

# Inquiry-to-Insight (I2I): An International Digital Environmental Education Project

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Question 35 of 47  
**Food**

For my eating habits, I am:

a. Vegan 90% of the time or more.

b. Vegetarian 90% of the time or more.

c. Not vegetarian (or vegetarian less than 90% of the time).

I eat (only fill in these boxes if you answered C above):



Vegetarian (non-egg) meals  times per week.

Fish, Eggs or Chicken (or other birds)  times per week.

Beef  times per week.

Pork or other mammals (lamb, veal, etc.)  times per week.

Each box should have a number between 0 and 21, and the total of the values entered in the four boxes above should be approximately 21.

Average: 	6934 kg CO2 per year
Your total: 	2278 kg CO2 per year

## Carbon footprint calculator

Starting with ozone depletion in the latter part of the 20<sup>th</sup> century, and more recently with the recognition of the undeniable human contribution to climate change, many people have come to recognize that we can impact our environment on a planetary scale. With climate change in particular, any solution to this global problem necessitates behavioral changes from humans across the globe. Unfortunately, many are still unaware or unconvinced of the magnitude of the problem, are unsure of the facts and have little idea what solutions can be employed to make a difference.

A recent study<sup>1</sup> from the United States shows that only about four-in-ten U.S. citizens believe protecting the environment should be a top priority. A more worrisome result of the study is the decline in the percentage of respondents who believe there is solid evidence of climate change.

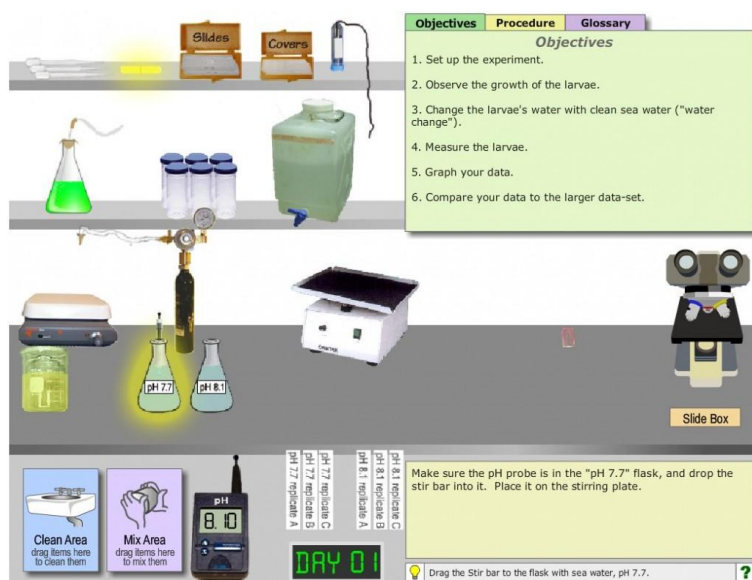
To reverse this trend, it is of utmost importance to educate the next generation of citizens and policy makers to increase their awareness of these critical environmental issues and their commitment to confronting them. As such, education will be a critical component to any future in which we as work to solve our global and local environmental problems.

Information and communication technologies (ICT) have gained substantial prominence in education, and may provide a powerful new tool to improve teaching and learning practices in environmental education in classrooms at all levels. The [Inquiry-to-Insight \(I2I\) project](#)<sup>2</sup>, a collaboration between Gothenburg University in Sweden and Stanford University in California, offers an educational program combining information and communication technologies (ICT), social networking Internet communities, and pedagogy directed at

learning about and envisioning solutions to global environmental issues. I2I pairs classes from different countries (thus far, Sweden and the USA) within a social network, and provides education tools based on ICT.

Students complete the [I2I-Carbon footprint calculator](#)<sup>3</sup>, directly visualizing the impact of their personal behaviors on the environment. Students compare the footprints of the two classes on the social network and debate questions such as, “What behaviors lead some students to have higher footprints?” and “How can I take action to decrease my contribution?”

The [I2I-Acid Ocean virtual lab](#)<sup>4</sup> is an e-learning activity where students become virtual scientists studying the impact of ocean acidification on sea urchin larval growth. Students recreate a real, up-to-date climate change experiment. They also learn important general scientific principles, such as the importance of sample size and numbers of replicates, and discuss what this research into a specific impact of climate change may mean for the future of our oceans.



### *I2I Acid Ocean virtual lab*

I2I provides a [virtual talk on ocean acidification](#)<sup>5</sup> for students to access. Students can follow the talk at their own pace, browse the presentation, and leave questions for scientists to answer.

I2I also promotes **group research projects** where partner-school students collaborate to investigate a topic related to climate change and create a multimedia presentation to educate others via Internet postings.

Thus far, only preliminary evaluations have been conducted regarding students' knowledge of ocean acidification and on the impact of the virtual lab experience on students' scientific thinking skills. In early October 2010, a more complete evaluation will be performed.

Preliminary results indicate that the ocean acidification virtual lab has at least two positive effects on students. First, there is a 30% increase in their knowledge of ocean acidification both in Sweden and in California. Moreover, when students are asked to design an experiment

(e.g. how would you design an experiment in order to test the impact of X on Y) they provide longer and more scientifically accurate answers after using the virtual lab.

Apart from the effects shown by the evaluation of I2I, students appear to be deeply impacted and more aware of their responsibility in greenhouse gases emission:

*“I am going to truly start working on saving energy in my household and doing my best in helping our environment with the emissions. I really liked how this website showed me and taught me all the different ways CO2 is released into our environment.”*

Students understand the urge to work together to mitigate climate change; they understand the international bond that climate change forges amongst people:

*“We share more likenesses than differences with other countries with regard to environmental problems.”*

One of the strengths of I2I is how the project is rooted in students’ everyday life. The relevance of I2I has been highlighted by students:

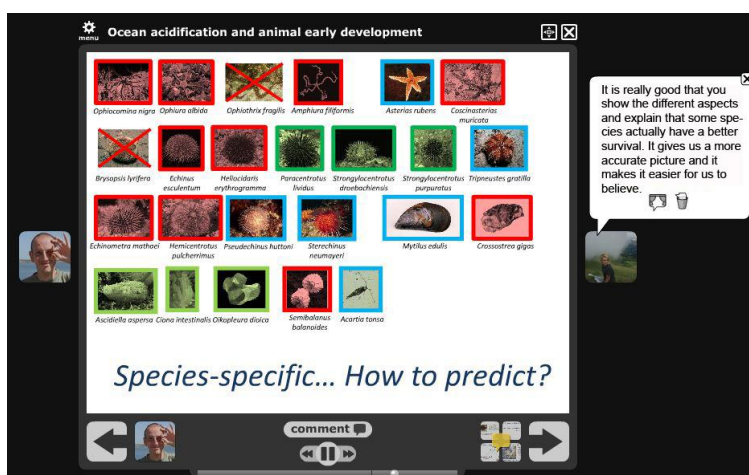
*“What I like the most was the chance to get involved in the [climate change] problem us humans are facing today.”*

and teachers:

*“I like the contextualization of climate change in I2I and the chance that students have to be in contact with scientists! Very inspiring for them!”*

Moreover we add a human dimension with the international networking:

*“I think the collaboration between the countries was really interesting; I’ve never done anything like it before.”*



Other organizations dealing with climate change have shown a deep interest in I2I: I2I has been contacted by [Greenpeace China](#) to produce a Chinese version of the ocean acidification virtual lab. The [European Program on Ocean Acidification](#) (EPOCA) funded I2I’s French translation, and NOAA, the [National Oceanic and Atmospheric Administration](#) will include the I2I virtual lab with their education resources.

## **In Conclusion**

Social networks pervade 21<sup>st</sup> century life, but in I2I their potential is channeled to help students interact with scientists and peers from around the world facing the same issue: the current reality and future potential climate change, and the necessity of working together to obtain a clearer awareness of the problem, and a stronger will to mitigate it.

I2I students dive into the world of science by participating in state-of-the-art experimentation on climate change not possible in the typical classroom, and by promoting contact with scientists who dedicate their lives to obtaining a clearer understanding of the consequences of climate change.

Students leave the I2I experience with an up-to-date knowledge on climate change, a clearer understanding of how to think scientifically, a sharpened critical view on the ways in which scientific issues are discussed in their society and abroad, many new friends, a broader perspective on climate change and a solid foundation for taking responsible action to confront this challenging problem.

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<sup>1</sup> <http://people-press.org/report/485/economy-top-policy-priority>

<sup>2</sup> <http://i2i.stanford.edu/>

<sup>3</sup> <http://i2i.stanford.edu/NewFootprint/footprint.html>

<sup>4</sup> <http://i2i.stanford.edu/AcidOcean/AcidOcean.htm>

<sup>5</sup> <http://voicethread.com/?#u287989.b731558.i3869587>