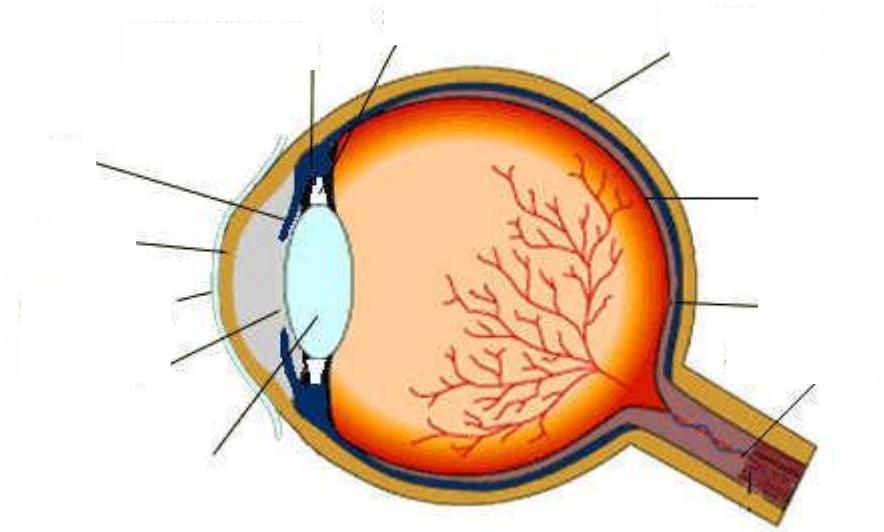
GCSE P3 Knowledge Test

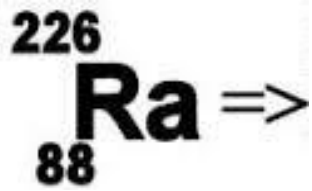
QUESTIONS
1. What type of image do x-rays form?
2. What radiation is used in PET scans?
3. What is ionising radiation?
4. Give two examples of ionising radiation using in medicine.
5. State 2 types of non-ionising radiation used in medicine?
6. Label the diagram of the eye below 
7. What controls the amount of light entering the eye?
8. What distance is your far point when focussing?
9. Why does an image get blurred when it is nearer that 25cm to your eye?
10. What is the job of the ciliary muscle
11. Where does the image focus in a person who is short sighted?
12. A person who is long sighted struggles to focus what objects?
13. What lens shape is needed to correct short sightedness?
14. What lens shape is needed to correct long sightedness?
15. How does a converging lens change the path of a light ray?
16. What is the point at which converging rays meet called?
17. What are the main causes of short sightedness?
18. Define the term focal length.
19. Where is the focal point in a diverging lens
20. How is the power of a lens measured?
21. What unit is used to measure the power of a lens.
22. What is the lens equation?
23. What factors are linked in the lens equation?
24. Define a ‘real image’.
25. Define a ‘virtual image’.
26. State the law of reflection
27. What is the ‘normal’?

28. What is the definition of critical angle?
29. What happens to the speed of a wave in denser materials?
30. When a ray passes into a material where is can move faster does it refract towards or away from the normal?
31. In Snell's law what to n_r and n_i stand for?
32. Why is a light ray in an optical fibre always reflected back?
33. What is an endoscope and how does it work?
34. State 3 ways ultrasound can be used in either **diagnosis and treatment**
35. How does a CAT scan work?
36. Give 2 benefits and 2 risks of X-rays and CAT scans.

37. Describe two properties of beta radiation
38. Describe two properties of positron radiation
39. Describe the process of ß+ decay and ß- decay.
40. What happens to the proton number and mass number during ß decay?
41. Complete this table to show the properties of alpha, gamma and neutron radiation.

Type	Description	Charge	Penetration	Ionisation ability
Alpha(α)				
Beta(β-)				
Gamma(γ)				

42. What happens to nuclei that have undergone radioactive decay?
43. Radium 226 emits an alpha particle. Complete the equation to show the products formed.



44. What effect does gamma radiation have on the mass number? Explain your answer.