

# **SynFlo Sifteo**

An Interactive Installation and Introduction to  
Synthetic Biology

Kimberly Chang, Wendy Xu, Nicole Francisco, Consuelo Valdes

# Examples of genetically modified organisms



pest-resistant cotton



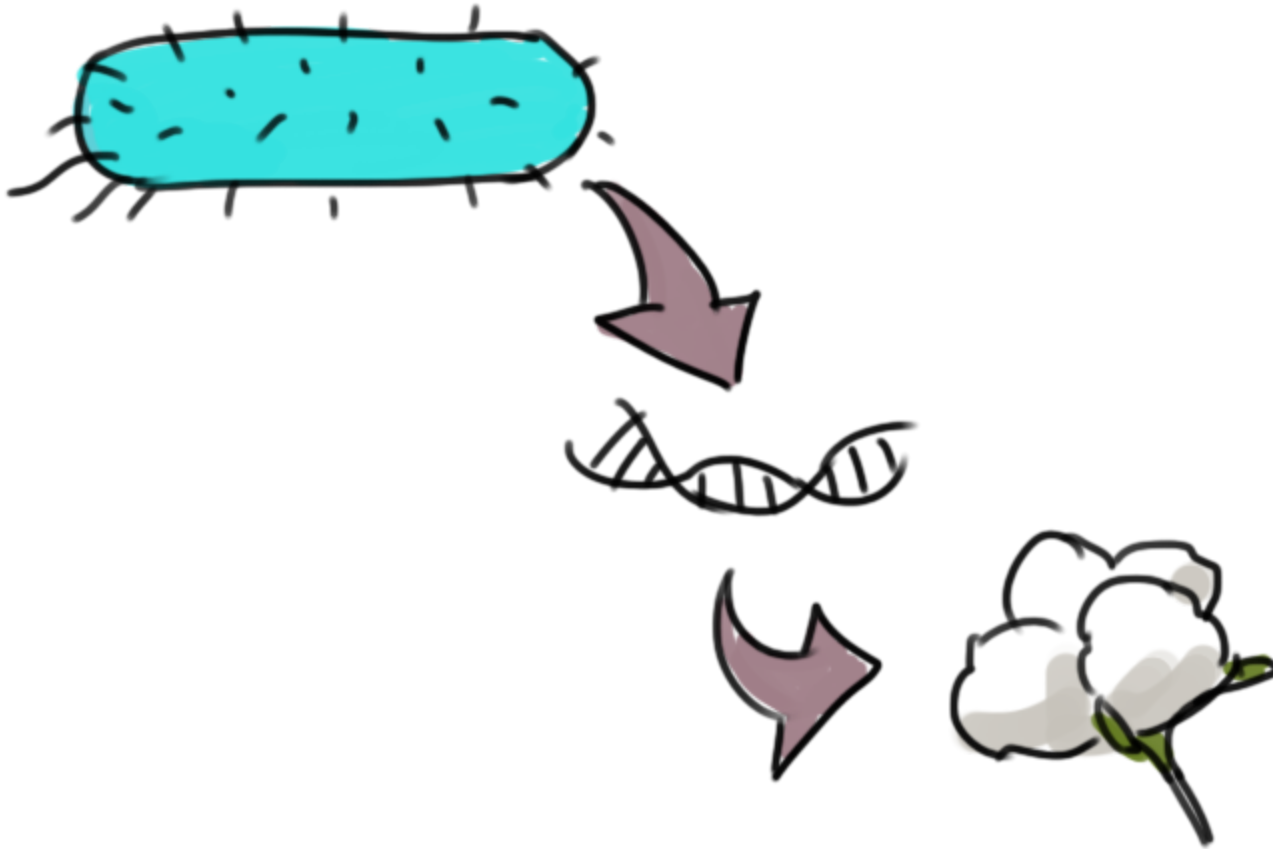
cows that produce healthier milk



potatoes that absorb less oil

# **Synthetic biology vs. genetic engineering**

# Genetic engineering



# Synthetic biology



focuses on systems of genes/gene products

# Synthetic biology



focuses on systems of genes/gene products



adding to or modifying existing organisms

# Synthetic biology



focuses on systems of genes/gene products



adding to or modifying existing organisms



creating new organisms with tailored properties

# Synthetic biology

Abstraction

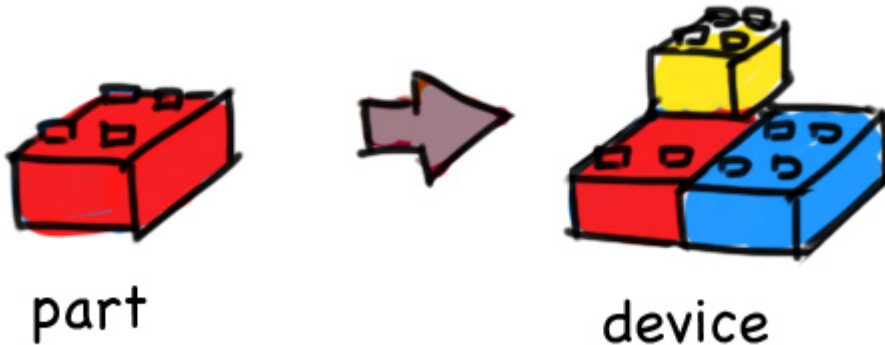


part



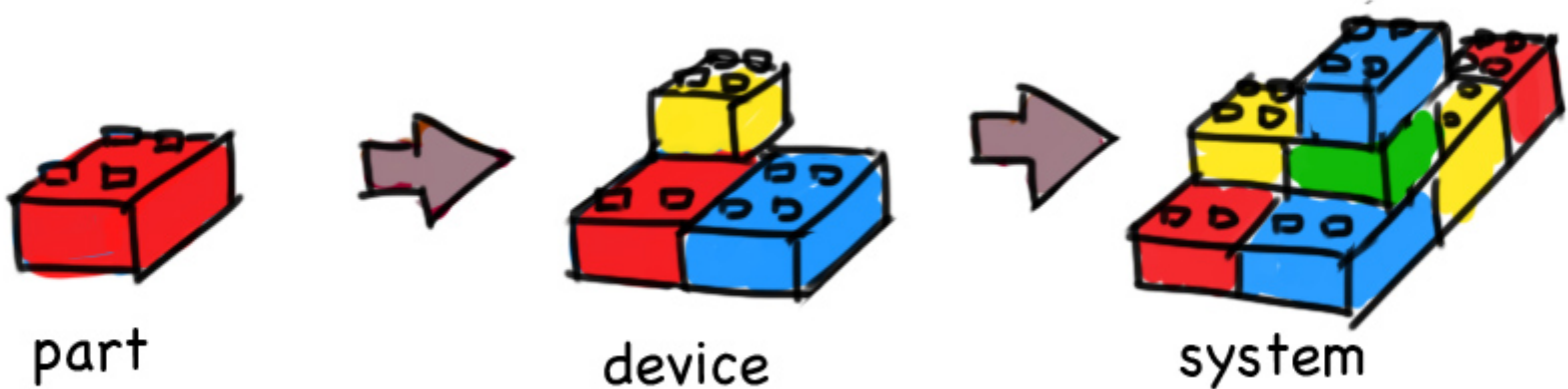
# Synthetic biology

## Abstraction



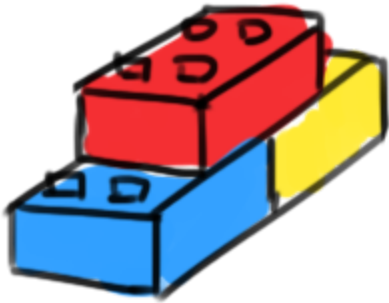
# Synthetic biology

## Abstraction



# Synthetic biology

## Modularity



or

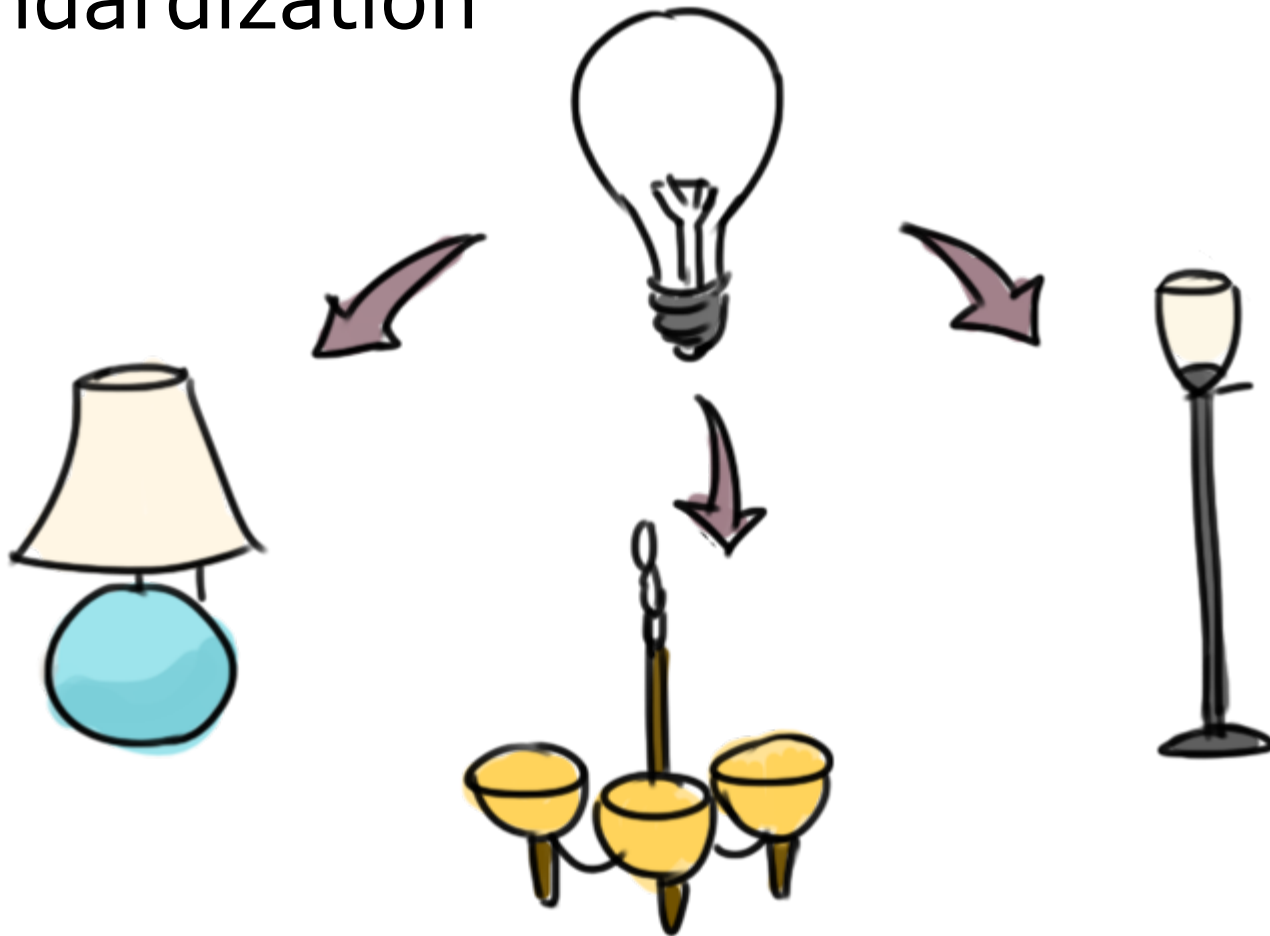


or



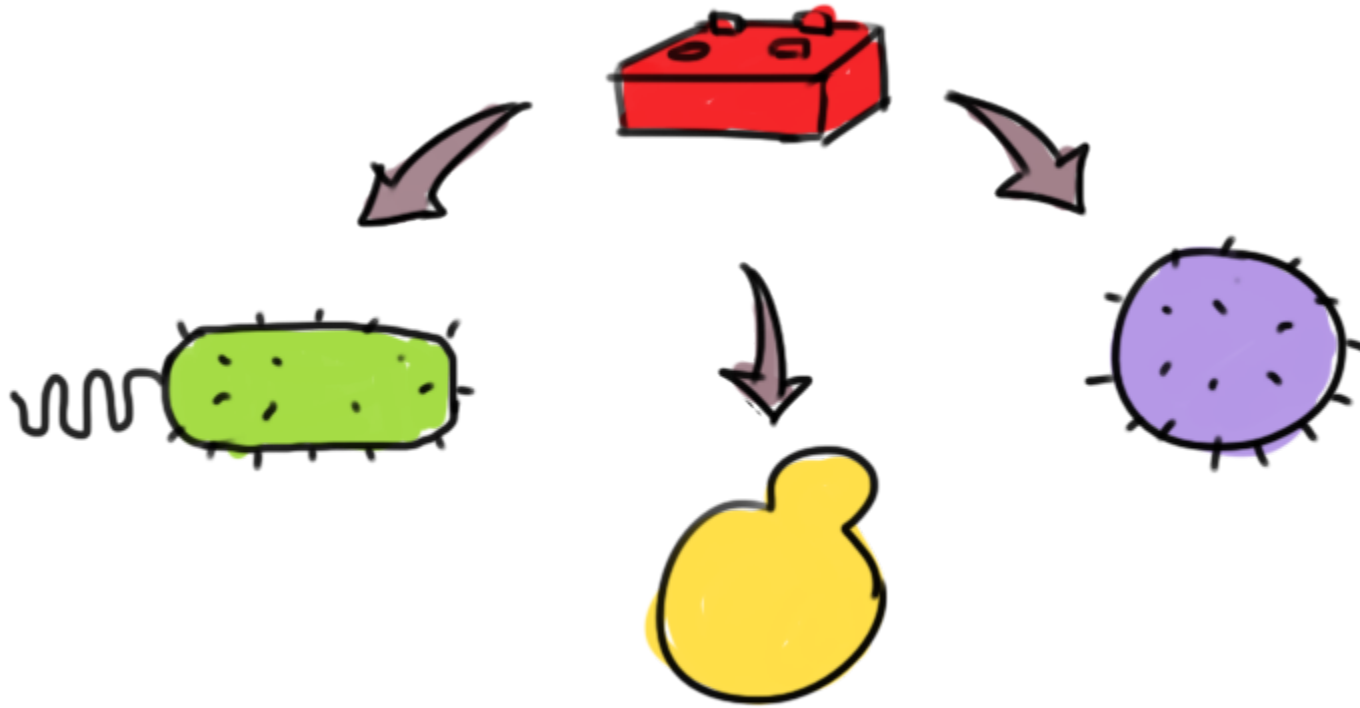
# Synthetic biology

Standardization



# Synthetic biology

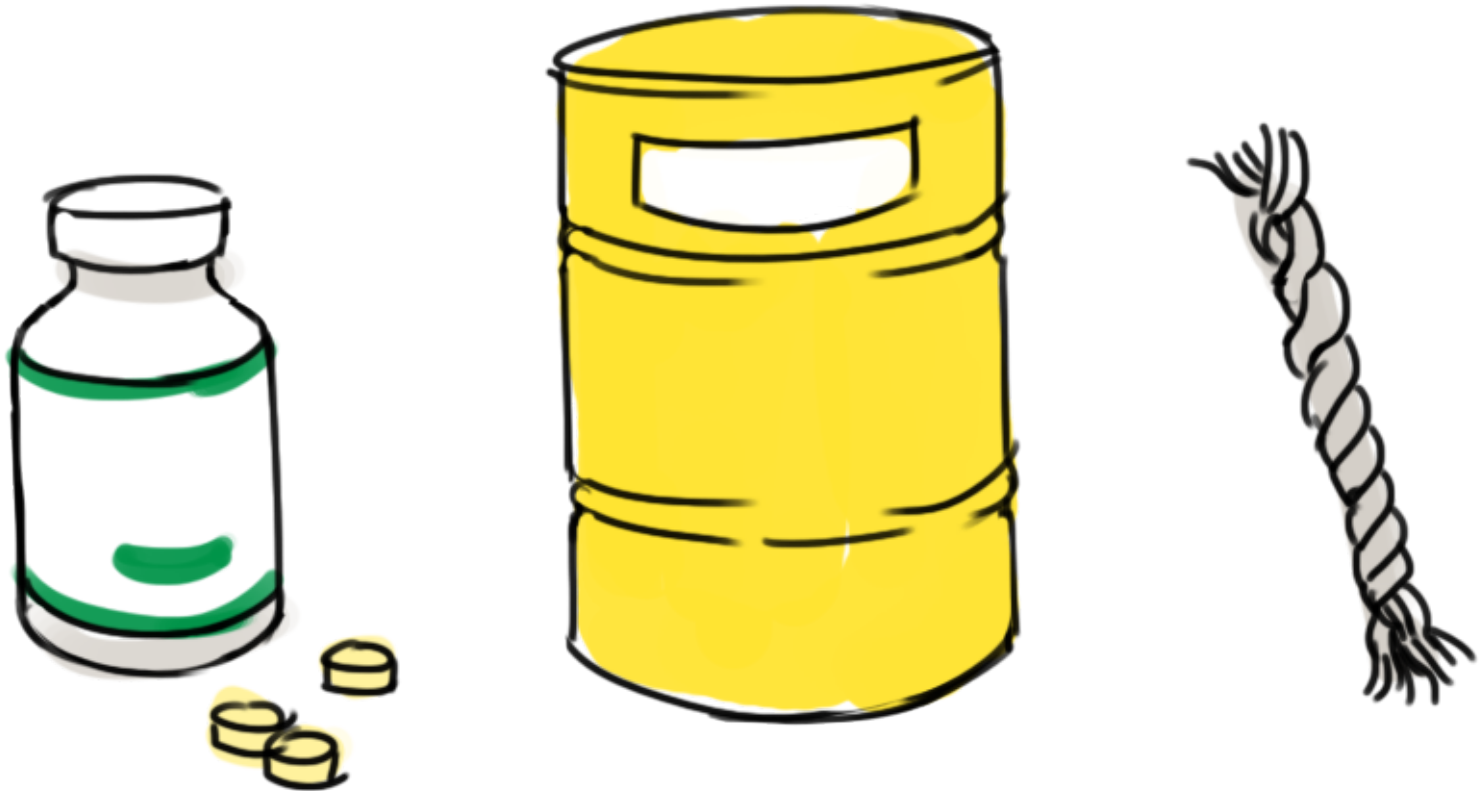
Standardization



# **Significance**

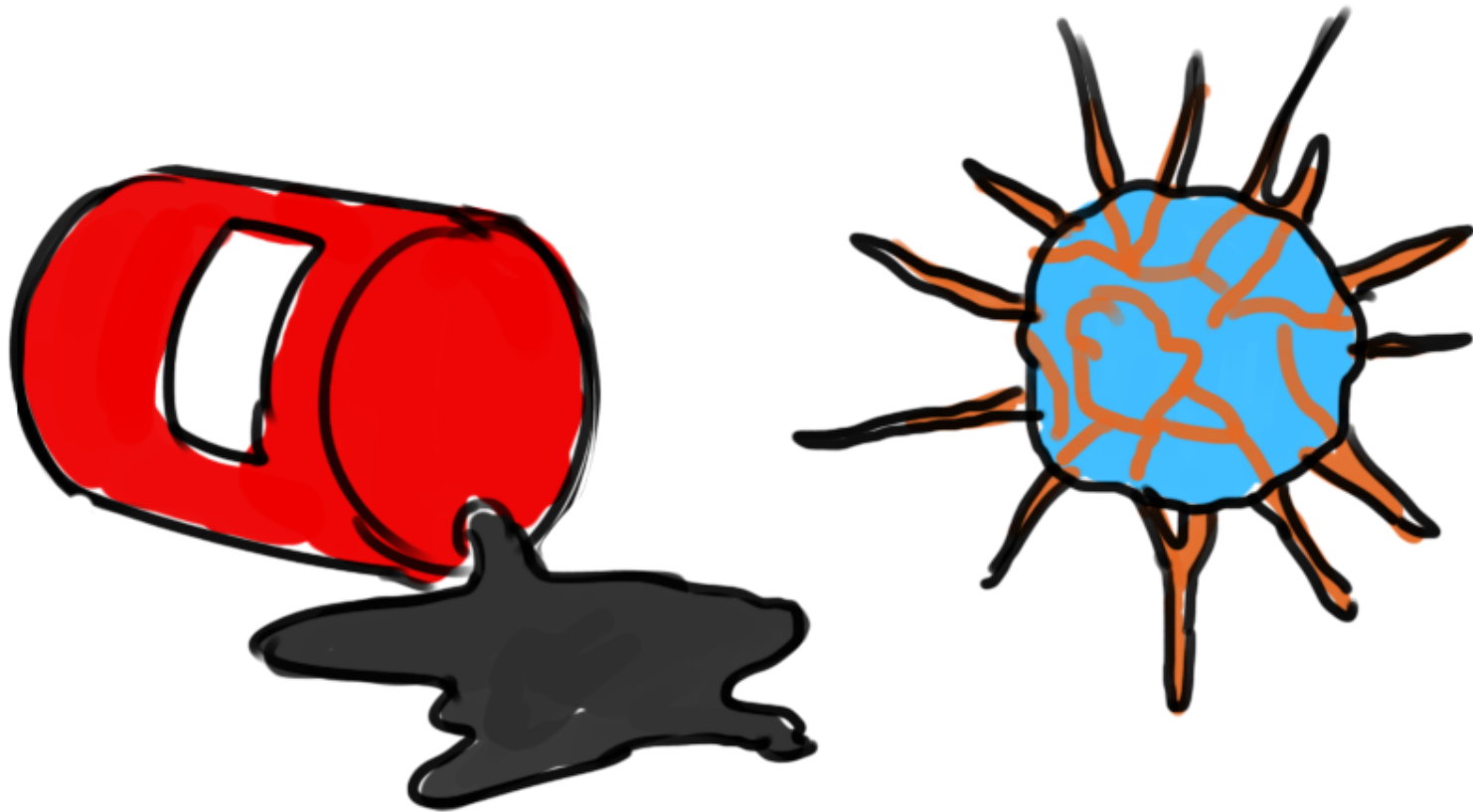
# Benefits

Synthesis of chemicals, materials and biopharmaceuticals



# Benefits

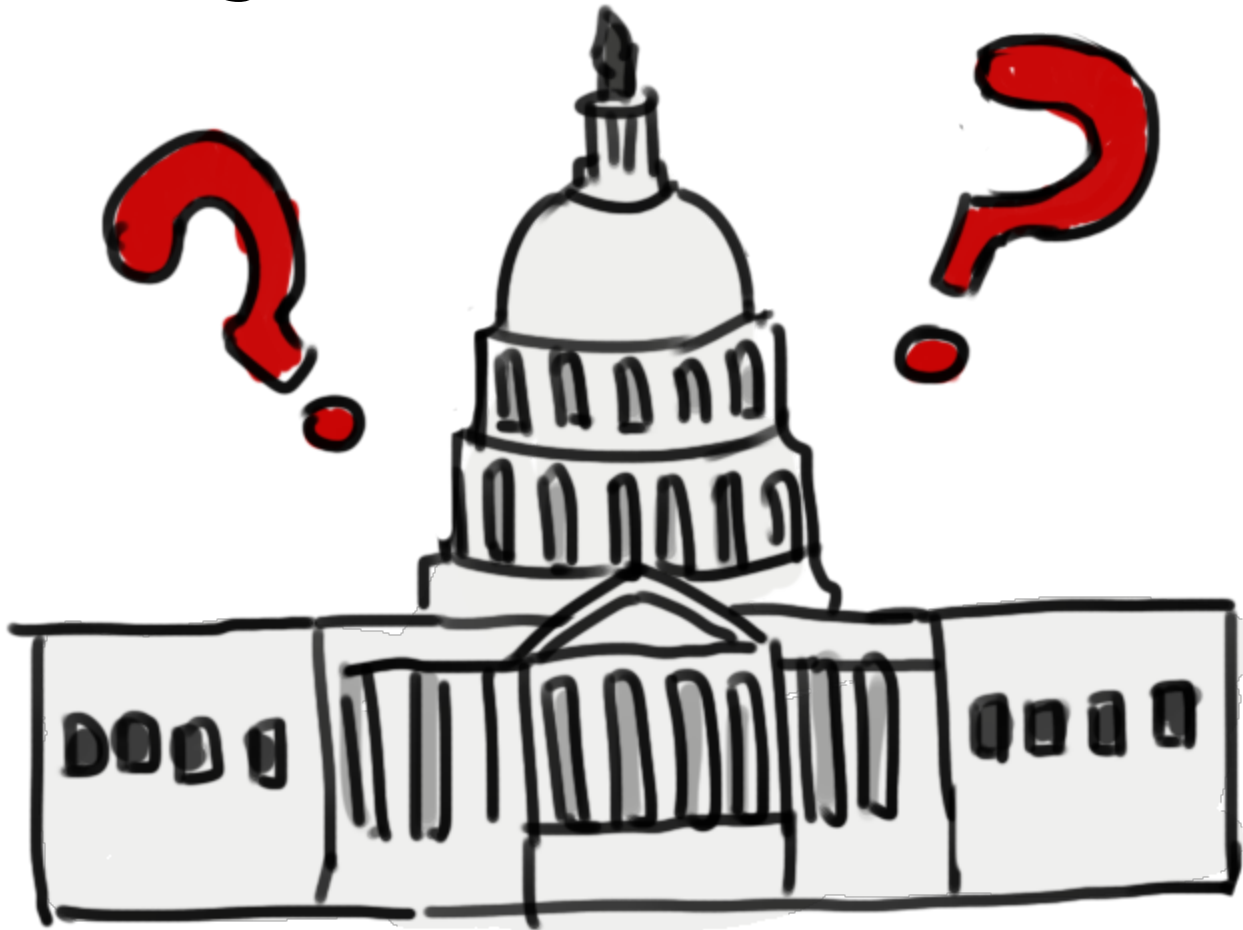
Biosensors





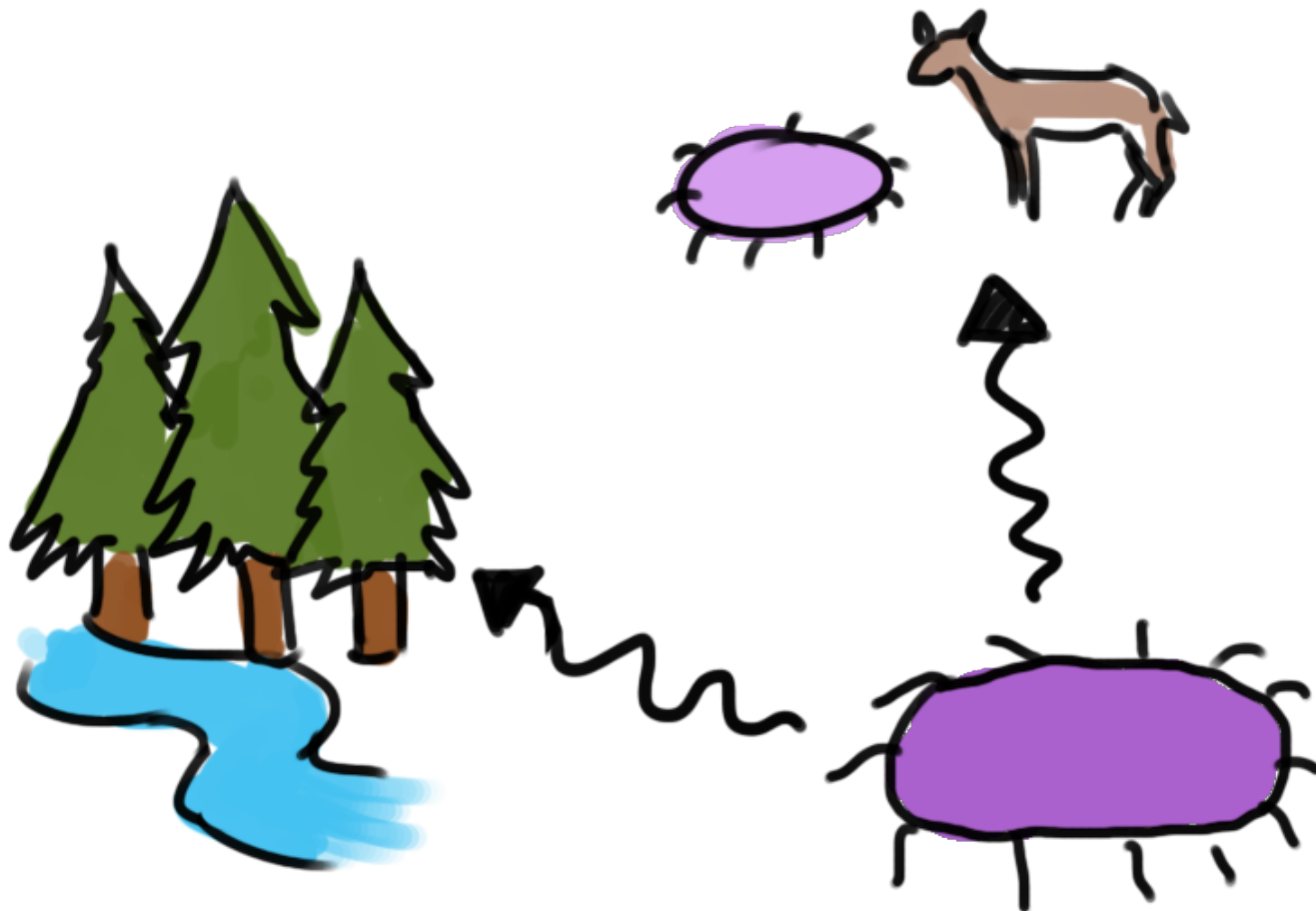
# Risks and concerns

Lack of regulation



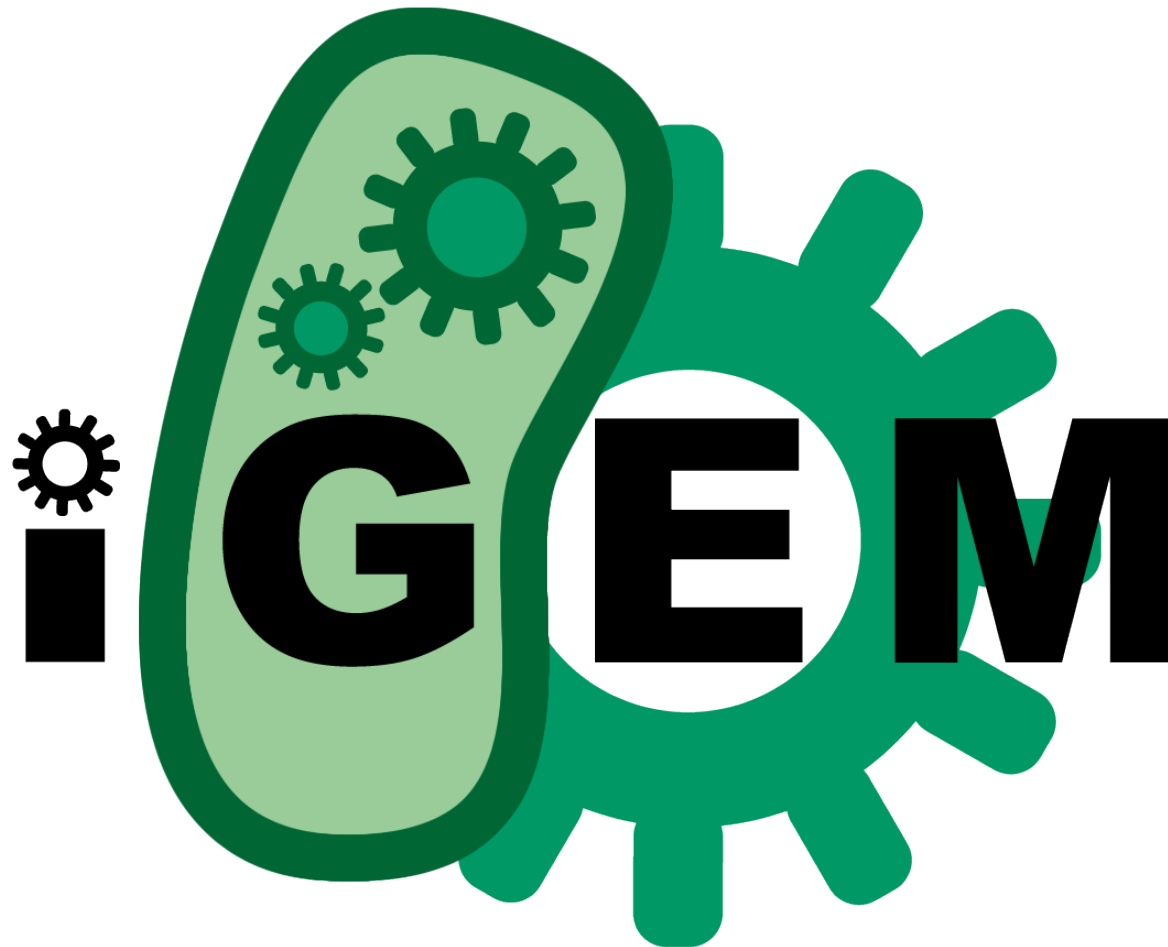
# Risks and concerns

Organisms interacting with environment



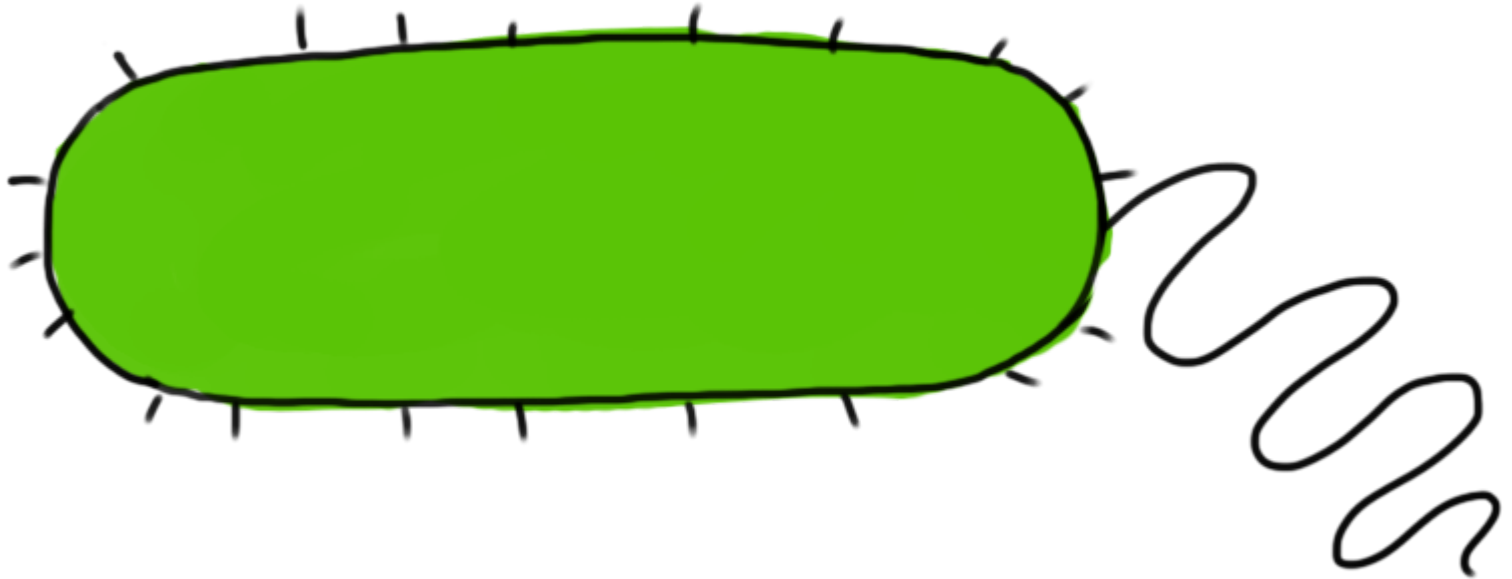
**iGEM**

# **International Genetically Engineered Machine Competition (iGEM)**

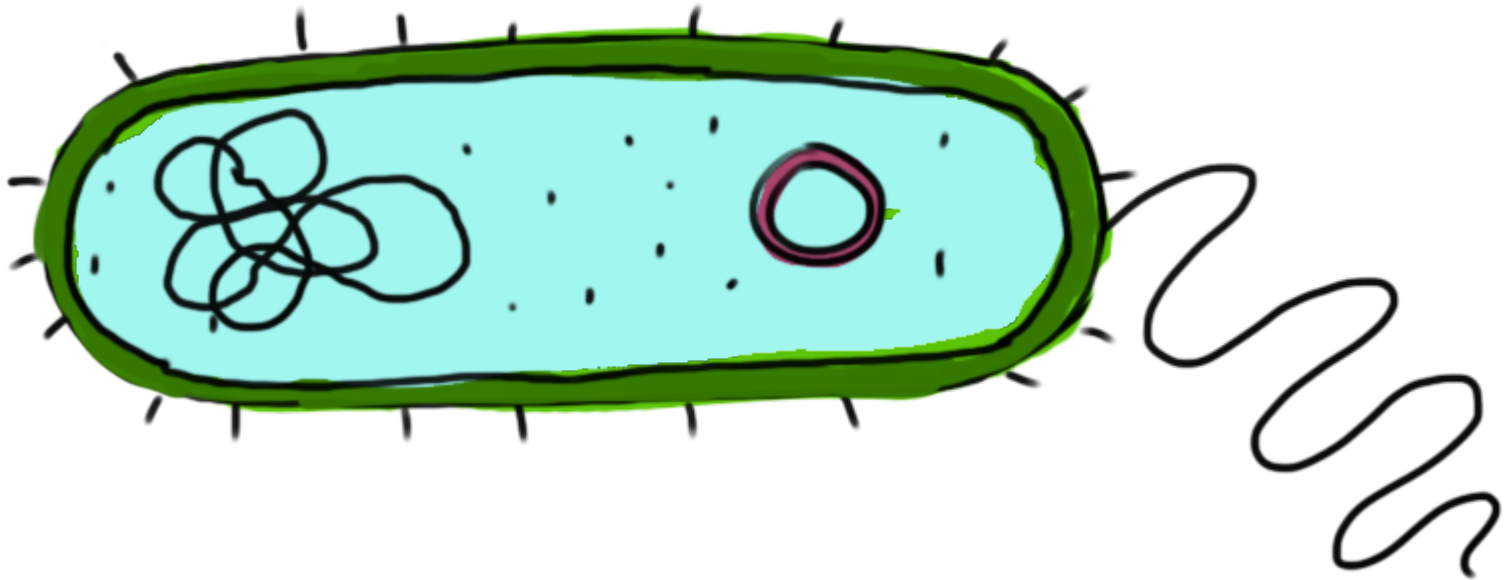


**Science!**

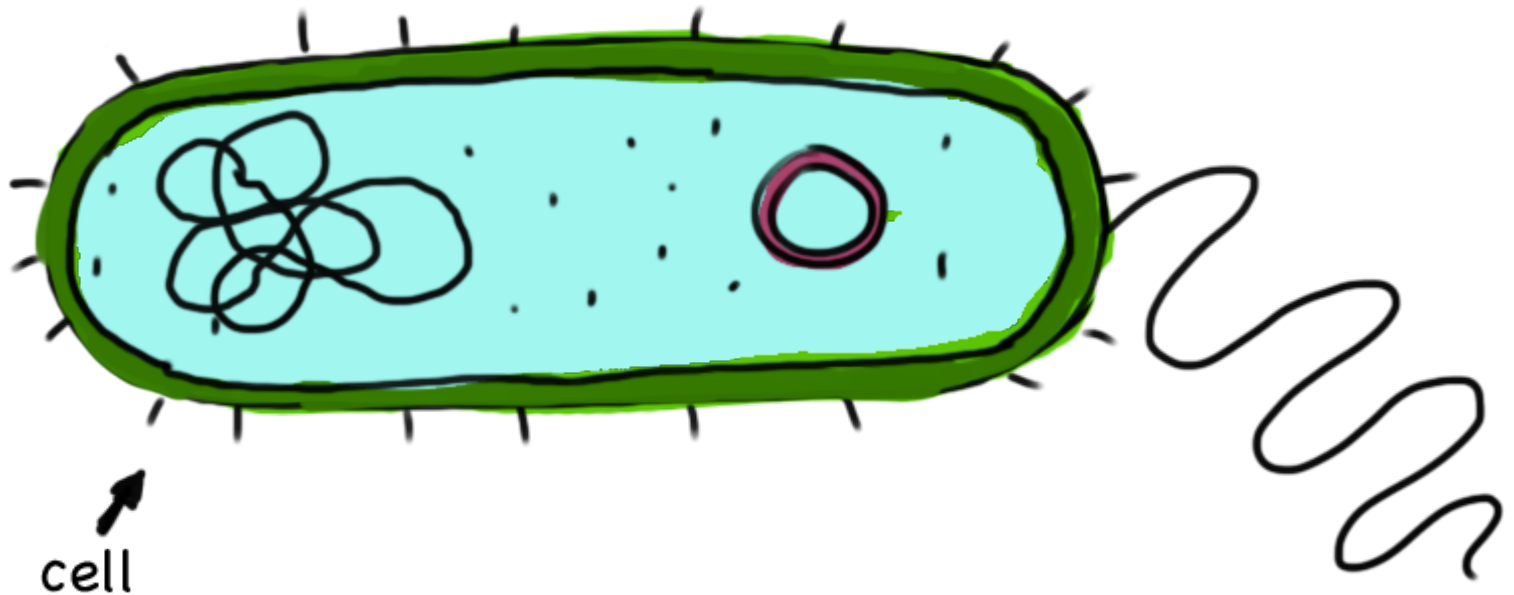
# Helpful terminology



# Helpful terminology

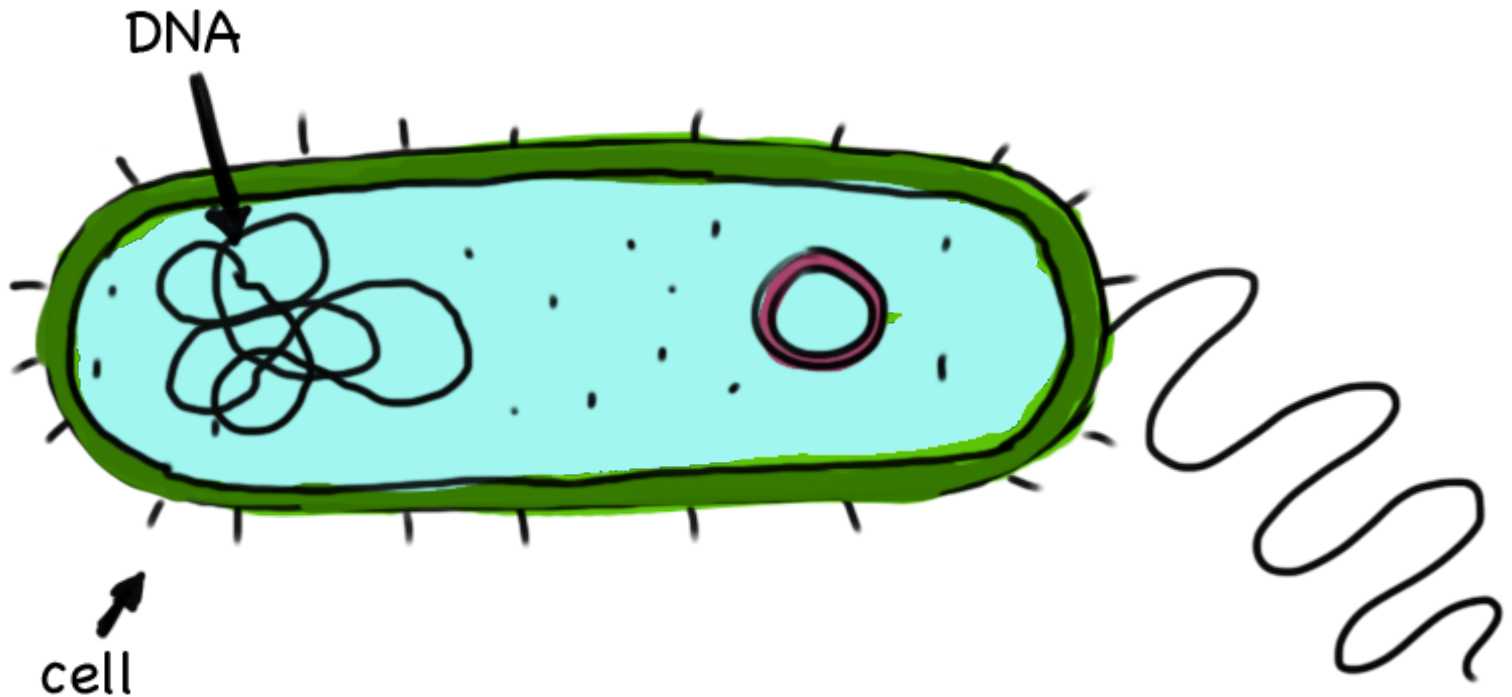


# Helpful terminology

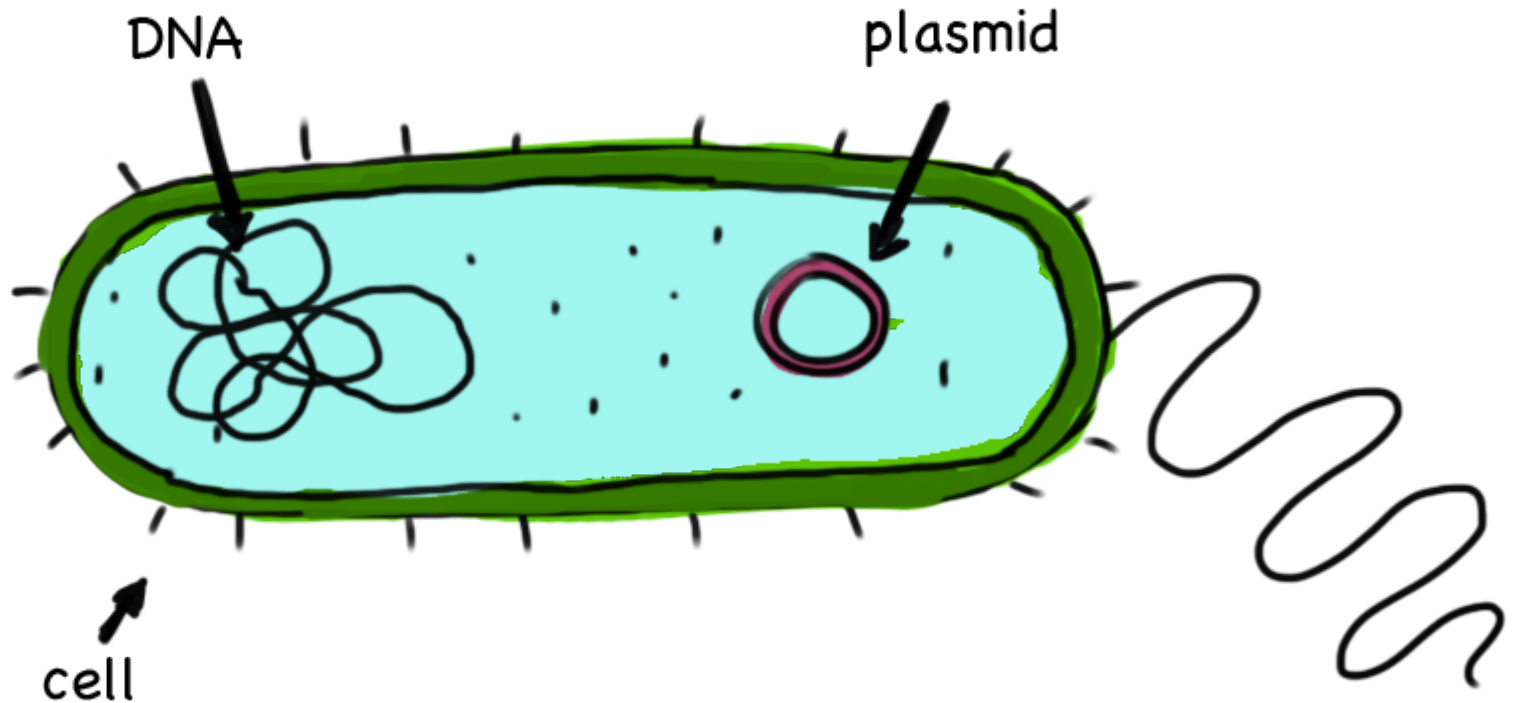




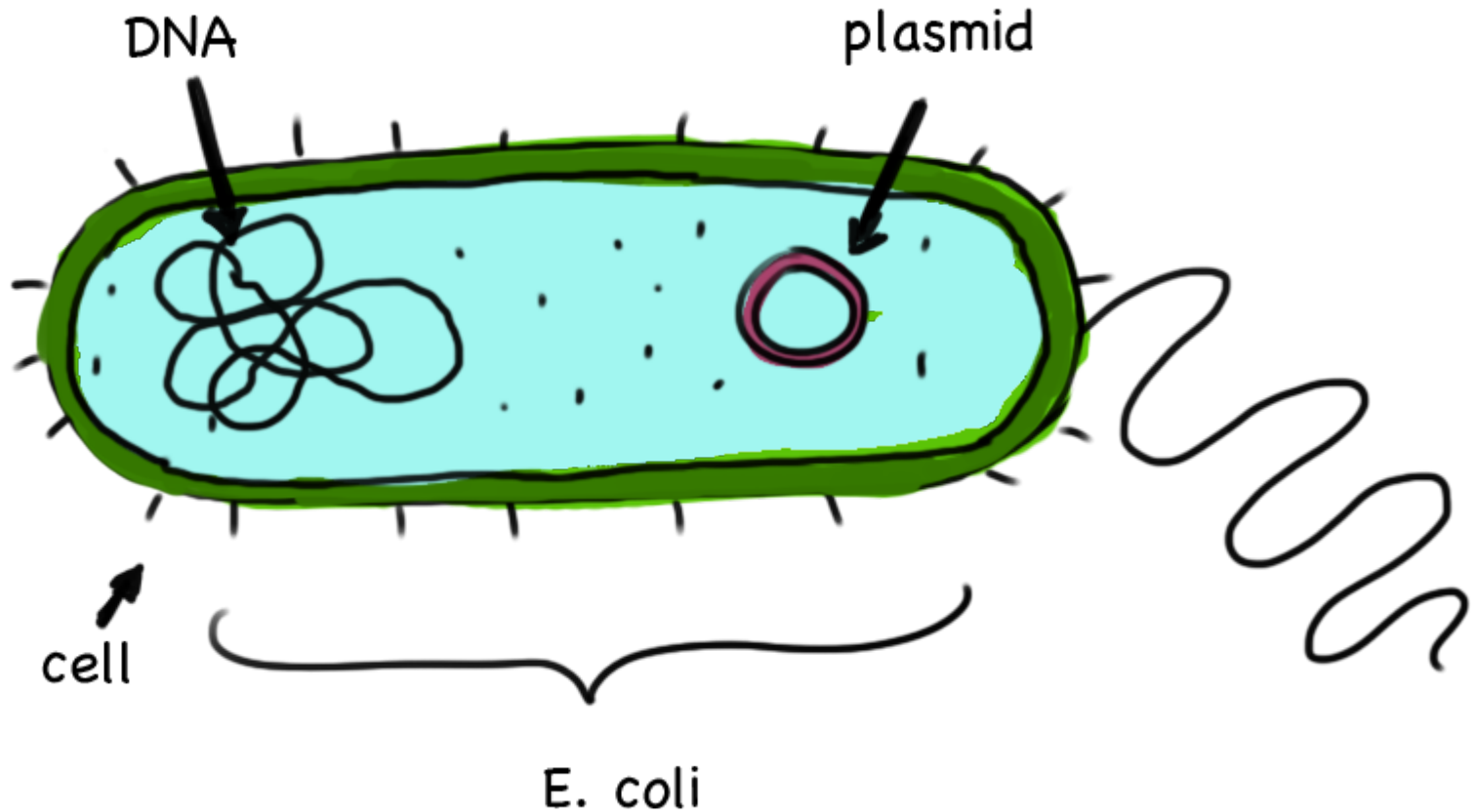
# Helpful terminology



# Helpful terminology



# Helpful terminology



**E. chromi**

# E. chromi

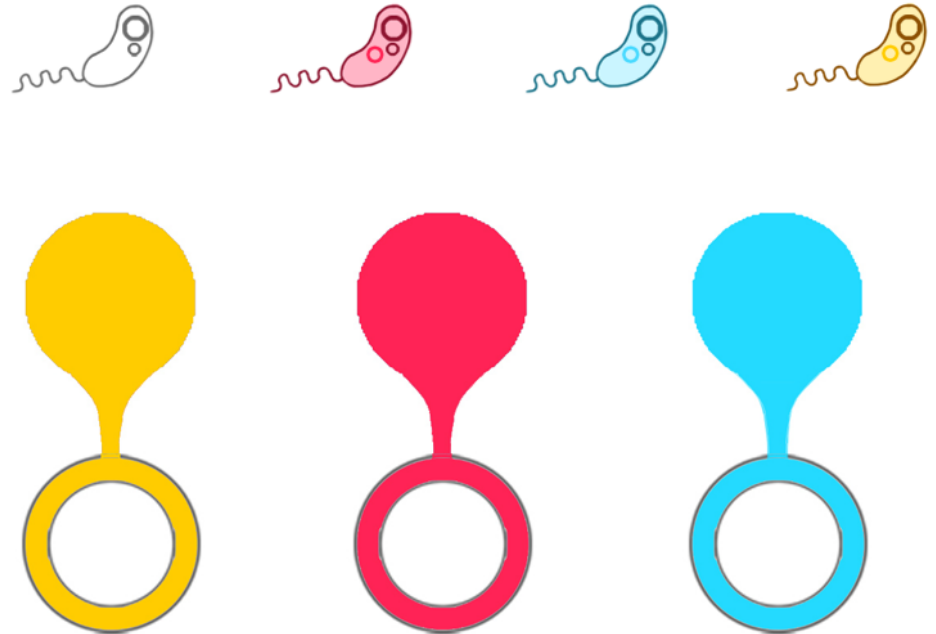
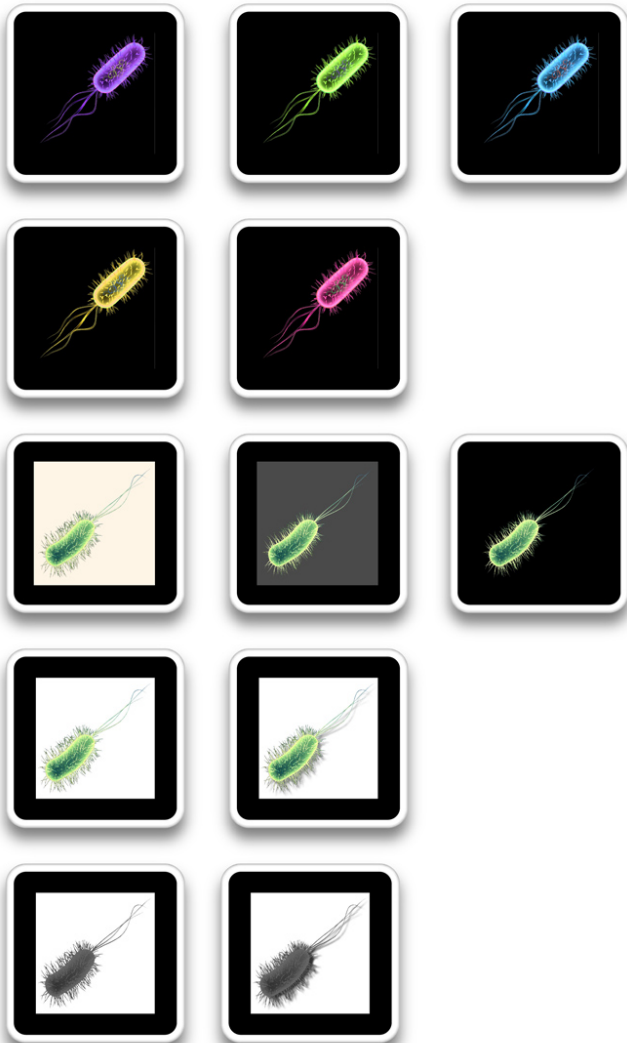


**SynFlo Sifteo**

# Sifteo cubes



# SynFlo





# Works Cited