AP Bio 12 Prezi Notes Cells #5: Part 2 Coolio Communicator:

**Applications:**

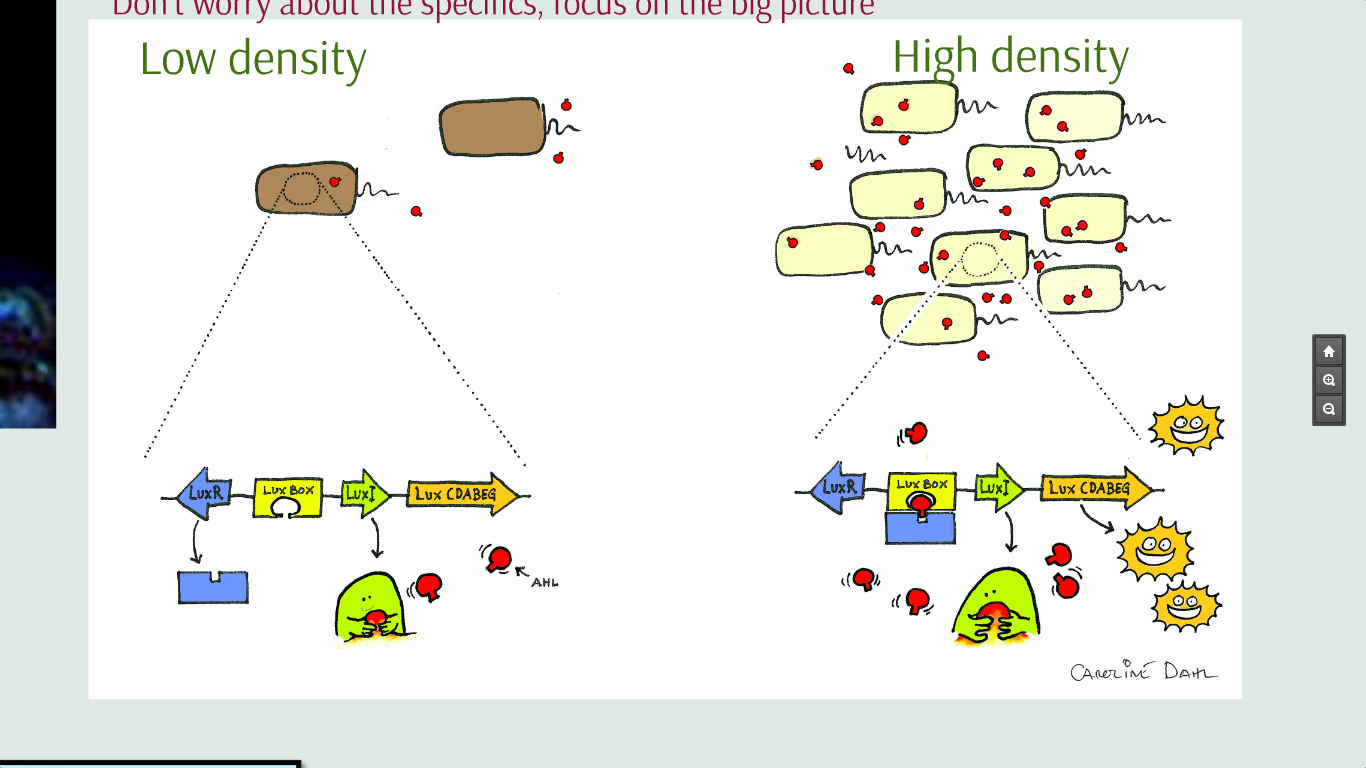
**Why Cells Communicate, Some Examples:**

**Quorum Sensing:** communication among \_\_\_\_\_\_\_\_\_\_ that triggers \_\_\_\_\_\_\_ response once particular population \_\_\_\_\_\_\_\_\_\_ are reached

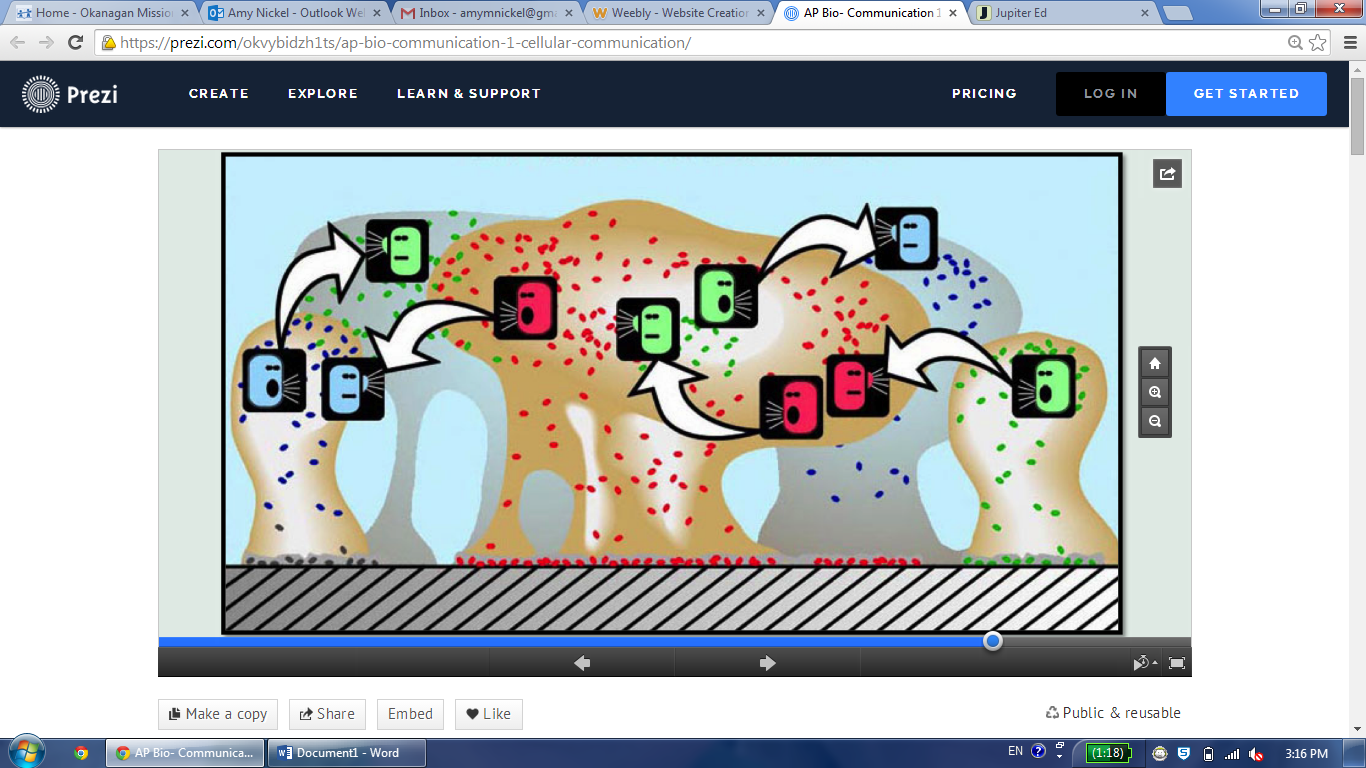
*Vibrio fischeri*: A bacterium that lives inside organs in marine animals.

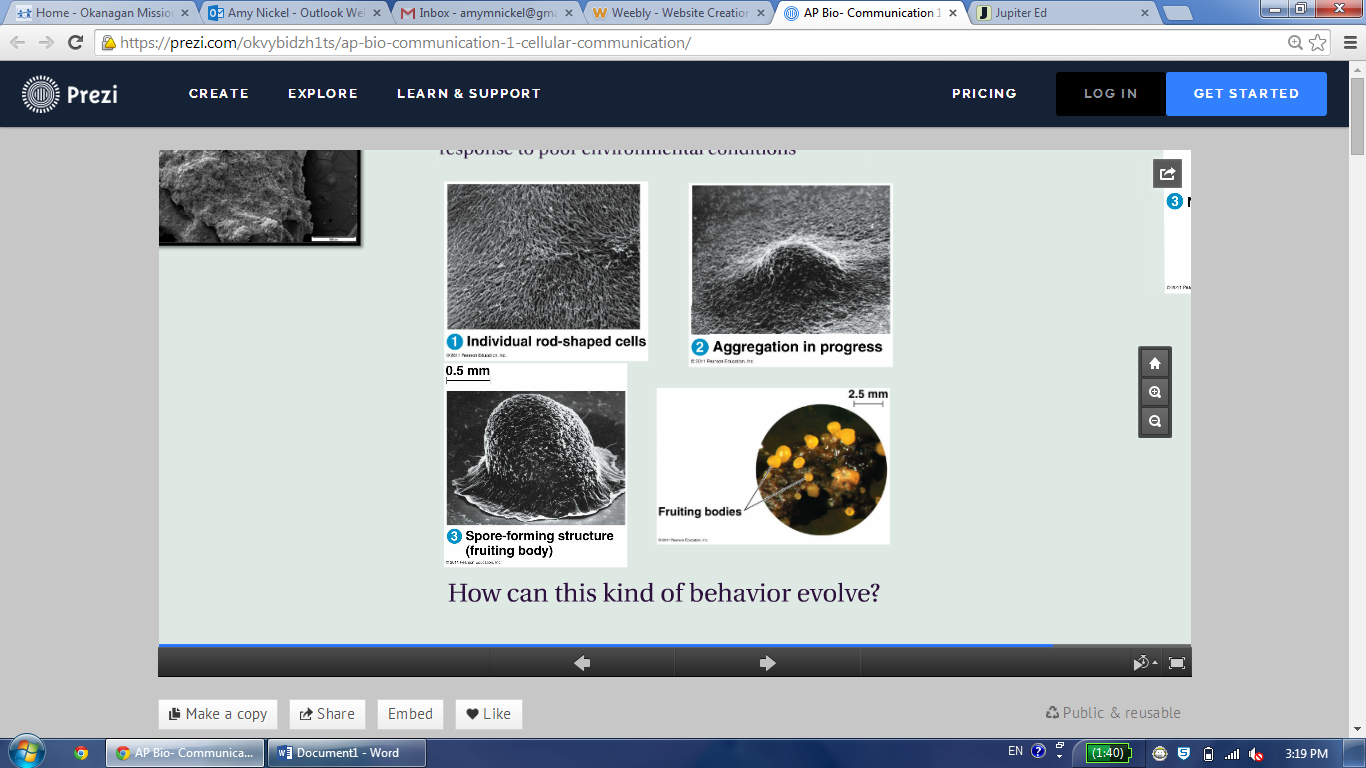
When population density hits a threshold, they begin to produce a light-producing \_\_\_\_\_\_\_\_. This gives the host animal \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Model of quorum sensing in *V. fischeri.* Don't worry about the specifics, focus on the big picture



**Biofilms:** bacterial \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_that are established and maintained due to elaborate quorum sensing networks



**It's All About Signal Reception!**

Fruiting Body Formation in Soil Bacteria in response to

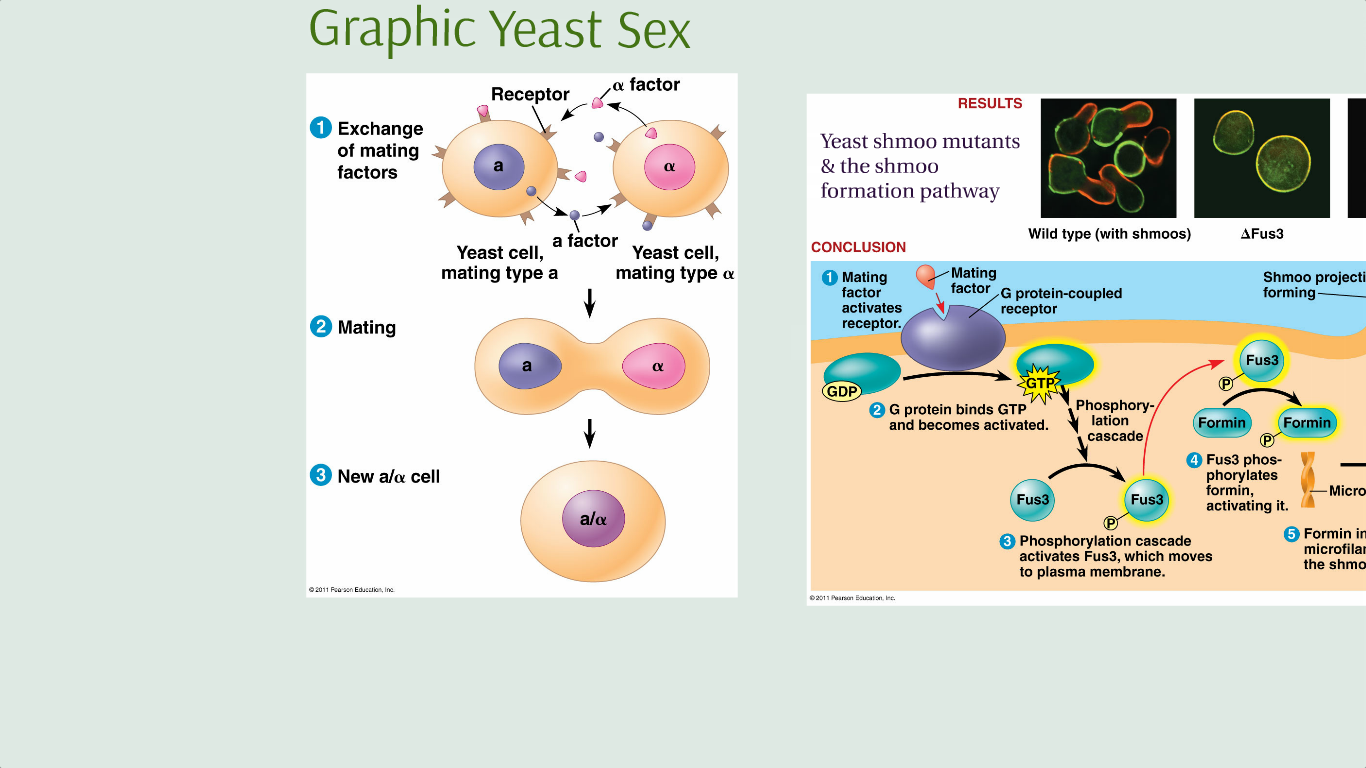
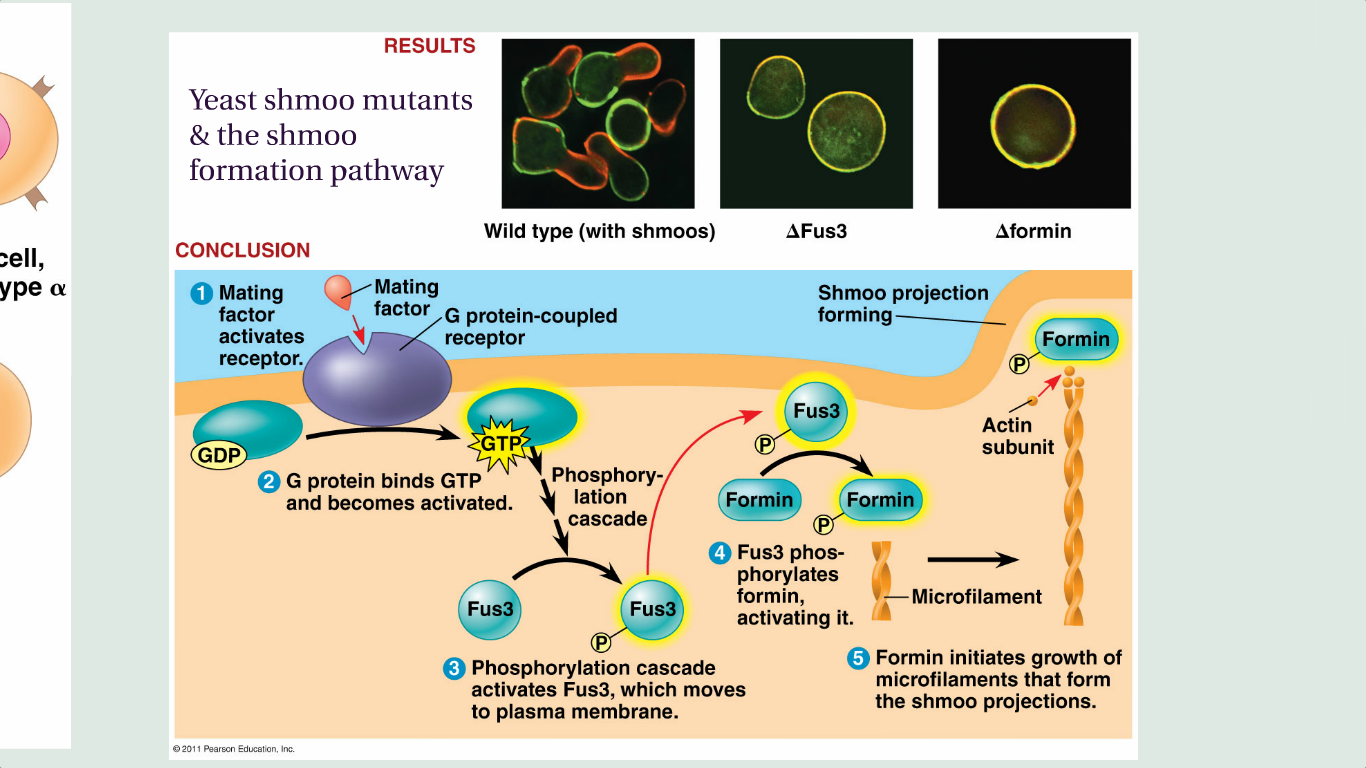
\_\_\_\_\_\_\_\_\_\_\_\_\_ environmental conditions.

How can this kind of behavior evolve?

**Yeast Mating:**

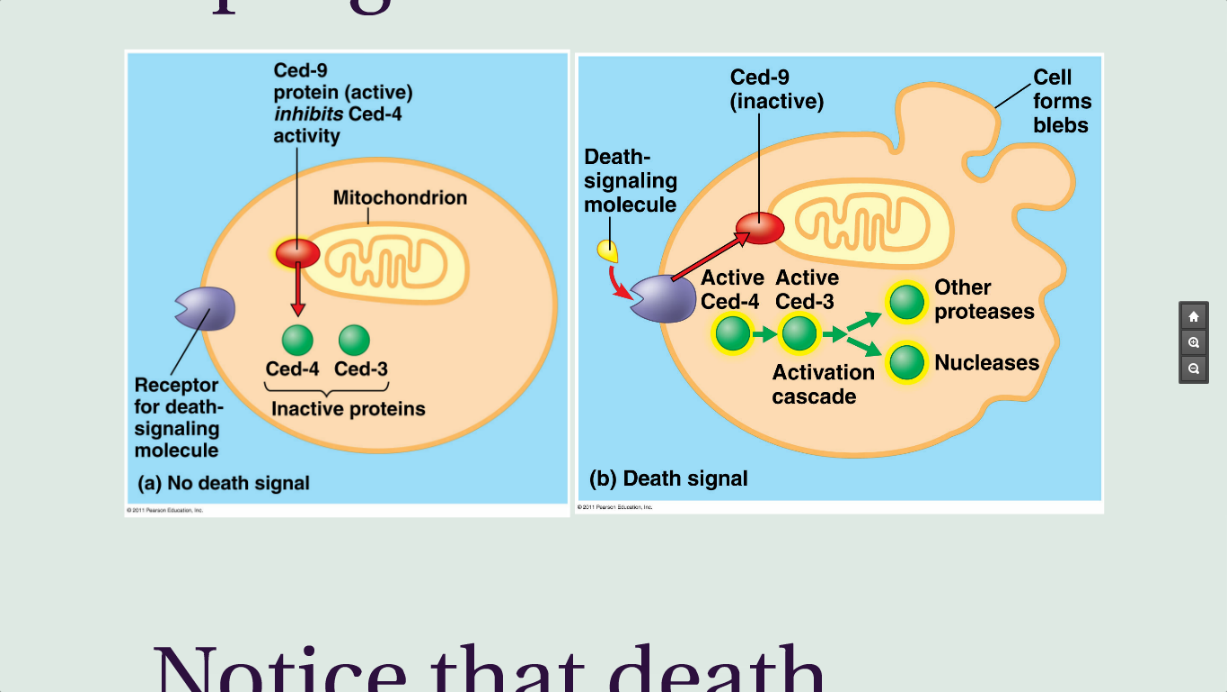
Mating type in (\_\_\_\_\_\_\_\_\_\_\_) yeast is genetically determined.  
Two mating types (\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_). Each makes signaling molecules that the other receives.  
The reception of a mating factor leads to the production of a mating "\_\_\_\_\_\_\_\_\_\_\_\_\_"  
Fusion of shmoo's = \_\_\_\_\_\_\_\_\_\_\_ yeast cell.  
\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ soon ensues

**Graphic Yeast Sex**



**Apoptosis:**

Programmed \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ is programed because of the \_\_\_\_\_\_\_\_\_\_\_\_ pathway that it is programmed to.



Notice that death proteins are present in an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ form prior to signal reception (Why?)

**Make Sure You Can:**

1. Explain why and how cells communicate with the environment.
2. Explain the common features shared among cellular communication processes.
3. Compare the purpose of cellular communication in unicellular and multicellular organisms
4. Describe the major features of signal transduction pathways in cells.
5. Connect cellular signaling pathways to actual examples as discussed in this presentation.
6. Discuss the evolutionary/adaptive considerations of cellular signaling pathways.