Resolution

1. Resolution is the sharpness of an image or amount of fuzziness
2. Resolution is the minimum separation of two objects where we can still distinguish the two objects.
3. Measured in usually arcseconds or arcminutes.
4. Human eye has resolution of about 1 arcminute
5. If stars were closer, we would not be able to separate them out
6. Diffraction causes fuzziness of image.
7. The smaller, the better resolution for the image.
8. Resolution of a telescope is inversely proportional to diameter of mirror
9. Resolution is proportional to λ
10. The bigger resolution means a fuzzier picture.
11. Resolution is proportional to λ divided by diameter of mirror.
12. Radio telescope is going to have a fuzzy image.
13. Big telescope makes up for large λ
14. Earth's atmosphere also makes images fuzzy

Seeing

1. Can vary night to night depending on atmosphere
2. Resolution and seeing determines fuzziness.
3. Limits a normal telescope to about 1 arcminute
4. Adaptive optics – the telescope mirror is adjusted with time to give a sharper image.
5. View from space and out of atmosphere to get a clearer picture
6. Both of these get rid of seeing

Light Gathering Power

1. The bigger the telescope, the more light it can get
2. Number of photons collected per second
3. $A = \pi r^2$
4. Power depends on radius of mirror
5. Light gathering power is proportional to r^2
6. The more light gathering power there is, the more distant and fainter objects can be viewed.