Video 1: Setting the Stage for the Discussion

This class discussion will ask students to use their understanding of genetically modified organisms to take a position on the question of whether to serve genetically modified potatoes in the school cafeteria. Earlier, these students produced a genetically modified bacterium in the lab. We now see the teacher set the stage for the discussion, by making sure students understand how genetically modified organisms are engineered.

INT: So today -- to start us off, to get you remembering, since we haven't had class in awhile, why don't you please turn to a neighbor, and remember the lab that we did, right, where we snuck some DNA into bacteria? Reiterate with your neighbor what were the key steps to us accomplishing that, to getting an organism to take up a new gene, and then use it.

AUDIENCE: All right. (Group talking over each other for about a minute - inaudible)

INT: Early on, what do we need to do at the beginning of the process of trying to get this new gene into the bacteria?

FEMALE: Transformation solution?

INT: We used some transformation solution, and the purpose of that was?

FEMALE: To like open up the membrane, like (Inaudible)

INT: Yeah.

MALE: To allow the bacteria to take in the DNA?

INT: Good. So we had -- usually they would not be accepting DNA from the outside, so we had to put them in an environment where they were more receptive to that.

INT: How did we figure out whether we were successful? DJ, what do you think?

MALE: Well we put in like the different solution -- different like food plates, and now we just measured to see if the bacteria like exhibited, like the new DNA that like that we put in, like the characteristics of the new protein that the DNA would create.

INT: Good. So who can -- who can articulate what that looked like?

FEMALE: Well if it had ampicillin in it and it grew in ampicillin, since we gave it the ampicillin resistance gene, it had to -- if it caught the gene it would grow in ampicillin, but if it didn't get the gene it wouldn't grow.

INT: And then we had to -- we had to grow it, like DJ said, in different environments to force it use these new genes, right? Was there an environment in which they may not have been using any of the new genes, although they would have had it inside?

FEMALE: Just the normal food LB plate.

INT: So we had to induce them to use some of these genes. Good. So imagine what -- what are some of the challenges? What are some of the advantages of using plants to become transgenic organisms?