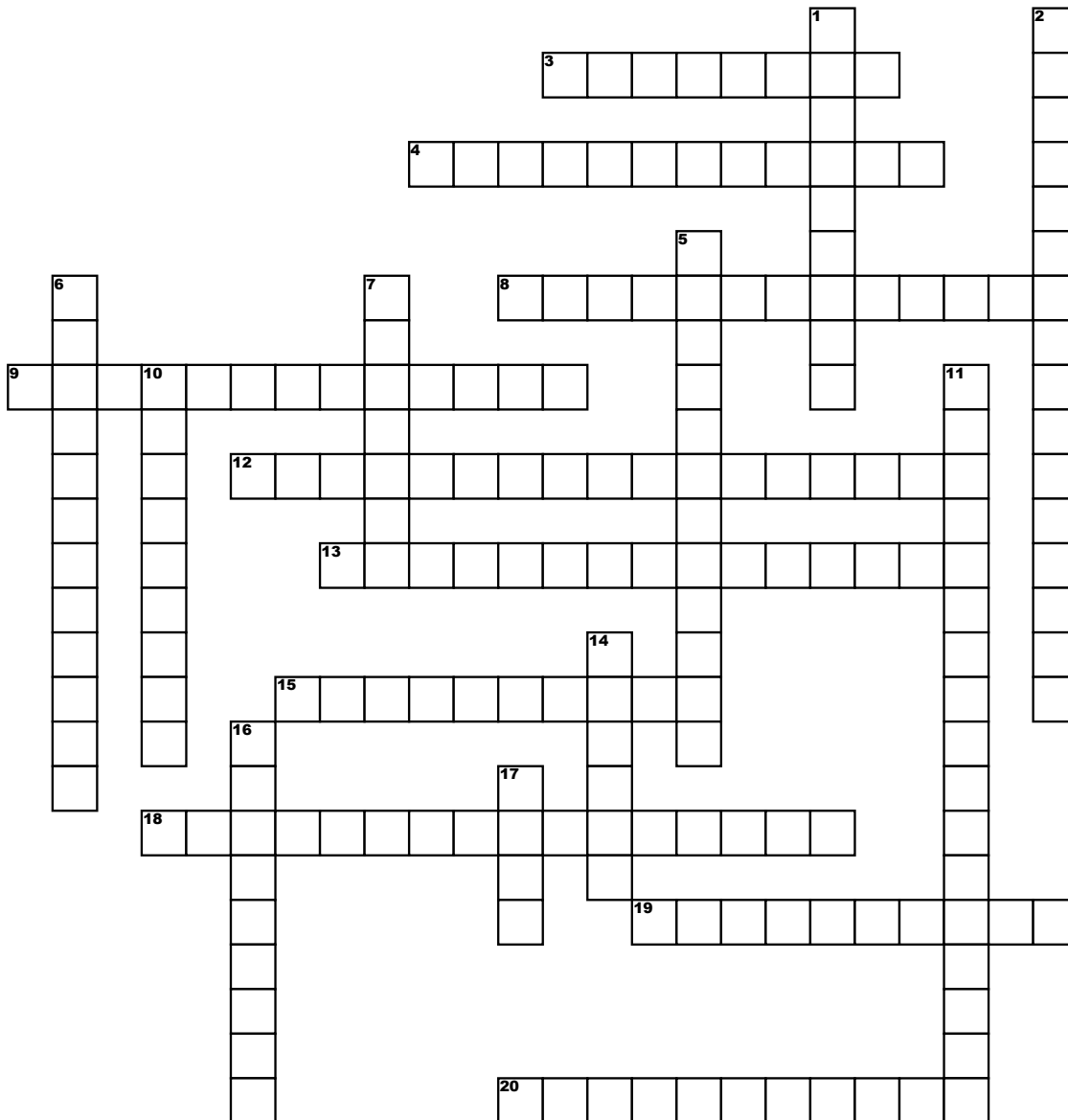


Name: _____

Date: _____

Lights!



Across

3. Lens comprising two convex spherical surfaces
 4. system that forms an image free from chromatic aberration
 8. used to expand light beams or to increase focal lengths in optical systems
 9. used in beam expansion, image reduction, or light projection applications.
 12. lens has a steeper concave surface and is thinner at the centre than at the periphery
 13. It consisted of two doublet lenses with an aperture stop in between
 15. Positive focal length elements that have one spherical surface and one flat surface

18. they are all physically longer than their focal length
 19. curved on both sides
 20. compound lens used mostly in camera lenses that reduces optical aberrations over a large focal plane.

Down

1. Lens with a longer focal length than standard
 2. lens that is symmetrical about its aperture stop with four elements in two groups.
 5. symmetrical across both its horizontal and vertical axis.
 6. first lens system that allowed elimination of most of the optical distortion or aberration at the outer edge of lenses.
 7. causes light that enters the lens to spread out, or diverge

10. have a negative focal length and are best used to diverge a converging beam

11. Lens have a steeper convex surface and is thicker at the centre than at the periphery.

14. Rays of light that pass through the lens are brought closer together (they converge)

16. lens that causes a beam of parallel rays to diverge

17. transmissive optical device that focuses or disperses a light beam by means of refraction