

A Living Laboratory: Activity Template

We are creating a cross-disciplinary collection of teaching activities that use the best practice approaches fostered in the “Living Lab”: adoption of City Tech’s General Education Student Learning Outcomes, George Kuh’s High Impact Educational Practices, place-based learning, open digital pedagogy (the OpenLab), and formal assessment methods.

Share your best practices with your colleagues! Use this form to record a favorite activity (module, assignment, exercise, homework, group project, etc.); it can be short or extensive – take as much space as you need.

Activity Title:	Tell Me About Infinity
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Activity Description:

Provide a brief description of the activity.

In this low-stakes writing assignment, students create a blog post exploring the concept of infinity. The post must respond to one of several prompts focusing on personal experiences of infinity, and must include a photo that illustrates infinity in some way. Extra credit is offered for providing a thoughtful comment on another student’s post.

Learning Goals:

What do you aim to achieve with this activity?

This activity is introduced in the course MAT 2675 Calculus II as we prepare to embark on the study of infinite sequences and series, the first rigorous introduction of infinity in a mathematical context. Before students begin to wrestle with the (challenging!) technical details of the subject, I want them to reflect on their preconceptions about this pervasive and slippery notion of “infinity”. I want to give them the opportunity to make connections between infinity as it appears in other areas of life – philosophy, art, religion – and as it appears in the curriculum. In addition, I use this activity to build or reinforce technical skills – how to create a blog post, upload images, and add tags. I want to get students writing in a low-stakes environment, where their focus is on the content. Finally, I want to give students a chance to respond to one another, building community and trust in my class.

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Timing:

At what point in the lesson or semester to you use this activity? How much classroom time do you devote to it? How much out-of-class time is expected?

This activity is tied to a particular topic in Calculus II, infinite sequences and series, which traditionally makes up the last third of the course. The assignment is given just before we begin this topic, around week 9 or 10, and it is due two weeks after it is assigned. I spend 5-10 minutes discussing the project in class when it is assigned, and in subsequent classes I will provide a little time for students to ask questions or raise concerns. I expect students to devote 2-4 hours to this activity, over the course of 2 weeks.

Logistics:

What preparation is needed for this activity? What instructions do you give students?

I post the assignment, including detailed instructions, on the course OpenLab site (see below). I will spend a very short time in class discussing the assignment and answering questions – but I will NOT go over every detail (they are expected to carefully read the assignment and follow all instructions). I try to make the assignment stand-alone, with links to appropriate resources (including, for example, how to create a blog post, how to upload an image, and so on).

General Education SLOs:

Which of City Tech's [General Education Student Learning Outcomes](#) does this activity address?

1. Communicate in diverse settings and groups using written and visual means.
2. Make meaningful and multiple connections among the liberal arts

High Impact Educational Practices:

Which of [George Kuh's High Impact Educational Practices](#) does this activity incorporate? Does it use the [OpenLab](#) for [open digital pedagogy](#)? Does it include [place-based learning](#)? Choose all that apply and/or add your own.

George Kuh's High Impact Educational Practices:

- | | |
|--|--|
| <input type="checkbox"/> First-year seminars and experiences | <input type="checkbox"/> Common intellectual experiences (core curriculum) |
| <input type="checkbox"/> Learning communities | X Writing-intensive courses |
| <input type="checkbox"/> Collaborative assignments and projects | <input type="checkbox"/> Undergraduate research |
| <input type="checkbox"/> Diversity and global learning ("difficult differences") | <input type="checkbox"/> Service- or community-based learning |
| <input type="checkbox"/> Internships | <input type="checkbox"/> Capstone courses and projects |

X Open Digital Pedagogy (the OpenLab)

Place-Based Learning

Other (please describe):

Assessment:

How do you assess this activity? What assessment measures do you use? Do you include your evaluation in grade calculations?

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The assignment includes a list of 5 specific expectations (“*You should create a new blog post including the following*”), and I use this as a checklist. The assignment is worth a certain number of points, and a student’s score is based solely on the checklist. I want this to be low-stakes in terms of writing -- grammar and spelling are not evaluated, and the structure and content of the written work need only loosely fit the instructions. I write a response to each student’s post, and while I don’t share their point score at that time, I will point out if there are significant problems or missing items and encourage the student to make revisions.

Reflection:

How has this assignment impacted your teaching? What challenges did you encounter and how did you address them? What feedback did students provide? How would you imagine this activity being used in different disciplines?

This has been one of my most successful writing prompts - I was excited and impressed with the variety of creative and thoughtful responses. Asking them to write about their personal experience provided freedom to talk about the subject without fear of “being wrong,” and gave a rich source of material from which they could draw. Many posts spurred great comments, and I noticed in several cases the comments developed into real conversations (although the extra credit offered for commenting on another post did not extend to multiple comments).

I think this assignment could adapt quite easily to many disciplines. It is often the case that certain words, familiar from our daily lives, take on a specific and technical formal meaning in an academic context which gives students trouble – especially as the “formal” and “informal” definitions may be at odds with one another. I can imagine this activity applying to many such cases – by asking students to explore their existing experience of a word or concept, they begin to focus on the meaning of it in an intentional way, which prepares them to compare and contrast their informal definition with the formal usage.

Additional Information:

Please share any additional comments and further documentation of the activity - e.g. assignment instructions, rubrics, examples of student work, etc. These could be in the form of PDF or Word files, links to posts or files on the OpenLab, etc.

Link to Assignment: <http://openlab.citytech.cuny.edu/2012spr-mat1575-reitz/2012/04/04/openlab-assignment-7-tell-me-about-infinity/>

Link to Student Work Examples: <http://openlab.citytech.cuny.edu/2012spr-mat1575-reitz/?s=infinity>