





PHYSICS

BOOKS - MBD

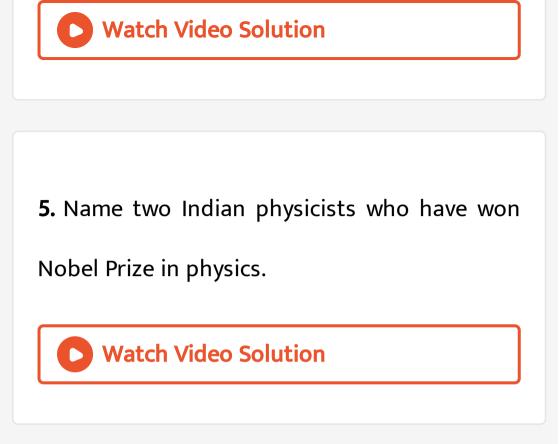
PHYSICAL WORLD



1. What is the difference between physical

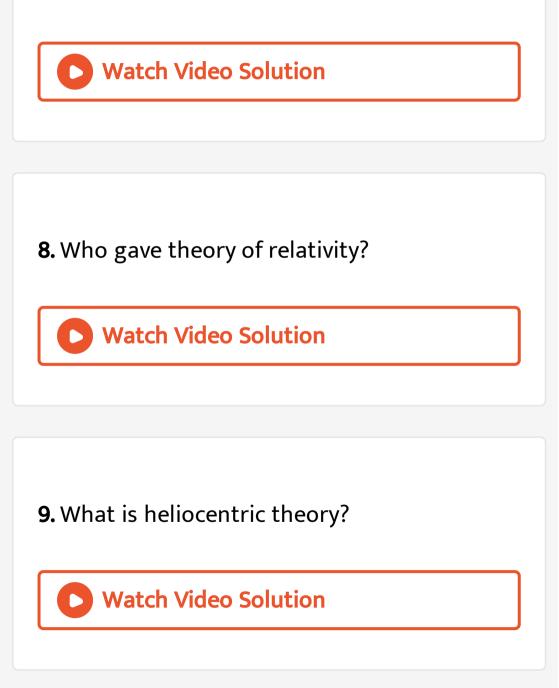
sciences and biological sciences?

2. What is Optics?
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3. Name some physicists who were great.
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4. What are the steps involved in a scientific
methods?

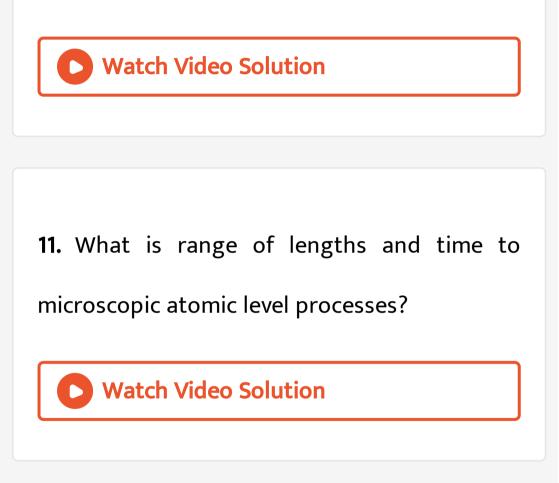


6. Who first gave the concept of antiparticle?

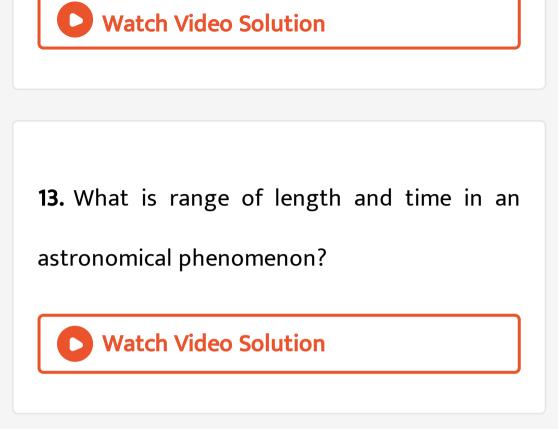
7. What is meant by physical world?



10. What is scientific attitude?



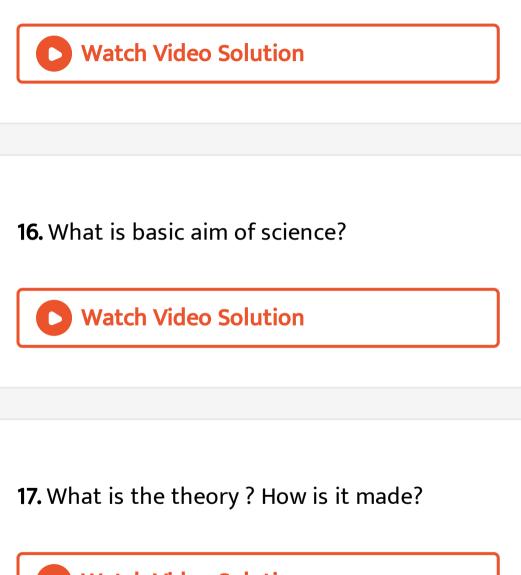
12. The fate of society is linked with physics. Comment.



14. Name Indian physicist who had contributed

a lot to the nuclear physics.

15. Name five main branches of physics.



18. The physicists think at a level for higher

than a normal individual. Is it true ?



19. Should a discovery which have nothing good but dangerous consequences be made public?

20. What are the other words for science in

Sanskrit and Arabic?

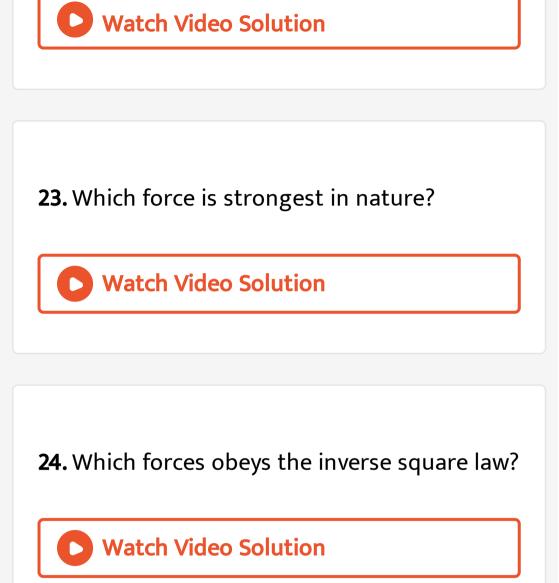
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21. What is the basic difference between a

gravitational force and electrostatic force?

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22. Which force is weakest in nature?



25. Which exchange particles are invloved in

Nuclear forces?

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26. Which exchange particles are involved in

gravitational force?

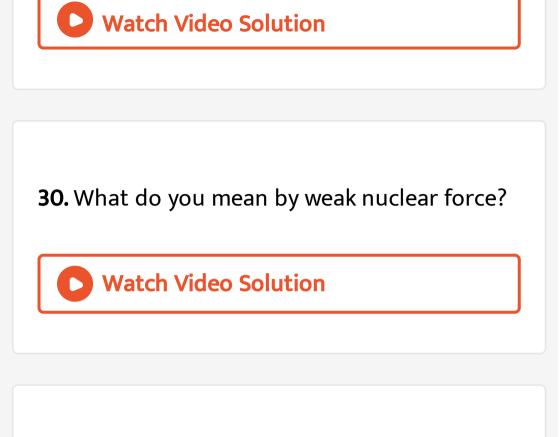
27. Which force governs the structures of atoms and molecules?
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28. What are the conserved quantities in

nature? Name any two.



29. What is basic aim of science?



31. Some of the most profound statements on the nature of science have come from Albert Einstein, one of the greatest scientists of all time. What do you think did Einstein mean when he said : "The most incomprehensible thing about the world is that it is

comprehensible"?

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32. "Every great physical theory starts as a heresy and ends as a dogma". Give some examples from the history of science of the validity of this incisive remark.

33. "Politics is the art of the possible". Similarly, " Science is the art of the soluble". Explain this beautiful aphorism on the nature and practice of science.

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34. Though India now has a large base in science and technology, which is fast expanding, it is still a long way from realising its potential of becoming a world leaderin

science. Name some important factors, which

in your view have hindered the advancement

of science in india.

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35. No physicist has ever "seen" an electron. Yet, all physicists believe in the existence of electron. An intelligent but superstitious man advances this analogy to argue that 'ghosts' exist even though no one has 'seen' one. How will you refute his argument?



36. The shells of crabs found around a particular coastal location in Japan seem mostly to resemble the legendary face of a Samurai. Given below are two explanations of this observed fact. Which of these strikes you as a scientific explanation? -

(a) A tragic sea accident several centuries ago drowned a young Samurai. As a tribute to his bravery, nature through its inscrutable ways immortalised his face by imprinting it on the crab shells in that area.

(b)After the sea tragedy, fishermen in that area, in a gesture of honour to their dead hero, let free any crab shell caught by them which accidentally had a shape resembling the face of a Samurai. Consequently, the particular shape of the crab shell survived longer and therefore in course of time the shape was genetically propagated. This is an example of evolution by artificial selection.

37. The shells of crabs found around a particular coastal location in Japan seem mostly to resemble the legendary face of a Samurai. Given below are two explanations of this observed fact. Which of these strikes you as a scientific explanation? -(a) A tragic sea accident several centuries ago drowned a young Samurai. As a tribute to his bravery, nature through its inscrutable ways immortalised his face by imprinting it on the crab shells in that area. (b)After the sea tragedy, fishermen in that

area, in a gesture of honour to their dead

hero, let free any crab shell caught by them which accidentally had a shape resembling the face of a Samurai. Consequently, the particular shape of the crab shell survived longer and therefore in course of time the shape was genetically propagated. This is an example of evolution by artificial selection.



38. The industrial revolution in England and Western Europe more than two centuries ago

was triggered by some key scientific and technological advances. What were these advances?

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39. It is often said that the world is witnessing now a second industrial revolution, which will transform the society as radically as did the first. List some key contemporary areas of science and technology, which are responsible for this revolution.





40. Write in about 1000 words a fiction piece

based on your speculation on the science and

technology of the twenty second century.

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41. Attempt to formulate your 'moral' views on the practice of science. Imagine yourself stumbling upon a discovery, which has great academic interest but in certain to have nothing but dangerous consequences for the

human society. How, if at all, will you resolve

your dilemma?

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42. Science, like any knowledge, can be put to good or bad use, depending on the user. Given below are some of the applications of science. Formulate your views on whether the particular application is good, bad or something that cannot be so clearly categorised: - Mass vaccination against small pox to curb anf finally eradicate this disease from the population. (This has already been successfully done in India).



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43. Science, like any knowledge, can be put to good or bad use, depending on the user. Given below are some of the applications of science. Formulate your views on whether the particular application is good, bad or something that cannot be so clearly categorised: - Television for eradication of illiteracy and for mass communication of news and ideas.



44. Science, like any knowledge, can be put to good or bad use, depending on the user. Given below are some of the applications of science. Formulate your views on whether the particular application is good, bad or

something that cannot be so clearly

categorised: - Prenatal sex determination

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45. Science, like any knowledge, can be put to good or bad use, depending on the user. Given below are some of the applications of science. Formulate your views on whether the particular application is good, bad or something that cannot be so clearly

categorised: - Computers for increase in work

efficiency



46. Science, like any knowledge, can be put to good or bad use, depending on the user. Given below are some of the applications of science. Formulate your views on whether the particular application is good, bad or something that cannot be so clearly

categorised: - Putting artificial satellites into

orbits around the Earth



47. Science, like any knowledge, can be put to good or bad use, depending on the user. Given below are some of the applications of science. Formulate your views on whether the particular application is good, bad or something that cannot be so clearly

categorised: - Development of nuclear

weapons



48. Science, like any knowledge, can be put to good or bad use, depending on the user. Given below are some of the applications of science. Formulate your views on whether the particular application is good, bad or something that cannot be so clearly categorised: - Development of new and

powerful techniques of chemical and

biological warfare).

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49. Science, like any knowledge, can be put to good or bad use, depending on the user. Given below are some of the applications of science. Formulate your views on whether the particular application is good, bad or something that cannot be so clearly categorised: - purification of water for drinking



50. Science, like any knowledge, can be put to good or bad use, depending on the user. Given below are some of the applications of science. Formulate your views on whether the particular application is good, bad or something that cannot be so clearly categorised: - plastic surgery

51. Science, like any knowledge, can be put to good or bad use, depending on the user. Given below are some of the applications of science. Formulate your views on whether the particular application is good, bad or something that cannot be so clearly categorised: - Cloning

52. India has had a long and unbroken tradition of great scholarship - in mathematics, astronomy, linguistic, logic and ethics. Yet, in parallel with this, several superstitious and obscurantistic attitudes and practices flourished in our society and unfortunately continue even today - among many educated people too. How will you use your knowledge of science to develop strategies to counter these attitudes?

53. Though the law gives women equal status in India, many people hold unscientific views on a women's innate nature, capacity and intelligence, and in practice give them a secondary status and role. Demolish this view using scientific arguments, and by quoting examples of great women in science and other spheres, and persuade yourself and other that, given equal opportunity, women are on par with men.

54. "It is more important to have beauty in the equations of physics than to have them agree with experiments". The great British physicist P. A. M. Dirac held this view. Criticize this statement. Look out for some equations and results in this book which strike you as beautiful.

55. The scientific principle involved in radio and television is:

A. super conductivity

B. electromagnetic induction

C. propagation of e.m. wave

D. emissions of $\gamma-rays.$

Answer:

56. Unification of weak and electromagnetic

interaction was done by:

A. Einstein

B. Salam

C. Hubble

D. Raman

Answer:

57. Who discovered neutron?

A. Newton

B. Rutherford

C. Maxwell

D. Chadwick

Answer:

58. Raman got Nobel prize in physics for:

A. Scattering of light

B. dispersion of light

C. reflection of light

D. refraction of light.

Answer:

59. Which of the following astronomers first proposed that sun is static and earth rounds the sun?

A. Copernicus

B. Kepler

C. Galileo

D. None of these.

Answer:

60. Physics involves the study of

A. plants

B. animal and birds

C. human

D. nature and natural phenomenon

Answer:

61. Time taken by light to cross nuclear diameter is of the order of

A. 10^{-6} s

 $B.\,10^{+}6$

 $\mathrm{C.}\,10^{-22}~\mathrm{s}$

D. $10^+ 22s$

Answer:

is the branch of science which deals with nature and natural phenomenon. Watch Video Solution **63**. Fill in the Blanks: The word originates from the Latin verb scientra. Watch Video Solution

The two domains of interest in Physics are



65. Fill in the Blanks:

__ deals with the study of gaseous

systems.

The sciences which deals with _____ are

called Physical Science.

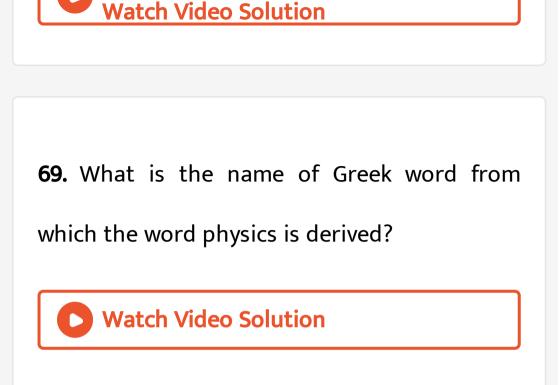
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67. What is science ?

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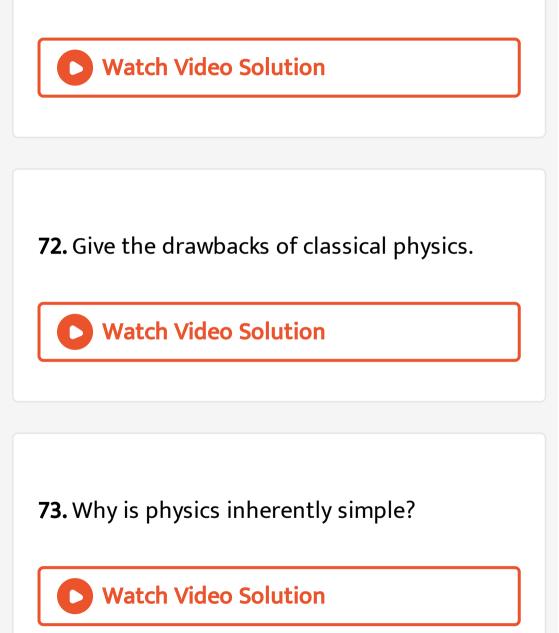
68. What is physics?





70. Name five main branches of physics.

71. What are two main tools of physics?



74. What is the interplay between physics and

technology?

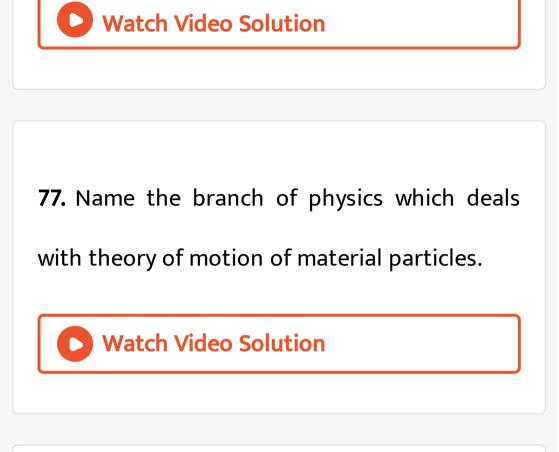
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75. The fate of society is linked with physics.

Comment.



76. What is electromagnetic force?



78. Name the branch of physics which deals with the behaviour of sub-microscopie particles.

79. Name Indian physicist who had contributed

a lot to the nuclear physics.

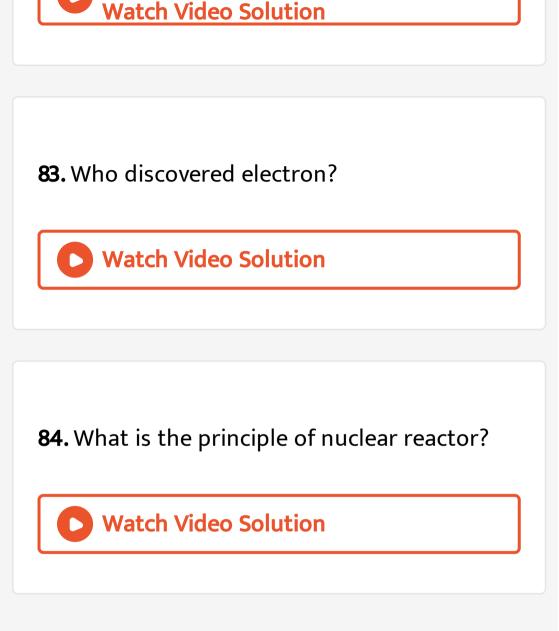
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80. What is gravitational force?

81. What are nuclear forces ? Discuss
fourimportant properties of nuclear forces.
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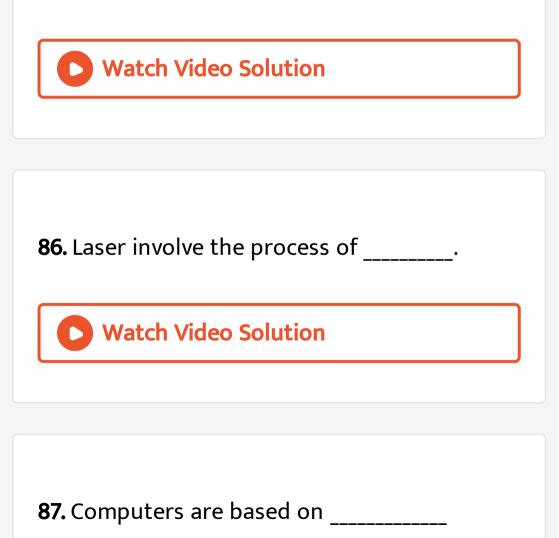
82. Name the scientist who gave the following comment on science. " Science is not just a collection of passengers in a bus, a catalogue of unrelated facts. It is a creation of human mind, with its freely invented ideas and concepts."



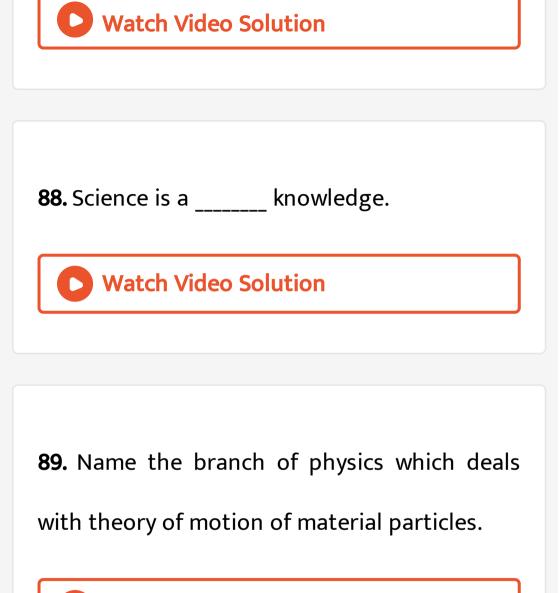


_____ is the branch of science which

deals with nature and natural phenomenon.



Γ



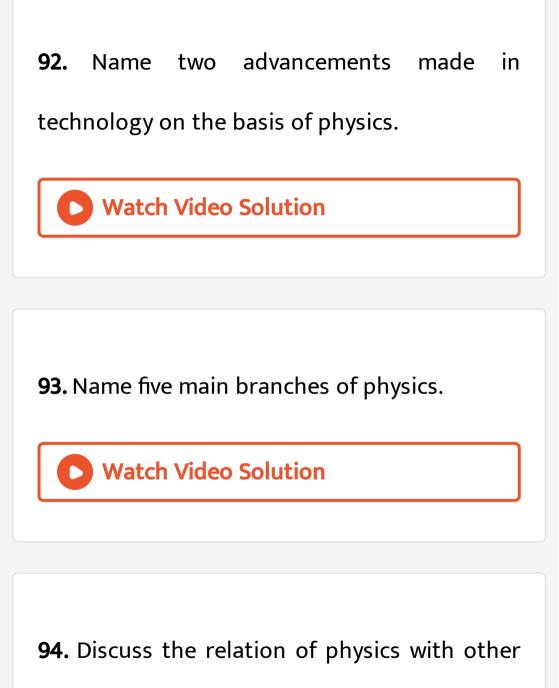


90. _____ deals with the motion of pawrticles moving with speeds of the order of velocity of light.



91. What are the steps involved in a scientific

methods?



sciences.



95. Give examples of gravitational,

electromagnetic and nuclear forces from daily

life experience.

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96. What is the difference between physical

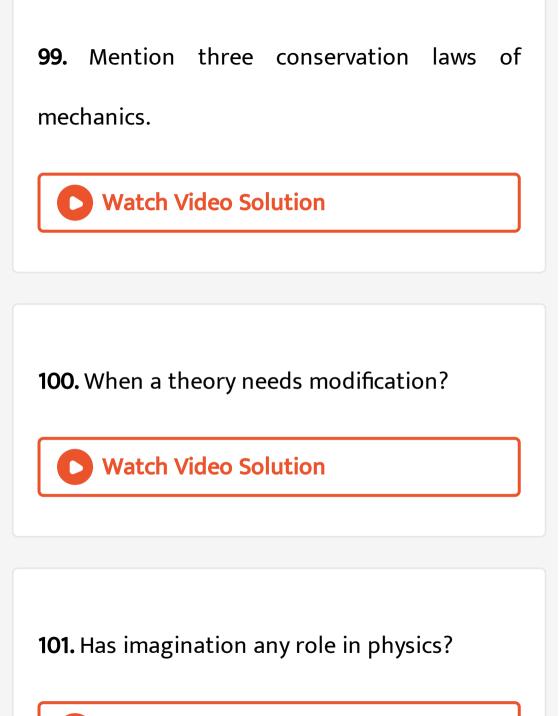
sciences and biological sciences?

97. Differentiate between biological and physical sciences.

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98. What is the interplay between physics and

technology?



102. Name five main branches of physics.

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103. Match the following

А.	Scientist		B. Discovery
	raday therford	1. 2.	Laws of gravitation Quantum model of
3. Ch	adwick	3.	hydrogen atom Unification of light and electromagnetism



104. Match the following

A. Scientist	B. Country of origin
 Michelson Newton Landau Bhabha Bohr Bohr Archimedes Galileo Curie Heisenberg Yukawa 	1. Denmark 2. U.S.A. 3. Italy 4. France 5. India 6. Germany 7. U.S.S.R. 8. Britain 9. Japan 0. Greece

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105. Explain the role of physics in relation to

science and society.

106. What is the role of physics in our daily life?



107. Write the relative magnitude of four

forces.

108. Define science, scientific method, theory

and physics.

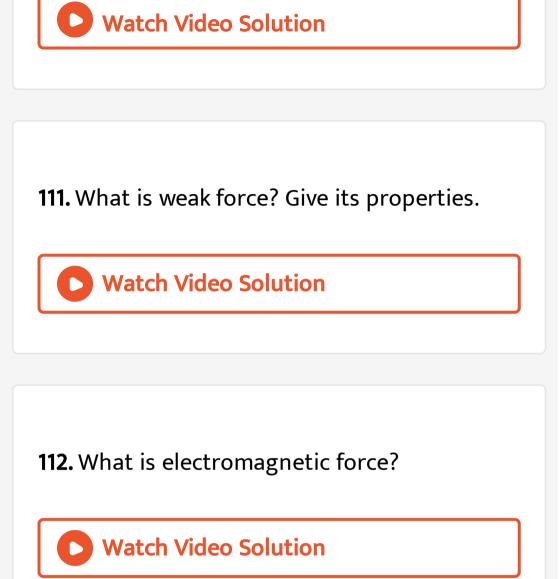
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109. Discuss the scope and excitement of

physics.

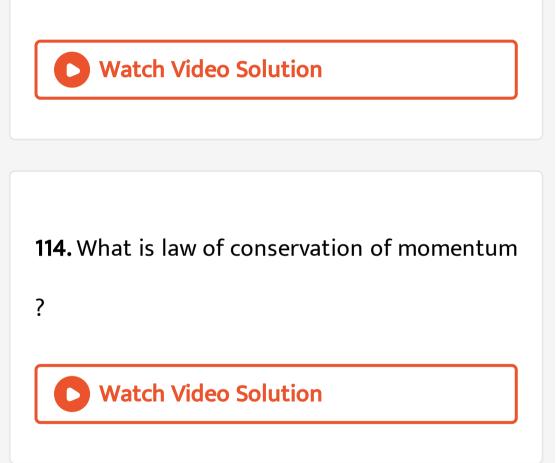
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110. What is gravitational force?

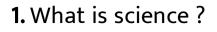


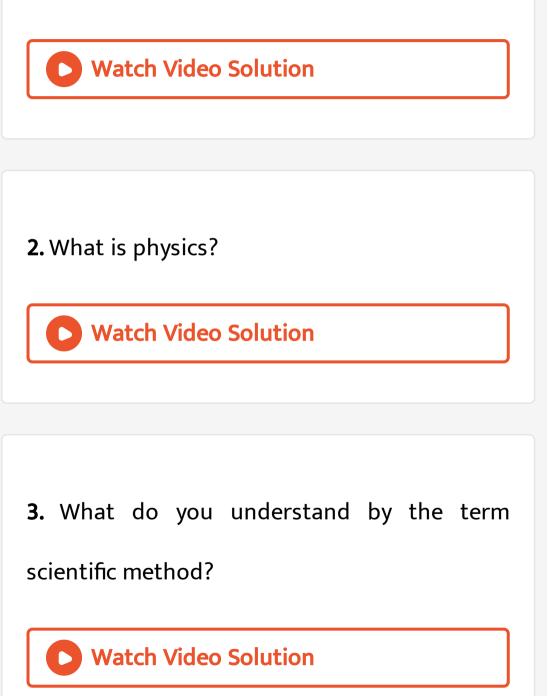
113. What are nuclear forces ? State their four

properties.









4. Who discovered neutron?

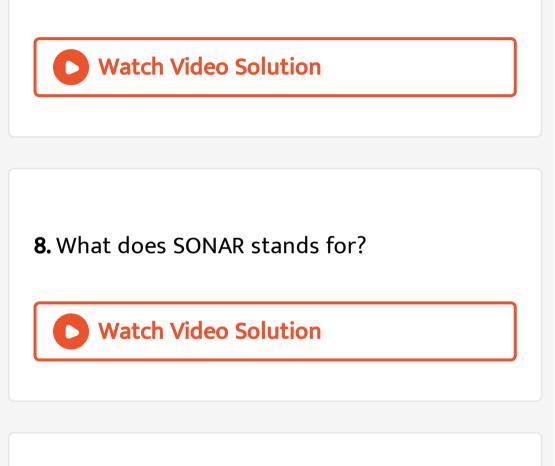


5. Who proposed the wave theory of light?



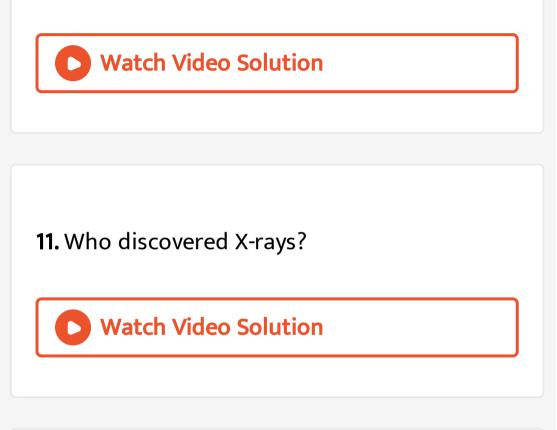
6. What does LASER stand for?

7. Are S.I. units coherant one, why?



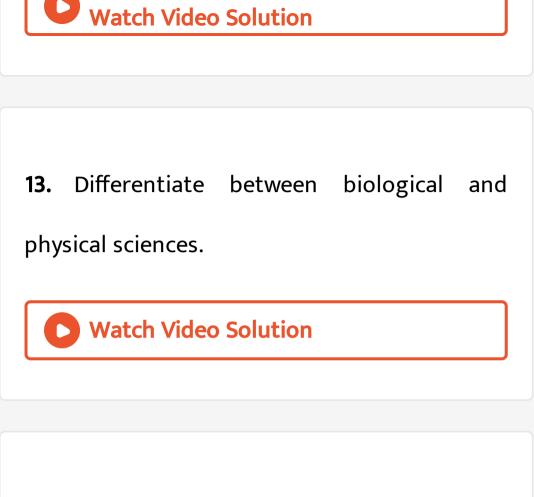
9. What are two main tools of physics?

10. Give the drawbacks of classical physics.



12. What are biological sciences? Give their examples.





14. What do you understand by the term

scientific method?

15. What is the interplay between physics and

technology?



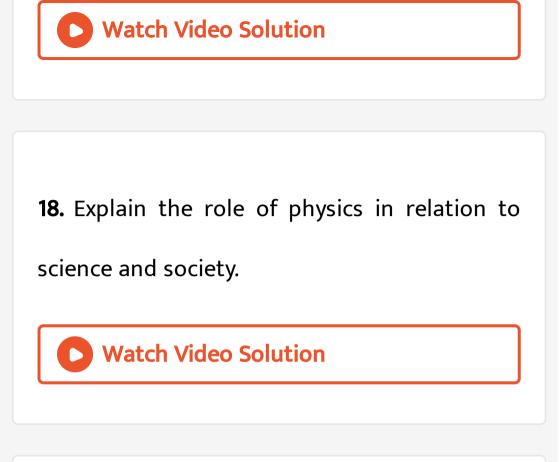
16. What is the relation between physics and

society?

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17. Physics is an exciting science. Justify the

statement.



19. Explain the role of science in the

entertainment industry.