Lesson 3.1 – From Curiosity to Research: Asking a Biological Question

Quarter 3 · Research & Investigation: Heredity, Gene Expression & Evolution · Week 19

Name: _____ Partner: _____ Date: _____ Period: _____

Big Question: What environmental question about our garden, our city, or our food do we most want to answer, and can we answer it with an experiment in six weeks?

Word Bank: researchable question · feasibility · multi-level design · dose-response · environmental stressor · ethics · pilot study · scope

My Task

Screen your questions.

Question	Measurable?	Feasible in 6 weeks?	Safe and ethical?	AP Biology link
Question 1				
Question 2				
Question 3				
Team's final question				

Support: Provide a question-builder frame: "How does ___ (levels) affect ___ (measure) of ___ (organism)?"	**AP Challenge:** Identify a possible threshold or optimum in your question and predict the shape of the curve.

Think & Respond

1. Levels of our independent variable:

2. Why this question matters for Phoenix:

AP EXAM PRACTICE

(MCQ) Which research question is most appropriate for a six-week investigation in a school garden? (A) How does climate change affect all plants? (B) How do NaCl concentrations of 0, 2, 4, 6, and 8 g/L in irrigation water affect radish germination rate and root mass? (C) Is pollution bad? (D) Why are deserts dry?

EXIT TICKET

1. Write your team's research question.

2. List the levels of your independent variable.

3. Explain why this question matters for Phoenix.