1. What is the significance of this short communication?
   This paper is short yet revolutionary, it describes the double-stranded helical structure for DNA and its chemical properties, but also suggests that in every cell in every form of life, genetic information is encoded in four-letter sequences of bases with a specific pairing setup: adenine-thymine (A-T) and cytosine-guanine (C-G).

2. Watson, Crick and Wilkins were awarded the 1962 Nobel Prize in Physiology or Medicine "for their discoveries concerning the molecular structure of nucleic acids and its significance for information transfer in living material". Do you believe that they should have won the Nobel Prize for this work?
   DNA was first discovered by the chemist Miescher, and DNA replication by Oswald Avery and his colleagues at Rockefeller University who extracted DNA from a strain of bacteria, and showed that DNA transmitted hereditary transformations. Next step was to determine its atomic structure and shape to explain how it works. Watson and Cricks relied on the work of other scientists like Chargaff and gathered clues and advices from different researchers, who around the same time, were trying to discover the structure of the DNA; Pauling, Wilkins, and Franklin, were all racing to be the first to publish and claim the discovery.
   A franklin student's picture of DNA, known as Photo 51, reinforced Watson, and Crick conviction about DNA helicoidal structure. Putting the pieces together, they were the first ones to formulate an accurate description of the DNA double-helical and figuring out how DNA's four bases pair together. Watson and Crick made the last critical and brilliant contribution and to me deserved the Nobel Prize.

3. Who is Maurice Wilkins? What is Photo 51?

   Wilkin was biochemist at King's College London using X-ray diffraction to study DNA. Photo 51 is an X-ray diffraction image of a gel composed of DNA fiber taken by Raymond Gosling, a student of Franklin who was working also on DNA at King's College London. It shows a black cross of reflections which, Watson saw, could only arise from a helical structure.

4. Why was Rosalind Franklin not awarded the Nobel Prize for her contribution to the discovery of the structure of DNA?
   The Nobel prize is limited to three people and by the time in 1962, it was awarded, Franklin had died. If she had survived, the Nobel committee would have faced a difficult situation.

5. You can have up to three people on a Nobel Prize award, name three people that you think should have received the Nobel Prize for discoveries related to the molecular structure of nucleic acids and its significance for information transfer in living material