The HS 8-Week Winter&Spring EarthBox Instructional Plan

Introduction: *The HS 8-Week Winter EarthBox Instructional Plan* connects academic instruction with real life. It engages students in a hands-on, student driven, inquiry-based experiment that teaches photosynthesis, data collection, and the nutritional value of lettuce. The plan also introduces World Food Day and culminates with the celebration of Earth Day.

Objectives:

□ Students will learn and identify the key pigments involved in the process of photosynthesis and know its chemical equation.

□Students will measure, calculate the average, and graph the height of plants grown under different light wavelengths

□ Students will analyze and interpret their data and formulate conclusions about the effect of different wavelengths of light on the growth of the plants

□ Students will learn about World Food Day's efforts to eliminate world hunger

□ Students will celebrate Earth Day by harvesting their healthy crop of lettuce and test a working hypothesis: Will an EarthBox produce 2500 grams of lettuce?

National Standards Addressed:

Science: A.1, C.1.b, C.1.e, C.4.b, C.5.a, C.5.b, C.5.d, D.2

Mathematics: Numbers and Operations, Measurement, Data Analysis and Probability

Reading: 1, 3, 5

Materials: The EarthBox High School Support Curricula for Classroom Gardens
The EarthBox for World Food Day School Kit

Time Line:

Week	Date	Activity/Lesson	Time	HS Curricula	WFD Kit CD
1	Mar	Introduction to World Food Day	15 min		Activity I
		Plant Lettuce Seeds in starter kit	30 min		Activity III
2	Mar	Photosynthesis Part I: Which Wavelengths of Light are Best for Plant Growth?	45 min	Page 8	
3	Mar	Photosynthesis Part II:	45 min	Page 9	
4	Mar	Photosynthesis III	5 min	Page 9	
		Transplanting seedlings into the EarthBox	40 min		Activity V
5	Apr	All About Lettuce	45 min		Activity VI
6	Apr	Photosynthesis Part IV	45 min	Page 10	
7	Apr	Photosynthesis Part V	45 min	Page 10	
8	Apr	Harvesting Lettuce to Celebrate Earth Day			Activity X