Questions on “The program of gene transcription for a single differentiating cell type during sporulation in *Bacillus subtilis*” by Eichenberger et al.
(sections that you do not have to focus on to answer these questions: “Biochemical identification of SpoIIID-binding sites”, “Identification of putative SpoIIID-binding sites by bioinformatics”, “Identification of promoters controlled by sigma K using bioinformatics…”.

1. The authors indicate that sporulation in *Bacillus* occurs via a regulatory cascade called “incoherent and coherent Forward Feedback Loops”. Briefly explain what this means.

2. a. The authors use transcriptional profiling of mutant versus WT to define the regulatory cascade during sporulation. Explain the logic of these experiments.

   b. To define the regulatory cascade, why did they not just put each gene in the regulatory hierarchy under an inducible promoter and assess expression compared to wild type under induced and non-induced conditions?