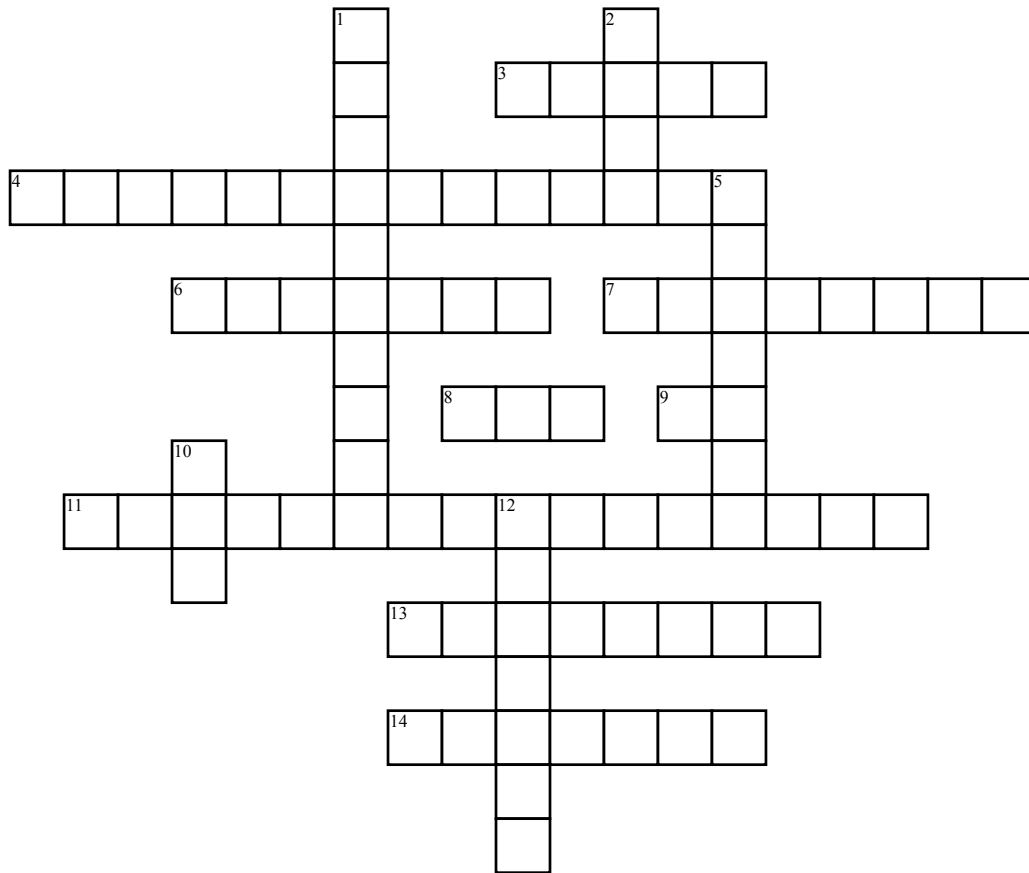


# Chapter 6 X-Ray Production



## Across

3. Interaction between nucleus of target atom where electron slows down and changes direction  
 4. Interaction between filament electron and orbital electron of target atom, which may be removed from orbit creating a vacancy  
 6. Beam remaining after interaction w/ the patient and exiting to expose the IR  
 7. Graph of emission spectrum representing energy levels of characteristic x-ray production

8. Necessary thickness of material to reduce beam energy to 1/2 its original intensity, measures quality  
 9. Increasing this increases quantity of beam but has no effect on quality  
 11. Intensity of beam is inversely proportional to the square of distance from the source (an equation)  
 13. The total # of x-ray photons in the primary beam  
 14. Beam as it is when exiting the tube and exposing the patient

## Down

1. Graph of emission spectrum representing the range of energy of brems x-ray production  
 2. Result of 99% of interactions in the anode target  
 5. Effect caused by outer shell electrons filling inner shell vacancies  
 10. Increasing this will increase quantity and quality of x-ray beam  
 12. The penetrating power of the x-ray beam

## Word Bank

quantity  
 discrete  
 HVL  
 continuous

primary  
 quality  
 remnant  
 cascade

kVp  
 mA  
 characteristic

brems  
 inverse square law  
 heat