# Cole-escent theory

### Inspired by GENOME 551 with Cole Trapnell

20 students in a class, numbered 1,2,..., 20 Each day of class, professor rolls 20-5 ided die to choose a student to call on Question: How many classes do I expect it to take me to get called on?

Each class I get called  $\omega/Prob. \frac{2}{20}$   $\longrightarrow IE[T] = \frac{1}{120} = 20 \text{ classes}$ 

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- 20 students in a class, numbered 1,2,..., 20
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Question: How many classes do I expect it to take me to get called on?

Each class I get called w/Prob. 
$$\frac{2}{20}$$

$$= \sum_{i=1}^{\infty} |E[T] = \frac{1}{120} = 20 \text{ classes}$$

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Question: How many classes do you expect until all 20 students have been called on ?