Problem Posing Template for Individual Activity
Caroline DeVan

Module Overview: Using dengue fever to study disease ecology

Setting: Biology 205: Foundations in Ecology and Evolution - introductory course required for biology majors - 50-100 students - lecture with associated lab (Bio 206)

Learning Outcomes for the activity - Students will be able to explain how ecological principles help understand the spread of zoonotic diseases

How does data acumen align with this learning outcome? Place an "X" in the column next to the skills practiced in this activity

Quantitative Pillars		**Data Life Cycle**		**Social/Pedagogical Concepts**	
Mathematical	X	Data import		Communication	X
Computational		Management		Equity, Diversity, Inclusivity	
Statistical thinking	X	Curation		Universal Design for Learning	
Reproducibility		Analysis		Ethics	
		Sharing/ Reporting			

Activity/Module:
Describe the activity - case study that uses disease ecology of dengue fever to understand basic ecological principles

Course type (e.g., Lecture, lab) - lecture course

Pedagogy (e.g., Case, research project, final report, lab activity) - case study

Describe the data and the tools used to interact with the data - data will come from primary literature, students will use excel to analyze the data

Describe where problem posing will be used and how you as the instructor will use problem posing to shape the activity -

- What is the Question Focus? Factors that influence the risk of mosquito-borne diseases in an area
- How is the Question Focus introduced? I will put the question on the board and have students generate answers in small groups first. Then I will have each group add a few

questions to the board. Students will then prioritize the questions as means to setting up the activity.

Describe the student products - Students will later complete the case study.

Assessment:

How will this learning outcome be assessed? Students will complete the case study and it will be graded.

Will students practice this skill again? The skill of interpreting graphs will be honed throughout the semester.

In what setting (same topic, new topic)? I will use a new but similar example on an exam.

Extra information:

What will students need to know before completing this activity?

Students will need some basic understanding of mosquito biology and how mosquitos transfer diseases to humans.