# Telescopes

1. 14” telescopes – 14 refers to the diameter of the mirror
2. Small telescopes at observatory are Cassegrain
3. The telescope in Arizona is 0.9 meters.
4. We put telescopes on mountains to get above atmosphere
5. Arizona telescope is operated by Internet
6. SARA Consortium
7. National Optical Astronomical Observatory runs Kitt Peak
8. Funded by National Science Foundation
9. Gemini – 8 meter telescope operated by NOAO in Mauna Kea, Hawaii, and is around 14,000 feet above sea level.
10. UV mirrors have to be smoother than radio mirrors to get a sharp image
11. If size of ball is about the size of a bump, then a lot of scattering happens.
12. The longer the $\lambda$, the rougher the mirror can be and get a clear picture.
13. Big resolution is bad resolution.
14. 100m radio telescope in Greenbank, WV is ran by National Radio Astronomical Observatory, and is funded by NSF
15. 300m radio telescope in Arecibo, Puerto Rico, is not steerable, but has a lot of light gathering power.
16. Light gathering power is proportional to radius squared.
17. Combine telescopes to get a sharper image.
18. Interferometer – many telescopes acting as one
19. It is a telescopes array
20. Very Large Array – VLA, 27 telescopes, each is 25m, VLA is New Mexico, and is spread over 22 miles, and is on tracks.
21. They get a resolution of a diameter of 22 miles
22. Light gathering power is not the same, it is smaller than a normal 22 mile telescope.
23. We can do radio astronomy when it is cloudy or during the day.