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## Topic: Biocontainment (Week 13)

Pre-discussion questions. Answer briefly. Use only the space provided.

1) What is the NIH recommended guideline for the highest acceptable frequency of cells that should be able to survive if they "escape" from the lab? Do you think this is reasonable?

2) What is the difference between death of an engineered organism that escapes from the lab due to an auxotrophy and due to a kill switch?

3) Briefly describe an example of each of these two types of biocontainment strategies (auxotrophy and kill switch). Include gene names and functions in your answer.

4) Even if every single cell of an engineered organism dies when it escapes from the lab, what further problem needs to be addressed to make synthetic biology completely safe?