



# TOMATOSPHERE



## What's it all about?

Space exploration, especially to other planets in the solar system will involve life support systems for the crews for long periods of time. Food, water, oxygen and ways to deal with the build-up of carbon dioxide are some of the requirements. Green plants like tomato provide life support needs for humans in space.

The Tomatosphere Project involves school classrooms in the research processes associated with growing plants in space and on extraterrestrial surfaces such as Mars.

## What do the students do?

Students germinate tomato seeds. This is a "blind test" - teachers and students will not know the origin of the three different types of seeds involved in the experiment until results are submitted. Students will also track the vigour of growth of the plants.

## What grades are involved?

Tomatosphere is a curriculum-based project, using curriculum connections in grades 3 - 6 and 8 - 10. The focus areas include plants and plant growth, nutrition, space, energy, the environment, and the application of space-generated information for our use on Earth.

## How much does it cost?

The seeds are free – mailed to the class in early March of 2008. The teacher's guide is provided free of charge using a download from the official Tomatosphere website – [www.tomatosphere.org](http://www.tomatosphere.org). The only costs involved are for the peat pots in which the seeds germinate (less than \$20).

## How are the seeds different?

There are two different types of seeds for 2008 – the control group and a group exposed to the conditions of a simulated breach of a space shuttle.

## How many seeds do I get?

Each class will receive three packets of seeds matching the description above. Each packet will contain approximately 40 seeds.

## Where did these seeds come from?

All the seeds have been provided by Heinz, one of the project sponsors - and are perfectly safe for germination, growth...and even for consumption of the tomatoes at the end of the experiment. Some classes made salsa with their tomatoes last year. The seeds are for plum tomatoes - Heinz variety H 9478 F1. These seeds are used widely in North America and also in other countries of the world such as Hungary, Portugal and Spain. Depending upon weather, a plant will produce fruit in 85 to 105 days.

## How long will the experiment take?

Although the germination will take place over a few weeks, the actual planting time is short; peat pots do need watering and regular inspection during the germination period. If teachers and students wish to transplant the germinated tomato plants, this will require additional time.

### What do I need to get started?

All information about the experiment, background information, student activities, downloadable visual materials, even videos - are available from the project website.

### How will my classroom data be used?

Classroom data is logged onto the website following the completion of the experiment. Teachers will also have access to the results of other classrooms across Canada (and around the world) for comparison. Teachers will also have access to information from the University of Guelph which will be conducting parallel experiments.

### What do I do if I need help?

Teachers can get assistance from the Project Manager via e-mail. However, most situations can be resolved using the website and the FAQs - frequently asked questions.

### Who are the Tomatosphere partners?

H.J. Heinz, Canada  
Agriculture and Agri-Food Canada  
University of Guelph  
Stokes Seeds  
Canadian Space Agency  
Ontario Centres of Excellence  
H.J. Heinz, Global

### How do I get involved?

All of the Tomatosphere activities focus on the website - **[www.tomatosphere.org](http://www.tomatosphere.org)**; teachers register on-line, download the experiment, student activities and background information ... and input their experiment results on the website. Since this is an automated website, it is important to input information - school, address, postal code, e-mail address - carefully. For example, the information in the address portion will become the mailing label for the seeds.

**[www.tomatosphere.org](http://www.tomatosphere.org)**



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