



# Teacher's Guide to — Plant Science: The Green Machine

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Planning and preparation are the keys to a successful field trip—even an electronic one! This guide provides a checklist and tips to help you and your students make the most of your upcoming Purdue zipTrips™ experience.

### ☐ Technology

*Plant Science: The Green Machine* is currently not being presented as a live show, which means your classroom will view an archived version of the zipTrip. Archived versions of zipTrips are viewed via streaming video over the web. Work with your school's technology specialist to connect to the program.

### ☐ Room Reservation

You will still want to reserve a large enough space for students to participate together. You will also need Internet access at that site.

Invite parents to help chaperone this virtual trip. There is a brief description of the field trip in Appendix A for you to use in a parent newsletter or other form of communication.

### ☐ Supplemental Materials

These materials are designed for classroom use before and/or after the show:

*Scientists Profile* online videos: Three short online videos profiling different Purdue scientists using scientific inquiry to conduct cutting-edge disease research. These are found in the "Plant Science: The Green Machine" trip once you have signed up for the show.

*NOTE: There is a list of suggested discussion questions to go along with these videos in Appendix B, "Discussion Questions for Online Videos," at the end of this document.*

*NOTE: A possible timeline for using these materials is provided in Appendix C, "Recommended Timeline for Using Supplemental Materials," at the end of this document.*

## **❏ Show Anticipation**

Use the following prompts to initiate a **pre-trip discussion** with your students prior to the LIVE show:

- What do you think about plant?
- Are you interested in plant science? Why or why not?
- What does a plant scientist do? Where do plant scientists work? Who do plant scientists work with?
- What are important characteristics of a plant scientist?
- If a plant scientist works with disease research, what types of things might they do?
- What types of tools or equipment might a plant scientist use?
- What type of questions might a plant scientist ask or answer?
- How do plant scientists answer a question?
- What is a plant science experiment?
- We are going to participate in a zipTrip – what do you think it will be like?

Throughout the archived show, you will hear Purdue scientists will choose questions to answer. Please remember – there is not a live show, and therefore you won't be able to email questions.

## **APPENDIX A: Program Description for Parent Newsletter/Communications**

Here is a brief description of the Purdue zipTrip for you to use in a parent newsletter or other form of communication:

Genetics. Robots. Climate Change. Feeding the world. What do these seemingly diverse fields of study have in common? They are just a few of the many fields of study to be found under the topic of Plant Science! Your student's class will go on this amazing zipTrip and find out why the call plant sciences "The Green Machine!" The Purdue zipTrips project is consistent with STEM initiatives.

## **APPENDIX B: Discussion Questions for Online Videos**

Prepare your students to watch the online videos by asking them to pay attention to the following details, then follow up afterward to discuss what they learned:

- What type of scientist is described?
- What does he or she do?
- What is the scientist trying to find out?
- Why did this person become a scientist?
- How is this scientist like you?

What did you find interesting or surprising about this scientist?

## **APPENDIX C: Recommended Timeline for Using Supplemental Materials**

### **Front-load Approach**

DAY 1: Pre-assessment and Disease Detective Online Video

DAY 2: Week of Scientists Online Video

DAY 3: Week of Scientists Online Video

DAY 4: Week of Scientists Online Video

DAY 5: Week of Scientists Online Video

DAY 6: Show

DAY 7: Post-assessment

—OR—

### **Back-load Approach**

DAY 1: Pre-assessment

DAY 2: Show

DAY 3: Disease Detective Online Videos

DAY 4: Post-assessment