



## PROJECT 1 : Designing a City of the Future

### Student Planning Sheet: Lesson 1

#### Sustainably supply food, water, and energy

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Directions:** Alone or with a group, complete this worksheet using information found in [Grand Challenge 1](#). Save the information gathered and the solutions you develop with this worksheet as you plan out your design for a city of the future.

#### OVERVIEW

How will cities 10, 20, 30 or more years from now meet the increasing and changing needs of the population? As the climate changes, technology grows and people’s lives evolve, how will the environmental engineers, city planners and other stakeholders manage the food, water and energy demands? In the Environmental Engineering for the 21st Century study, Grand Challenge 1 explores ways to “sustainably supply food, water, and energy.”

1. What is sustainability? What does it mean to sustainably supply?  
(Research and come up with your own definition.)

2. List items that are essential to life and need to be sustained. What factors are involved to ensure that this item is available and sustained? Check them in the appropriate category:

Essential to Life	Food	Water	Energy
Sample: Clean drinking water		x	x



## PROJECT 1 : Designing a City of the Future

### Student Planning Sheet: Lesson 1

#### Sustainably supply food, water, and energy

Name: \_\_\_\_\_

Date: \_\_\_\_\_

3. Explore the issues, challenges and potential solutions of these three life essentials. Working alone or with your group, use the information found in [Grand Challenge 1](#) to learn about the issues and challenges in one of the categories of Food, Water, Energy, and develop a list of possible solutions below.

Look at each potential solution and indicate if it is a technological development or a behavior change. Use the chart below to organize your work.

Parameter (Pick One):     Food     Water     Energy

Issue/Challenge:

Potential Solution:

*New or improved technology*

*Behavior modification/change*

Issue/Challenge:

Potential Solution:

*New or improved technology*

*Behavior modification/change*