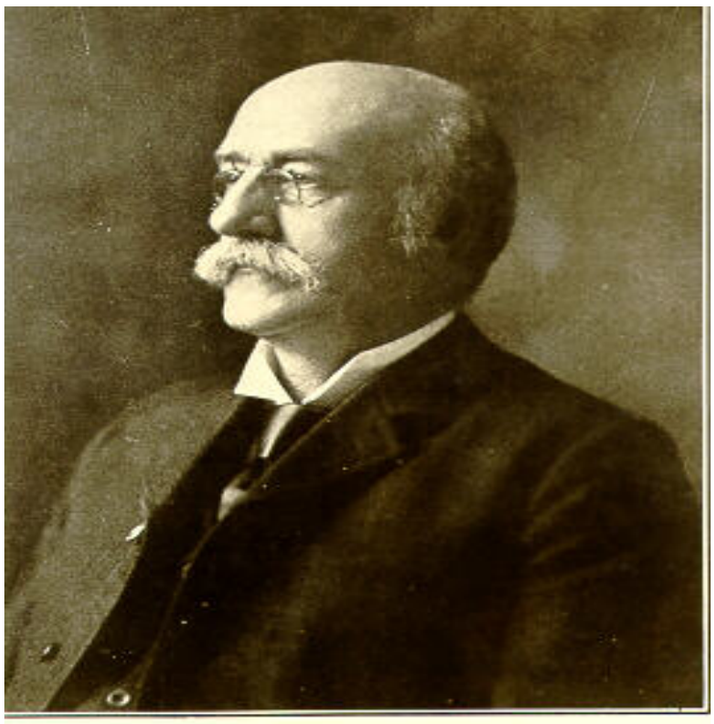
How do biologists follow up on these observations? How can you follow up on your own observations of the natural world? In this lesson, we'll walk through the scientific method, a logical problem-solving approach used by biologists and many other scientists.

B: Information

Next biological problem was to learn about "How *Plasmodium* gets into the blood of man". Biologists were having following observations;

- **Malaria is associated with marshes.**
- **Drinking water of marshes does not cause malaria.**

From these observations, it can be concluded that Plasmodium was not in the marsh water. But it must be carried by something that comes to marsh water.



DR. ALBERT FREEMAN AFRICANUS KING.

In 1883, a physician A. F. A. King listed 20 observations. Some important observations of King were:

- **People who slept outdoors were more likely to get malaria than those who slept indoors;**
- **People who slept under fine nets were less likely to get malaria than those who did not use such nets; and**
- **Individuals who slept near a smoky fire usually did not get malaria.**

On the basis of these observations King suggested a hypothesis:

"Mosquitoes transmit Plasmodium and so are involved in the spread of malaria."

Following deductions were made considering the hypothesis as true i.e. If mosquitoes are involved in the spread of malaria then;

"Plasmodium should be present in mosquitoes."

"A mosquito can get Plasmodium by biting a malarial patient."

In order to test the above deductions, Ronald Ross: a British army physician working in India in 1880's; performed important experiments. He allowed a female Anopheles mosquito to bite a malarial patient. He killed the mosquito some days later and found Plasmodium multiplying in mosquito's stomach

In fact quinine was the only effective remedy for malaria from the 17th to the 20th century.

C: Synthesis/absorbing the information

Write your own summary-notes in your notes book based on the information you read in your textbook.

D: Practising activity

Read the whole topic thoroughly and make the notes of the given topic on copy for practice.

E: Assessment for learning

Write the answers to following questions

1. What were the King's observations about malaria?
2. Who was Ross?