Biodiversity Final Lab Practical
Scavenger Hunt (200 pts)

Goals

- Use your knowledge of ALL life we have discussed throughout the semester to find representatives off all the major phyla, classes, and orders

Groups

- 3-4 individuals per group
- Pick partners to balance skills (field vs lab)

Objectives

- Find & photograph ***ONE*** representative of the lowest taxonomic clade on the handout
- Take a photograph of that organism to be uploaded to powerpoint (see below)
    - A member of your group must be visible in the photo
    - They must be holding the "cheaters" card and it must be clearly visible
    - If the organism is too small for an identifiable amount of your body to be in the photo:
        - Your student ID with your name or photo must be visible.
        - The miniature "cheaters" card must also be visible.
- There are ***absolutely no exceptions*** to these two rules. If I can't see (1) the card & (2) you or your ID, you do not get credit for that organism.
    - Partial images, such as just your last name on your ID, or just your photo are acceptable as long as it's clear. But, this is subjective so make sure it's clear.
- For Microscopic organisms (e.g. protists, small insects), please take a video, then move the video so I can see both you and the card. It must be a single, seamless video.
- I recommend you place the master sheet and PowerPoint on OneDrive or Google Drive, so it is accessible to everyone. This way all teammates are updating the same document and know what organisms still need to be found.
- I recommend adding notes or text to a photo as you take them. It's easy to forget what organisms you are dealing with.

Resources

- Any campus owned property is available to search. This includes our property on the Ohio river. Non-Hanover property is off-limits.
- I recommend taking test tubes, plastic bags, and plastic containers with you in the field to collect. All of these are available in the lab. I'll show you where to find these items at the beginning of lab.
- You may use any online or paper resource to figure out what organisms should look like or how to find them. The goals are to learn where and how to find these organisms, and how to identify them, so YouTubing how to find a water bear is fine!

- Other professors, including biology and geology professors are off-limits. They are aware of the scavenger hunt and have been informed not to help you identify specimens or locations. Doing so will be considered academic dishonesty.
- Science Center laboratories and associated specimens (including BioD) are off-limits.
- The Science Center displays provide incredible opportunity for specimens that cannot be found on Hanover's campus or even in the Midwest. For example, many marine species have representatives in the building. So, specimens within the science center may be photographed as long as they meet the following criteria:
    - No living representative is available on campus
    - No fossil representative is available on campus
    - EXAMPLE: we have lots of Crinoid displays on the first floor. But crinoids are common fossils in Indiana, so these cannot be used. I have highlighted species that can be found as fossils on HC campus. But I will not provide a list of other species that may or may not be available outside, that is too easy!

Additional Rules

- The photos must be of living organisms. The only exception are fossils. Many marine organisms have fossilized and are common in the Ordovician limestone in Indiana.
- Photos of people or pets (lizards, fish, dogs, etc.) do not count, you must find a wild animal. However, that doesn't mean they have to be in the woods.
- If I can't tell what's in your picture, it doesn't count. See if your phone has a macro setting for small organisms.
- You must check into lab by 8:30am on Tuesday and Thursday these last two weeks. Once you check in you are free to leave and scout campus for organisms, collect and process water samples, etc. as needed.
- Not all members of the group need to do the same things (either across the whole of the scavenger hunt or at any given time). But this should be communicated. An agreement around this should be agreed upon by all group members.

Assignment

- You will turn in a digital PowerPoint as your final assignment.
- Each slide should be a different taxonomic clade.
- At the top of each slide should be the taxonomic rank of the organism in the photo
- There is a sample PowerPoint on my vault site you should use as a template
- The order of the slides should match the order on the handout – failing to put them in the correct sequence will result in a 10% grade reduction.
- I recommend building your PowerPoint as you go, NOT at the end after taking photos
- Your group will turn in this PowerPoint on a flashdrive, as well as your Master Phyla list, by 3pm Wednesday April 17th. I have lots of extra flash drives if you need one.

"Cheats"

- Each group gets the following cheats:
  - 2 – verbal location (e.g. Where am I likely to find X?)
  - 2 – positive ID's (e.g. What is this?)
    - You need to be careful with these
    - If you already have a group you still lose a cheat
  - 2 – Is this right?
  - 1 – 10-minute visit to the greenhouse.
  - 1 – 45-60 minute field excursion with me to target several organisms
    - The field excursion must be scheduled 3+ days in advance
    - Greenhouse must be scheduled 1+ day in advance.
- Cheats may be combined
- You don't have to use them
- You do not get anything if you chose not to use them
- Students often save them until the end but they often end up not being used

Grading

- This practical is worth 200 points. The points breakdown is based on the number of unique groups that your group finds.
  - A = 65+ groups
  - A- = 60-64 groups
  - B+ = 58-59 groups
  - B = 53-57 groups
  - B- = 50-52
  - C+ = 48-49 groups
  - C = 43-47 groups
  - C- = 40-42 groups
  - D+ = 38-39 groups
  - D = 33-37 groups
  - D- = 30-32 groups
  - F = <30 groups
- **Mis-identified groups, photos that are too blurry to identify, or photos without both required cards count as a half-group deduction.**
- It is very easy to get to 25 or 30. It gets harder the higher you get.

Miscellaneous

- Asking another professor for help, photoshopping images, or sharing locations/water samples/specimens will be considered academic dishonesty. You will receive a zero on the assignment and I will take off an additional letter grade at the end of the semester. Given this assignment is 200pts, doing so almost guarantees you will fail the course. DON'T DO IT!