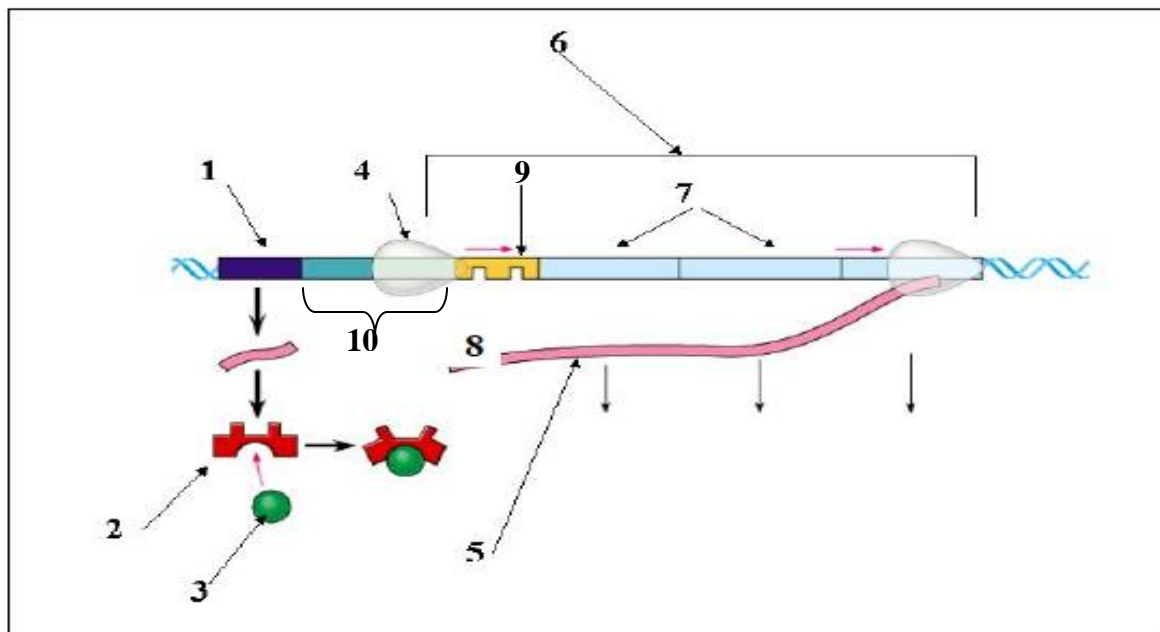




Label the adjacent sketch of a Lac Operon in a prokaryotic cell with the terms in the chart. Write the function for each.



Number	Structure	Function
	Structural genes	
	Operon	
	RNA polymerase	
	mRNA	
	Promoter	
	Operator	
	Repressor	
	Regulatory gene	
	Inducer	

Create **Three Venn Diagrams** (at least 5 items in each space), comparing the following concepts:

- Gene expression/Gene regulation and
- Prokaryotic Gene Expression/Eukaryotic Gene Expression and
- positive gene controls/negative gene controls OR pre-transcriptional controls/post-transcriptional controls OR pre-translational controls/post-translational controls

In the following diagram of Protein Synthesis, draw, label and explain 6 specific ways that genes can be differentially expressed to result in alternative gene products, different metabolic functions and/or differentiated cells.

