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COMPLETE

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Page 1: Please review the following:

Q1

Contact Person:

Name	Michelle Garcia
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Q2

Department:

Biology

Q3

Title of Request:

Request for Plant and Animal 3D Cell Models to Support Biology Students

Q4

Location of Request:

Biology Department -H-building and F-building classrooms

Q5

Type of Request (Select one):

Equipment: Tangible property with a purchase price of at least \$200 and a useful life of more than one year. Technology related items such as hotspots, computers, tablets should be requested through the College Technology Committee

Q6

Description of Request: Please provide a description of the supplies, equipment, furniture or other request. When making your request, please be as specific as possible and include information such as make, model, manufacturer, color, quantity, etc.

Animal and Plant Cell Models are discounted if purchased as a bundle.

These two cell models show the anatomy of plant and animal cells in very high detail. Cell structures are presented in a raised relief from the surface for both a visual and tactile learning experience. The removable bases on these models are functional, showing the cell placement with adjacent cells and even showing the plasmodesmata between the plant cells - which is typically very difficult for students to visualize!

We are asking for 5 bundles for a total of 10 models to serve Bio 130, 131 and Bio 230 and Bio 240 students. These models will last 20+ years and will serve students across multiple classrooms in the H and F buildings.

Q7

Estimated Cost:

Each bundle (3D animal and plant cell models included) cost \$702.89 - 5 bundles requested for a total of \$3,577.59 including shipping.

Q8

Please attach quote, if available

Program%20Review%20Supply%20Request%20Animal%20and%20Plant%20Cell%20Bundle.pdf (701.6KB)

Q9

Total Cost of Ownership: Your requested item may incur ongoing expenses. What are the ongoing expenses associated with your request? If there are ongoing expenses, please detail how you plan to support these costs with your existing budget by completing the text boxes below.

Initial Cost of Item	\$3514.45
Service Agreements/Warranties	0
Maintenance	0
Upgrades	0
Impacts to Staffing	0
Replacement Costs	0
Other	shipping: \$63.14
Total	\$3,577.59
Amount available in department budget to support this request	0
Remaining requested amount	\$3,577.59

Q10

Justification of Request: The justification of the request is a key area to focus on. The ROC encourages you to strengthen your request by providing a robust rationale detailing all relevant criteria. When writing the rationale, keep in mind that those reviewing the justification may not be familiar with your department and needs. Providing detailed information and context can help clarify the need for your request. Please select the applicable criteria(s) and provide the details of how the criteria(s) relate to your request.

Critical need,

Program expansion,

Impact on student success and access,

Innovation,

Equity and Antiracism,

Provided details::

Research consistently advocates for the integration of models in college classrooms, a practice well-supported by empirical evidence. Incorporating plant and animal cell models is particularly relevant to our Bio 230 (Cell Molecular Biology), Bio 240 (organismal) and Bio 130 and 131 (General Biology Lecture and Laboratory) courses. Studies have demonstrated that the use of models not only enhances critical thinking skills but also contributes to an improved overall learning environment. Models serve as innovative and effective substitutes for traditional teaching methods, offering students a more engaging and enjoyable learning experience. The incorporation of visual aids, such as cell models, is especially beneficial in addressing challenges faced by students in understanding cell structure and the differences between plant and animal cells. By providing a hands-on learning experience, these models play a crucial role in deepening students' comprehension of the subject matter, making the educational process more enriching and relevant. As mentioned in the program review update, understanding cell structure and function is a topic students really struggle with in Bio 130 and it is the topic they need to understand for their future coursework. Please see question 8. about "outcomes assessment projects **Bio 130" for more information in the update.

Q11

Program Goal: Please identify the program goal(s), as stated in your current annual or comprehensive program review, that this request would help your program achieve. Provide a brief explanation of how it would do so.

This proposal seeks to elevate student engagement and success in both 100-level and 200-level coursework through the acquisition of plant and animal cell models. These resources directly align with Program Goal 1, which is geared towards expanding access to the biology major. Additionally, the proposal supports Program Goal 2, aiming to alleviate equity gaps in retention and success rates, particularly among students of color enrolled in 100-level biology courses. The incorporation of cell models into the general biology lecture/lab and biology major classrooms is strategically designed to enhance the learning experience. Research has consistently demonstrated that the use of models facilitates critical thinking, making the educational process more enjoyable and effective. By improving engagement and success rates in gateway courses like Bio 130/131, we anticipate a corresponding increase in access to the biology major, thereby fulfilling both program goals of the department.