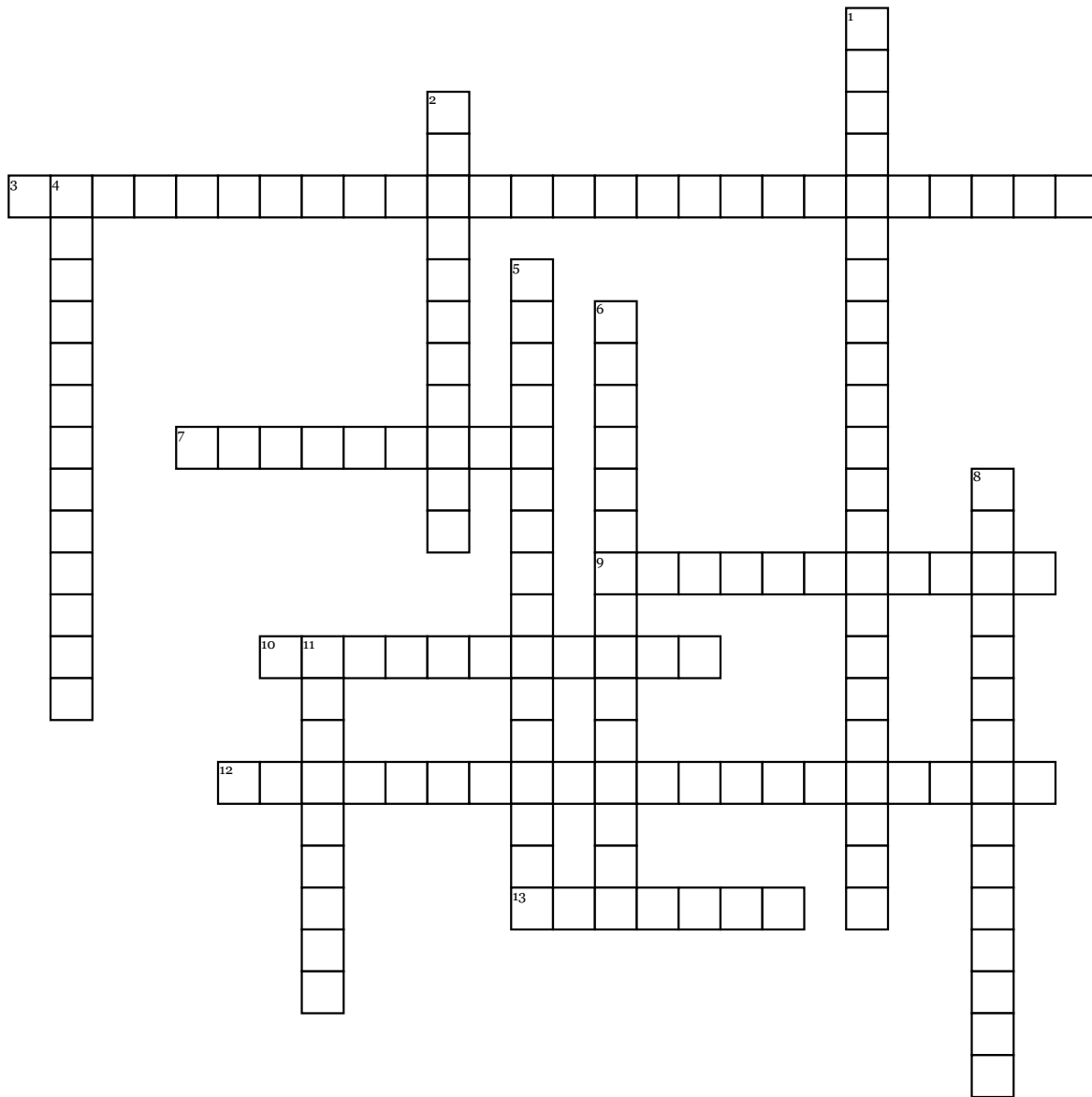


# Gene Regulation Mechanisms



**Across**

- 3.** Certain activator protein that binds to DNA and stimulates transcription (volume)
- 7.** Changes to the genetic information because of bacteria or cell. Creates diversity, and is a source of new genes (volume)
- 9.** opens up chromatin structure, promoting transcription (volume)
- 10.** Occurs in plants, animals, and fungi. The addition of methyl groups reduces transcription (volume)

**12.** Serve as binding sites for proteins critical for the precise regulation of gene expression (on/off)

**13.** Type of hormone that enters the cell and creates a hormone receptor complex that serves as a transcription activator (on/off)

**Down**

- 1.** Produces different mRNA molecules from the primary transcript (volume)
- 2.** Eukaryotic elements that can move within in a "cut and paste" or "copy and paste" mechanism (volume)

**4.** Uses PCR to increase DNA for cloning (volume)

**5.** Prevent the synthesis of proteins (volume)

**6.** The time it takes for mRNA to be broken down by enzymes after synthesis (volume)

**8.** Translation needs this to occur in order to function (on/off)

**11.** Distant distal control elements that increase or decrease gene expression in eukaryotes (volume)