

## **Stage 1: Identify**

**Due May 11**

**1 sheet per problem/issue**

Current Biotech Issue/problem that needs to be solved:

The Energy Crisis

Area(s) of Challenge: (food, health, etc)

Energy

Who is impacted by the problem:

The entire world, every person.

Previously attempted solutions and limitations of solutions

1. biofuels (don't always work and aren't very good fuels)
  
2. nuclear reactors (not always the safest and can be a pain to maintain)

Current Biotech Issue/problem that needs to be solved:

The food crisis

Area(s) of Challenge: (food, health, etc)

Food

Who is impacted by the problem:

Anyone who can't get the proper amount of food they need to survive

Previously attempted solutions and limitations of solutions

1. Make more land for food
  - a. does not work because eventually land will run out
2. New fertilizers
  - a. Does not work because they are harmful to humans and some plants

Current Biotech Issue/problem that needs to be solved:

# Drought

Area(s) of Challenge: (food, health, etc)

Water shortages

Who is impacted by the problem:

Many cities and countries worldwide.

Previously attempted solutions and limitations of solutions

1. desalination

Very expensive, difficult to have in a household, can use the ocean, most of our Earth to drink.

2. Wells and Aquifers

Allow personal collection of water for use, it is expensive, space consuming, in small effect currently.

3. Dry Shampoo

Saves shower time and water use, cheap, but not large enough scale to make a difference

Current Biotech Issue/problem that needs to be solved:

Disease

Area(s) of Challenge: (food, health, etc)

Health

Who is impacted by the problem:

3rd world countries, cities, thousands of people.

Previously attempted solutions and limitations of solutions

1. New vaccines and medicine
  - a. does not account for new mass spreading disease

Current Biotech Issue/problem that needs to be solved:

## Pollution

Area(s) of Challenge: (food, health, etc)

Air quality

Who is impacted by the problem:

Millions of people worldwide

Previously attempted solutions and limitations of solutions

1. create enzymes that degrade chemical residue in oil sands industry (don't work the best and can't always do what they need)
2. Plastic packaging that is degradable (not the cheapest or easiest to make)
- 3.

Current Biotech Issue/problem that needs to be solved:

## Natural Resources

Area(s) of Challenge: (food, health, etc)

resources

Who is impacted by the problem:

Everyone in the world.

Previously attempted solutions and limitations of solutions

1. Mine deeper into the ground
  - a. eventually we will run out of ground
2. Mine in unexplored areas