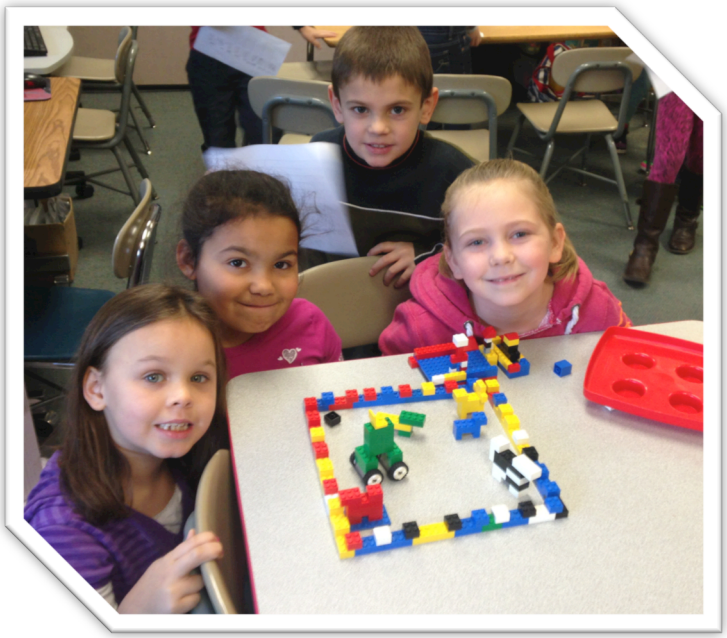
T2L NEWS

Welcome back!



The Teaching to Learn project staff are gearing up for the second semester of the project and are excited to have the teachers and Science Fellows return to their science work in the classrooms. As we look forward to this semester's work we wanted to share some important dates, changes to the program, and general resources. As always, we welcome your insights and input in the coming months.

Sincerely,

T2L Project team

WINTER 2015

Contents

Calendar

February 11th, 5-7PM, Williams: Science Fellow Orientation and SF-Teacher meet and greet.
Week of February 23rd: Science Fellows start work.
March 9th or 11th, 3:30-5:30PM: 1st Professional Development workshop.
April 6th or 8th, 3:30-5:30PM: 2nd Professional Development workshop
May 1st, 4-6PM: Final celebration and get-together
Week of May 11th: research surveys completed

Program Changes

While it may seem a long ways off right now, spring will bring many changes to the landscape around us, and the same holds true for our project. One of the biggest changes this spring is the addition of college science faculty ("Faculty Associates") into the fabric of Science Fellows' experiences. Faculty Associates from both colleges will meet with Science Fellows to review video snippets of their teaching, to collaboratively identify the ways in which science content can most effectively be communicated to an elementary audience.

These same Faculty Associates will also be involved in the summer curriculum development work. We look forward to their insights.

Research update

As we move into the second half of the academic year we are continuing to assess the impacts of this program on participants. We are collecting survey data from new and returning Science Fellows (college students), teachers, and their students.

Earlier this year we surveyed the Science Fellows (SFs) on the nature of science, attitudes toward science, science self-efficacy, and the impact of participating in the program. We also collected similar information from teachers including their science teaching self-efficacy.

One of the highlights from the SF post-semester survey is that the majority of SFs agree, or strongly agree, that teaching improved their ability to explain science concepts. Many students also expressed an increased interest in teaching. In fact, one SF commented "I think science education is exciting because you get to expose other people into a kind of way of thinking and see that they weren't before"

Review of the Elementary Teacher surveys reveals that results were consistent across grades. These include categories such as perceptions of science teaching and nature of science.

Throughout the rest of the academic year we will continue to collect and review data. As our pool of information grows, we will be better able to assess the impacts of the project on participants. We will also be using this information to build and improve the program.

Curriculum Snapshots

Grade 2: What happens to plants or animals when their habitat changes? Second graders will dive into answering this and other important questions about habitats. They will explore the needs of plants and animals and how those needs are met by different habitats.

Grade 3: Through games, hands-on experiments, data collection, and discussions with peers and teachers, third graders will explore the ways in which living things adapt to their environment. They will get to follow the life cycle of a newly discovered species, learn about traits and inheritance, and see how a deer population interacts with its environment.

Grade 4: This spring in Grade 4 it is all about ENERGY! This unit is filled with marble races, collisions, ramp building, and scavenger hunts. Throughout the semester the students will try to answer questions like, *what is energy?* and *how can energy move from one place to another?* The 4th graders will get to use all sorts of interesting gadgets such as solar cells, alligator clips, and friction blocks as they delve deeper into their energy unit.

Grade 5: There are many complex relationships between different organisms, and the fifth graders will explore some of these relationships in food webs. As they learn about how matter and energy move through a food web, they will find out why the Sun is so important and why conservation is so important.

Resources for Teaching Science

- Talk Science Primer. Find out specific strategies for promoting scientific discourse.
- National Science Digital Library (NSDL). Use as a starting point when searching for science-related classroom resources (instead of Google).
- Teaching Channel. Explore for videos of actual science teaching in other classes. Can sort and filter by grade level.

For more ideas, visit "Teaching Resources" on the T2L Canvas page.

We have started a YouTube channel, so now all the videos referenced in the curricula are in one place. The name of the channel is TeachToLearnNSF. Link to it by searching for "TeachToLearnNSF" or go directly to YouTube and search there. The channel serves as a master library for all of the pieces, but we've also created a playlist for each grade, and within those playlists are the unit- and subject-specific videos.

As you know, this project is one small part of a larger national initiative that re-visions science curricula. One of the pillars of that revisioning is the *Next Generation Science Standards* (NGSS). As one who has neither taught nor studied science recently, I found reading these new standards to be a valuable learning experience in and of itself. With that in mind, and in the hopes that they are of interest to others in the project, I simplified the process by creating a separate document of the standards for each grade level. They (and the complete document) can be found on Canvas in the appropriate grade level discussion forum and on the NAPS website.

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