



## **USGBC-LA Sustainability Fundamentals Workshop Overview**

### **For: Elementary School, Middle School and High School students**

The concept of sustainability is very broad and specific at the same time, as it is applied to different areas ranging from social systems to law, engineering, public health and natural systems. As the young generation will need to grow up adapting to the implications of climate change, students need to develop a general understanding of sustainability in order to learn about and apply solutions.

This course introduces students to the goals, principles, and practical applications of sustainability. In this course, we will examine the energy systems and resources that we rely on to power our world, and the effect that carbon emissions from production and human activities are having on our environment. It will teach students how to conceptualize the complex confluence of social systems and natural resource systems.

Topics include the systems of and issues with air quality, waste management, water, climate, energy and transportation. The course introduces perspectives in simplistic terms to understand the energy systems, and the methods for how humans can increase the prospects for a sustainable future.

Workshops are taught in participating schools through volunteer professionals chosen from the USGBC-LA Member base. Utilizing a sophisticated, motivated and creative network of sustainability professionals, volunteers undergo a training seminar with USGBC-LA to be the best prepared to reach student audiences. The content and language of the presentations were adapted for each audience as appropriate.

### **SUSTAINABILITY FUNDAMENTALS - LEARNING OBJECTIVES:**

- 1) Define sustainability.
- 2) Understand the impact that our lifestyles and choices have on one another and the environment.
- 3) Identify ways to live in balance with nature and society.
- 4) Understand the importance of sustainability intelligence and the key elements of sustainability



- 5) How to achieve sustainability goals through green building and how to make buildings more efficient (*High School Students presentation*)
- 6) Create awareness of green careers and ways to get involved with the sustainability cause (*High School and Middle School Students presentation*)

## **Course Lessons**

### **1) Introduction to Sustainability**

*Lesson Objective:* To understand what sustainability is and how our actions influence the environment

### **2) Climate Change**

*Lesson Objective:* To understand what climate change is, its impact, and the role we play in causing global warming and climate change.

How the atmosphere protects life through the greenhouse effect, and what is happening to the climate because of anthropogenic carbon emissions

### **3) Energy**

*Lesson Objective:* What energy is, where it comes from, what energy is sustainable or unsustainable, how we use it and how we can reduce and conserve energy.

### **4) Air Quality**

*Lesson Objective:* To comprehend the factors that influence indoor/outdoor air quality and to examine the human sources of air pollution

### **5) Water**

*Lesson Objective:* How we consume water, how to conserve water, and how water pollution can be addressed

### **6) Waste**

*Lesson Objective:* What are common issues with waste management, and potential solutions to waste management and e-waste, the environmental concerns raised from the traditional consumption cycle, and how we can implement zero-waste strategies to combat environmental issues.



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## 7) Transportation

*Lesson Objective:* To understand the environmental impact of our methods of transportation and the alternatives. What types of transportation are available to us to reduce our carbon footprint

## 8) Green Schools (Middle School presentations only)

*Lesson Objective:* What is a green building and what it means to use an efficient-building

## 9) Environmental Justice (Middle and High School presentations only)

## 10) Green Careers (Middle and High School presentations only)

*Lesson Objective:* To explore the various green jobs and green careers that contribute to preserving and enhancing environmental quality and how sustainability runs across many sectors

Each lesson item holds learning objectives that can be taken out of the subject material, and further resources. At the end of each lesson, a slide is provided for reflection questions that will allow for discussion-based learning among the students. The hope is that students will be able to answer the questions based on the lessons.

The course is provided to students through the Zoom interface or in-person during a specified teacher's class time. Workshops are 90 minutes long and they can be delivered in two segments of 45 minutes each. In order to keep students the most engaged and motivated through this course, we have a few suggestions for student preparation as well as teaching interface:

### FOR WORKSHOP LEADER:

- Ask students to keep on mute during the virtual presentation
- Have them "raise hand" to speak
- Ask specific questions provided in the speaker notes
- Ask them to respond with "1 thing" or "1 thought" - students can use Zoom chat box or raise hand function if the workshop leader prefers.
- Ask questions that kids can answer with thumbs up and thumbs down, or a head nod (especially if unresponsive)
- Try to redirect quickly



## **FLASHCARD USAGE (FOR ELEMENTARY AND MIDDLE SCHOOL STUDENTS):**

**Ahead of the presentation**, students should prepare a few drawings or images to share with the class. The prompts are identified below:

1. Your favorite place to go on the planet!
2. Your favorite animal
3. Your favorite plant
4. Your favorite activity to do in your home
5. Something that you would throw away that you could use for something else
6. How you get around Los Angeles

Students will be prompted to display their drawings/images throughout the workshop as indicated on the Lesson Plan and on individual slides on the powerpoint.