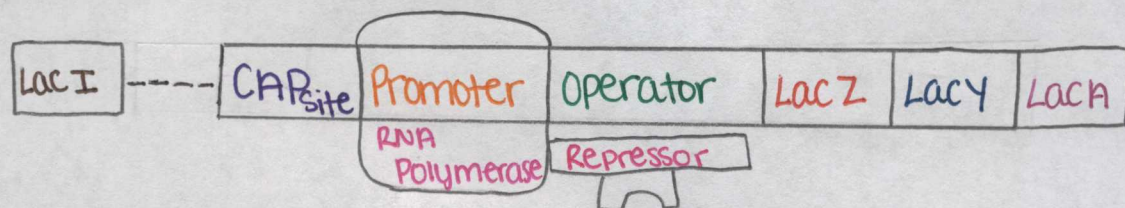
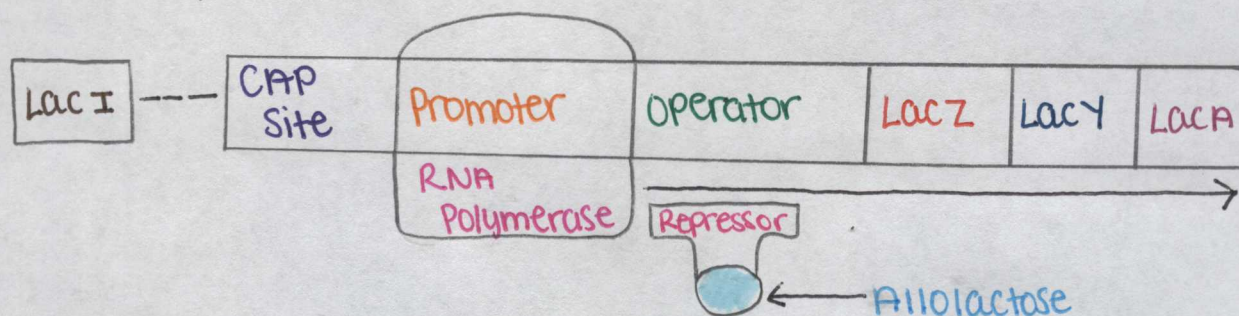


① In the absence of Lactose



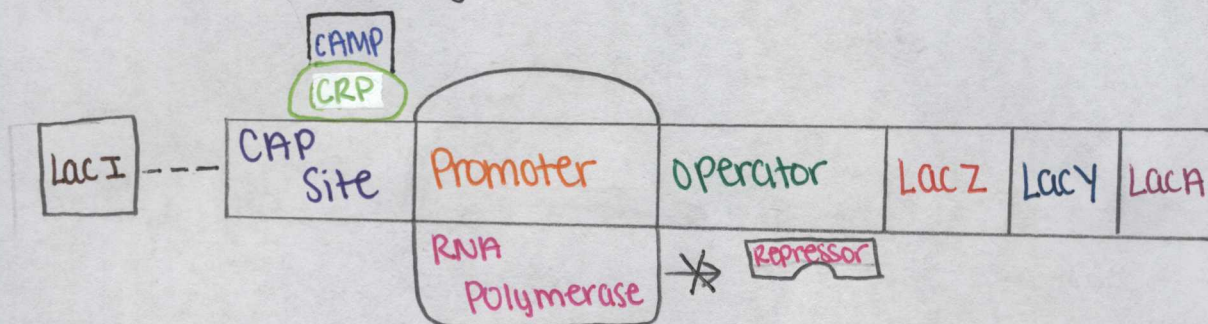
- Repressor binds to Operator inhibiting RNA Polymerase to transcribe genes
- NO Lactose means NO transcription

② In the presence of Lactose



- When Lactose is present, Allolactose binds to the repressor causing a shape change. Stopping the repressor from binding to the Operator, and thus inducing RNA polymerase transcription

③ In the absence of glucose



- when glucose is absent cAMP increases due to cAMP binds to cAMP receptor proteins (CRP), CRP + cAMP binds to near promoter site, they also help RNA polymerase