

Grade 9, 10

Distance Learning Module 7: Week of: May 18th – May 22nd

Biology Level 2 - Modified from [Unit 4 - Inheritance](#)

Targeted Goals from Stage 1: Desired Results

Content Knowledge:

Module is a bridge/segue between the previous unit (Cell Transport) to the new unit on Cell division and Inheritance

Serves as a vehicle to answering the questions:

- Why do cells have to be so small?
- What happens to cells if they are too big, in terms of necessary diffusion?
- Since cells have to stay small, how do multicellular organisms grow?
- Why do cells need to divide?

Vocabulary: diffusion, concentration gradient, passive transport, surface area, volume, surface area to volume ratio

Skills: Use a model to illustrate the dilemma posed by large cell size and propose hypotheses for why cells need to be so small

Expectation:

- Students will investigate the effects of movement across cellular membranes by testing various ratios of surface area to volume.
- Students will make connections between how the need for adequate cell transport drives the requirement for cells to remain small in size.
- Students will connect this need to maintain small cell size to the concept of how and why cells divide

Description of Task (s):	Resources and Materials:	Daily Checks (Return to Google Classroom or snapshots from a cell phone)
<p>Monday:</p> <ol style="list-style-type: none"> Students will read the first part of the Cell Size and Diffusion Lab, up to the "Procedure" Students will then answer the Pre-Lab questions #1-6 and the Pre-Lab Practice With Math Concepts #1-6 	<p>Cell Size and Diffusion Lab</p>	<p>Students will type their answers directly into the Lab and turn it in via Google Classroom:</p> <ol style="list-style-type: none"> Answer the Pre-Lab questions #1-6 Answer the Pre-Lab Practice With Math Concepts #1-6
<p>Tuesday:</p> <ol style="list-style-type: none"> Teacher may do a live class session or recorded session going over the concepts in the Pre-Lab. Students will watch the video that walks through the procedure in the lab. Students will then read the "Procedure" part of the lab and Fill out Data Tables 1 and 2 	<ul style="list-style-type: none"> Live or pre-recorded teacher session explaining prelab concepts and questions Video of Lab Procedure- Agar Cube 	<p>Students will type their answers directly into the Lab and turn it in via Google Classroom:</p> <ol style="list-style-type: none"> Fill out Data tables 1 and 2
<p>Wednesday</p> <ul style="list-style-type: none"> Students will Complete a POGIL activity to reinforce concepts about cell size and diffusion 	<p>Options:</p> <ul style="list-style-type: none"> Full POGIL CELL SIZE POGIL CELL SIZE- Just Model 2 	<p>Students will turn in their answers directly via Google Classroom:</p> <ul style="list-style-type: none"> POGIL questions
<p>Thursday:</p> <ul style="list-style-type: none"> Students will watch EdPuzzle to reinforce concepts about cell size and diffusion and answer embedded questions: "Surface area, volume, and life" 	<p>Video: Surface area, volume and life</p>	<ul style="list-style-type: none"> Complete EdPuzzle "Surface area, volume and life"
<p>Friday:</p> <ul style="list-style-type: none"> Students will answer Cell Size and Diffusion Post Lab questions #1-8 		<p>Students will type their answers directly into the Lab and turn it in via Google Classroom:</p> <ul style="list-style-type: none"> Post-Lab questions #1-8

Week criteria for success (attach student checklists or rubrics):

Successful completion of the daily assignments, accurate additions made to student models, and completion of the weekly check-in assignment.

Supportive resources and tutorials for the week (plans for re-teaching):

- Video chats with the teacher to answer questions.
- Pre-recorded instructional videos from the teacher