**Bellringer:**  Eukaryotic Gene Regulation

*AP Biology*

The diagrams below represent **eukaryotic gene regulation**: the regulation of eukaryotic gene expression by a combination of molecules before, during, and after gene transcription and mRNA translation. Answer the questions for each diagram below.

| **Regulation of Transcription** | What is the **regulatory role** of each of the following:  Histones:      Acetylation of Histones:      Methylation of Histones:      Transcription Factors:      Enhancer Region/Switch:      Promoter Region: |
| --- | --- |
| **Post-Transcriptional and**  **Translational Regulation** | What is the difference between introns and exons? Which ones are removed during **post-transcriptional RNA Splicing**?            What is the purpose of the **5’Cap and the Poly-A Tail?**          One of the post-translational modifications is degradation of protein. How could this relate to cell signaling? |