Remote POGIL Collaborative Worksheets

Student guide

In this guide:

Process-Oriented Guided Inquiry Learning (POGIL) worksheets are stand-alone, hands-on activities completed collaboratively with other students best done prior to lecture, to support the discovery of new concepts. While we encourage you to complete the activities remotely with a partner, completing on your own is acceptable.

Why POGIL?

Hands-on learning. Hands-on, active learning where students self-explain (or explain to others), form hypotheses, and build connections collaboratively leads to deeper learning. These POGILs are also doable without a computer, which may help when access to video broadband or a python interpreter is difficult.

Community. The move to remote learning and social distancing is very isolating, working with a partner combats that while also providing a sense of belonging in the learning community which results in greater online course persistence.

How to POGIL?

We'll introduce details about POGILing remotely in this document, but the basic steps are below:

- Find a study buddy
- Determine what technology you need to meet
- Set-up a regular 30 minutes/POGIL to work together
- Watch the recorded lecture after you POGIL

Find a study buddy. The course's Glow discussion forum will have dedicated space to find a partner for working collaboratively on POGIL activities. Consider time zones & availability.

Decide meeting logistics. Choose a technology and meeting times. POGILs are released prior to MWF class days. Williams provides access to Google Meet for video chat, but WhatsApp, telephone, Discord, Slack, course discussion forums, and email are all alternatives that may work in different situations.

Talk through the POGIL with teammates. POGIL activities are available via Glow > Modules as well as the course website. Once you've downloaded the POGIL worksheet, it steps you through the discovery of computer programming concepts supporting *thinking like a computer scientist*. Rather than telling you content, POGILs step you through a series of questions that help you discover the information on your own, which is a valuable life-long learning skill.

Watch the pre-recorded lectures after POGILing. Once you've completed the POGIL worksheets, you're ready to watch the lecture videos. Now that you've gained some familiarity with the new concepts through POGIL, the lectures provide top-down guidance into the nuances of those concepts.

Ask questions in Student Help hours. As you're completing the POGILs and watching the lectures, keep track of any questions you may have. Attend instructor Student Help Hours or TA hours (all posted to the course calendar https://bit.ly/s20calendar) with these prepared questions and you will make the most out of your Student Help hours time!

POGILs are optional classroom activities to guide learning.
If you encounter any issues/typos, please let Iris know so she can fix them!

References

Below is a sample of scientific evidence supporting the use of POGIL and active learning methods for deeper student learning:

- Vanags et al (2013). "Process-oriented guided-inquiry learning improves long-term retention of information"
- Hu et al (2014). "Teaching CS 1 with POGIL activities and roles."
- Freeman et al (2014). "Active learning increases student performance in STEM."
- Deslauriers et al (2019). "Measuring actual learning versus feeling of learning in response to being actively engaged in the classroom"