

A Journey Through the Cell

Student name(s):

A Journey Through the Cell

Cell Molecule Research Packet

Overarching
Concept:

Organelles
work as an
interconnected
system.



MATERIALS NEEDED

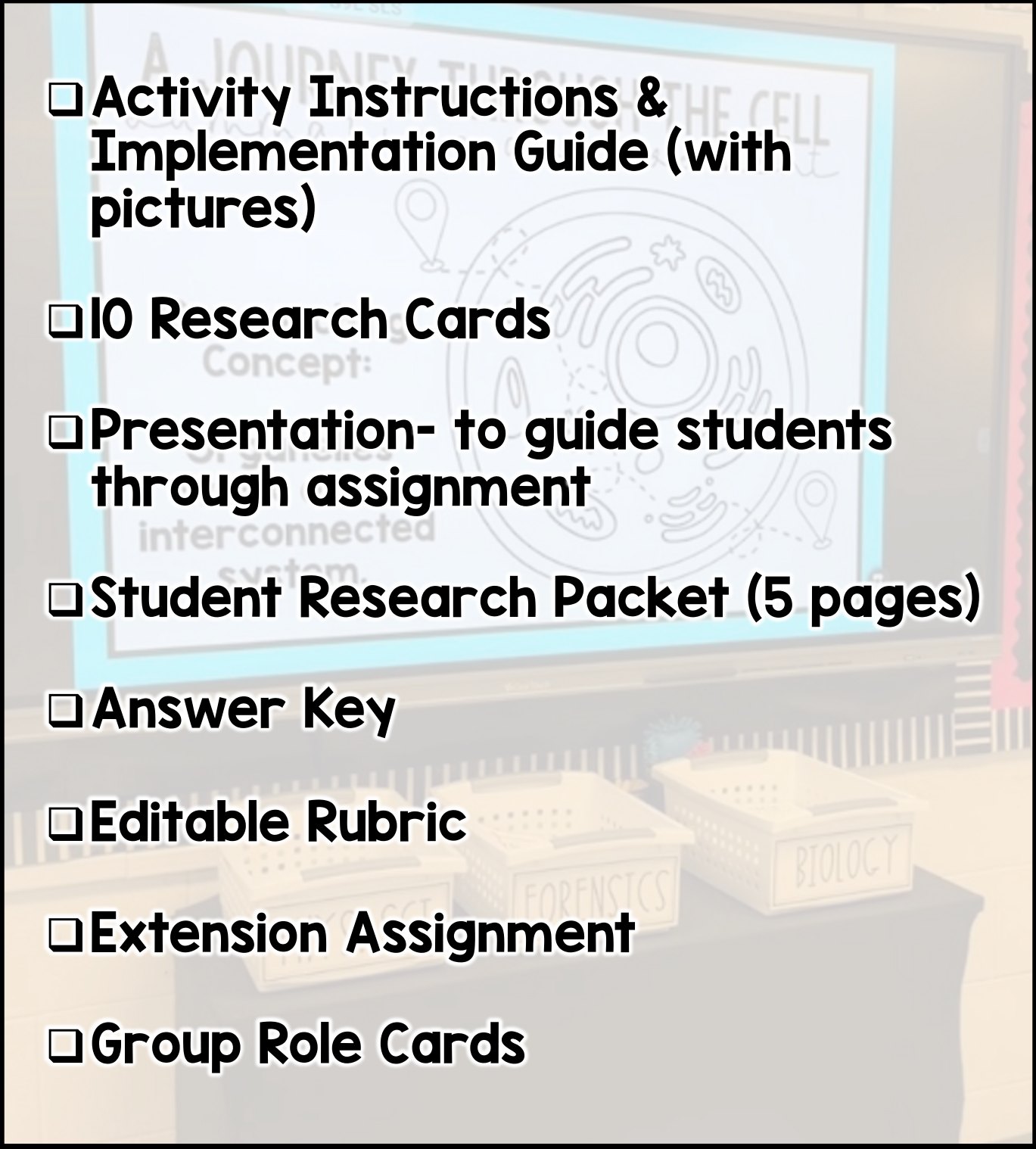
- markers
- vertical workspace or chart paper
- research cards
- Evidence Extraction sheet
- Think About It Questions sheet
- sticky notes

YOUR MISSION: Use the evidence on the research cards to determine how molecules move through and interact within a cell. Do not simply skim the information. Look for connections between structures and determine WHY a molecule moves from one location to another.

Step 1: Read through the research cards. As you read, complete the Evidence Extraction sheet with your group members. Additionally, you will need to discuss the Think About It questions with your group and record your answers.

a collaborative, student-centered summative assessment

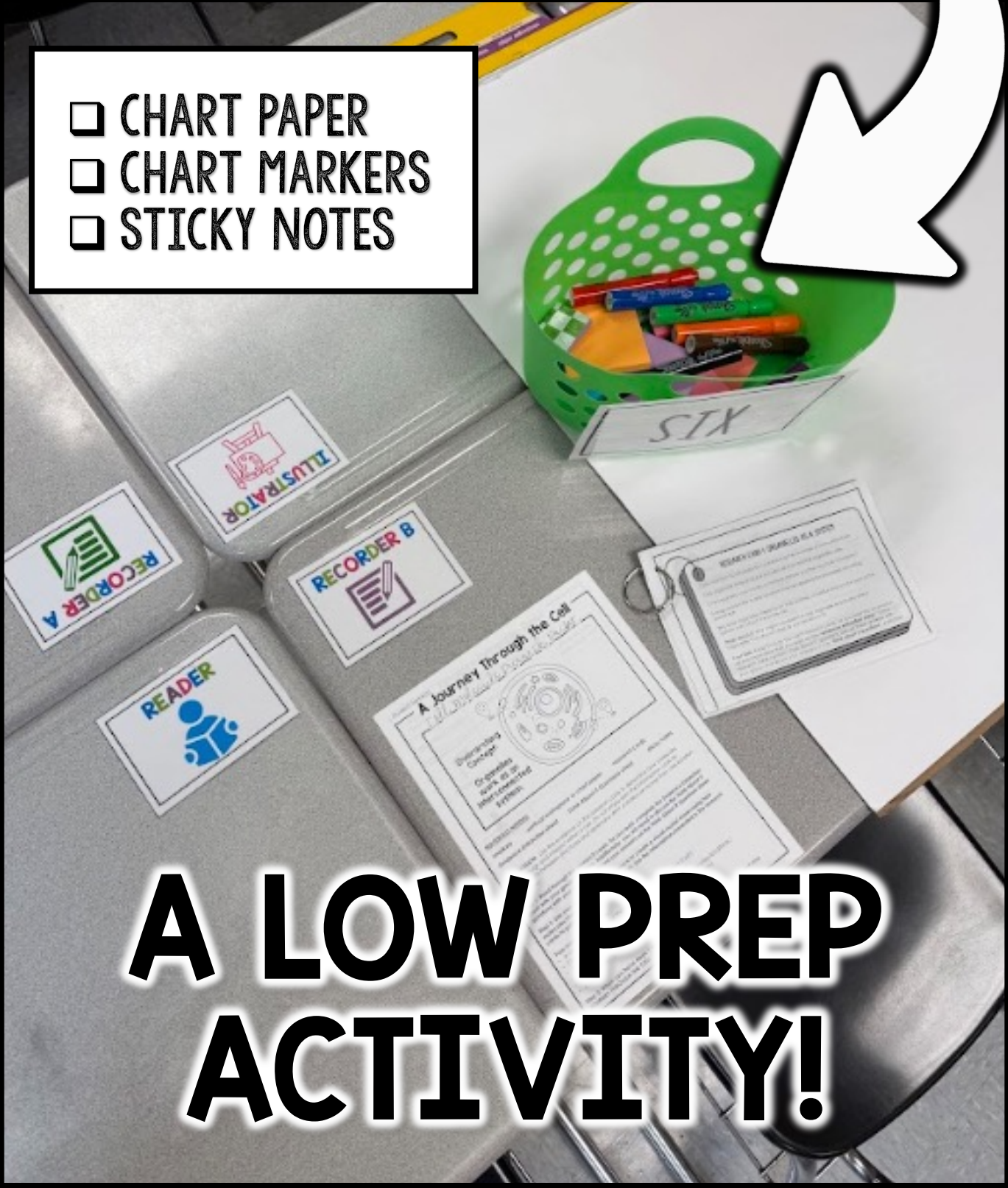
WHAT'S INCLUDED IN THIS RESOURCE:

- ☐ **Activity Instructions & Implementation Guide (with pictures)**
 - ☐ **10 Research Cards**
 - ☐ **Presentation- to guide students through assignment**
 - ☐ **Student Research Packet (5 pages)**
 - ☐ **Answer Key**
 - ☐ **Editable Rubric**
 - ☐ **Extension Assignment**
 - ☐ **Group Role Cards**
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MATERIALS NEEDED:

- ☐ CHART PAPER
- ☐ CHART MARKERS
- ☐ STICKY NOTES

**A LOW PREP
ACTIVITY!**



**STUDENTS WILL ILLUSTRATE AN
AMINO ACID'S JOURNEY
THROUGH THE CELL.**



**Student Centered!
Teacher Facilitated!**

THIS ACTIVITY IS BROKEN INTO 5 MANAGEABLE TASKS

connections between structures and processes within the cell, and how these relate to another.

Step 1: Read through the research cards. As you read, complete the Evidence Extraction sheet with your group members. Additionally, you will need to discuss the Think About It questions with your group and record your answers on the Think About It Questions sheet.

Step 2: Use your group's vertical workspace to create a visual model showcasing how molecules/materials move through the cell. Use the information presented in the research cards to guide you.

Your model must include:

- A clear starting point for the molecule/material (labeled START)
- Directional arrows showing movement throughout the cell
- The organelles or locations involved (Be sure to label the organelles/locations)
- A brief explanation of what happens at each step (on sticky notes)
- A clear stopping point (labeled FINISH)
- A title

Step 3: When you have steps 1 and 2 complete, call your teacher over to present your JOURNEY THROUGH THE CELL.

RESEARCH CARD 1: ORGANELLES AS A SYSTEM

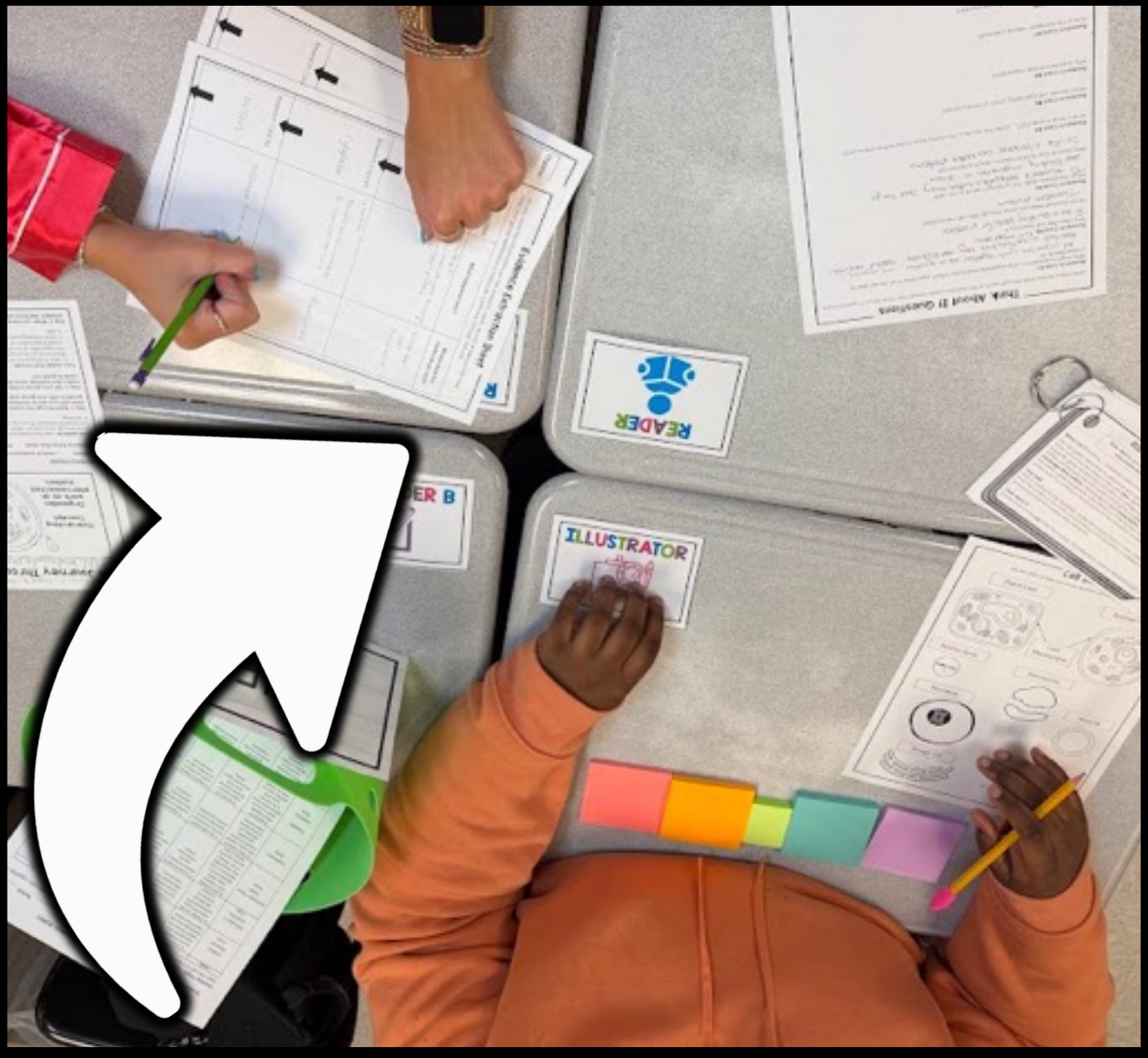
Cells maintain homeostasis by coordinating the activities of many structures. One organelle may produce a molecule that another organelle uses. One organelle may modify a material before another structure transports it. Any molecule produced in one location may be required for processes occurring in another location. Organelles depend on one another, a malfunction in one part of the cell can affect the entire cell.

How might a problem in one organelle eventually affect the entire cell? How might a problem in one organelle eventually affect a part of the cell not directly connected to it?

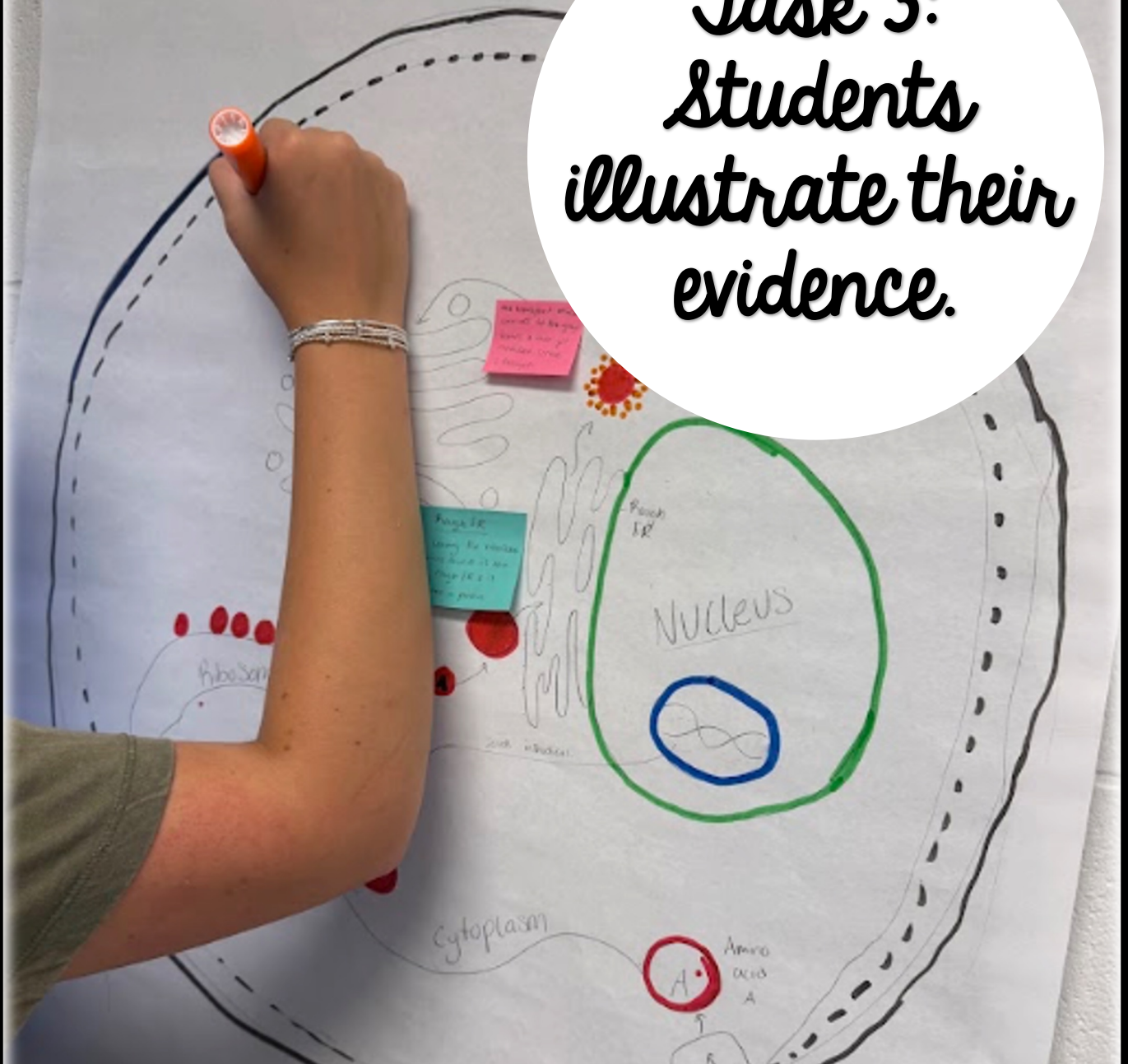
Read through the next 9 research cards. As you read the information, record what you learn on the "evidence extraction sheet." Some cards will have "think about it" questions. Discuss these answers with your group and record your answers on the "think about it questions" worksheet.

*Task 1:
Students read
through 10
research
cards.*

Task 2: Students work collaboratively to extract information from the research cards.

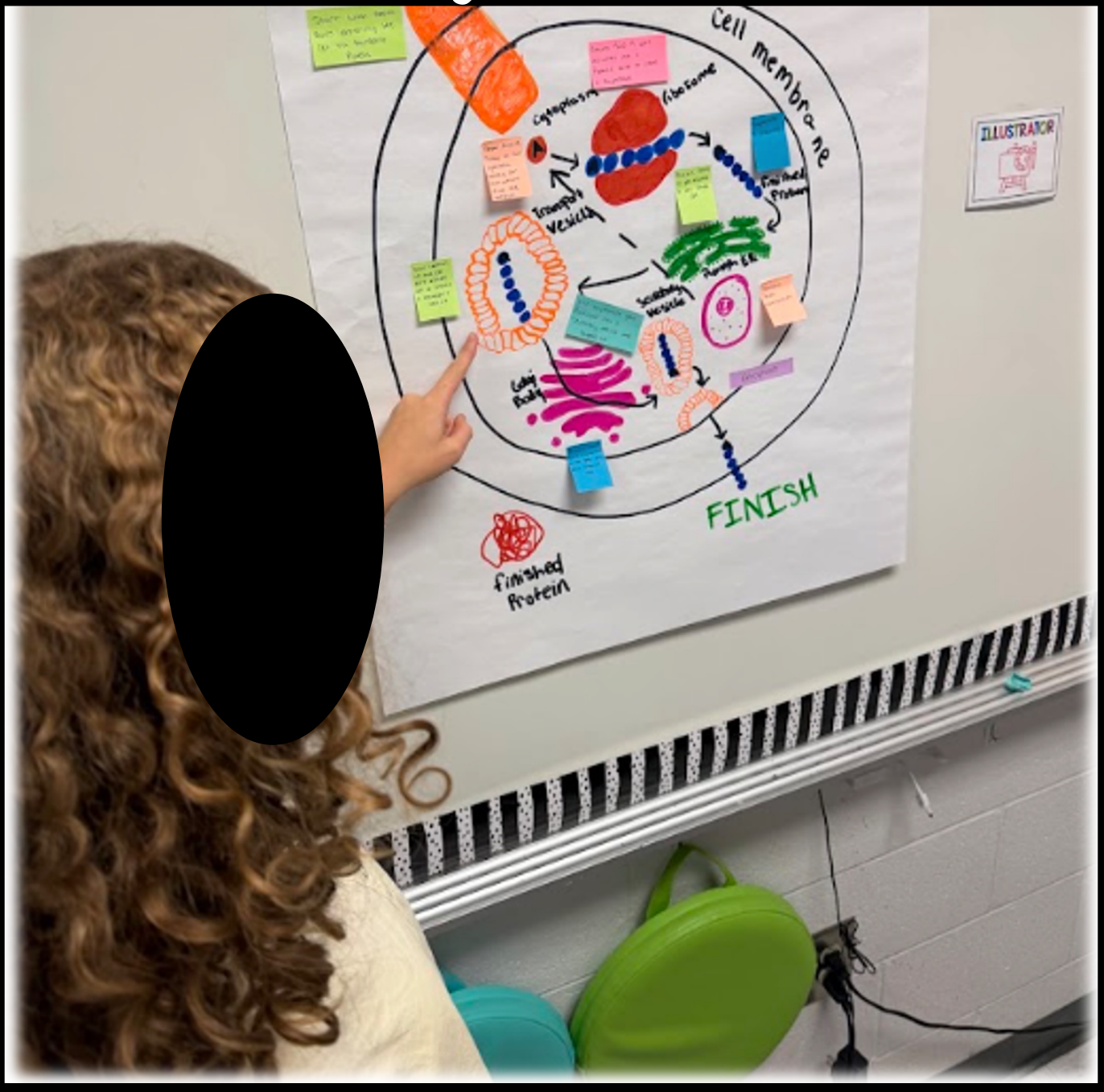


*Task 3:
Students
illustrate their
evidence.*



**STUDENTS WILL USE THE EXTRACTED
INFORMATION TO ILLUSTRATE THE AMINO
ACID'S JOURNEY THROUGH THE CELL.**

Task 4: Students present their Journey through the Cell.



Task 5: Extension Assignment

A Journey through the Cell.



Where Do PROTEINS GO?
The journey doesn't end at exocytosis!

exocytosis
proteins outside the cell

THE BIG QUESTION!
Once a protein leaves the cell through exocytosis...
WHERE DOES IT GO?

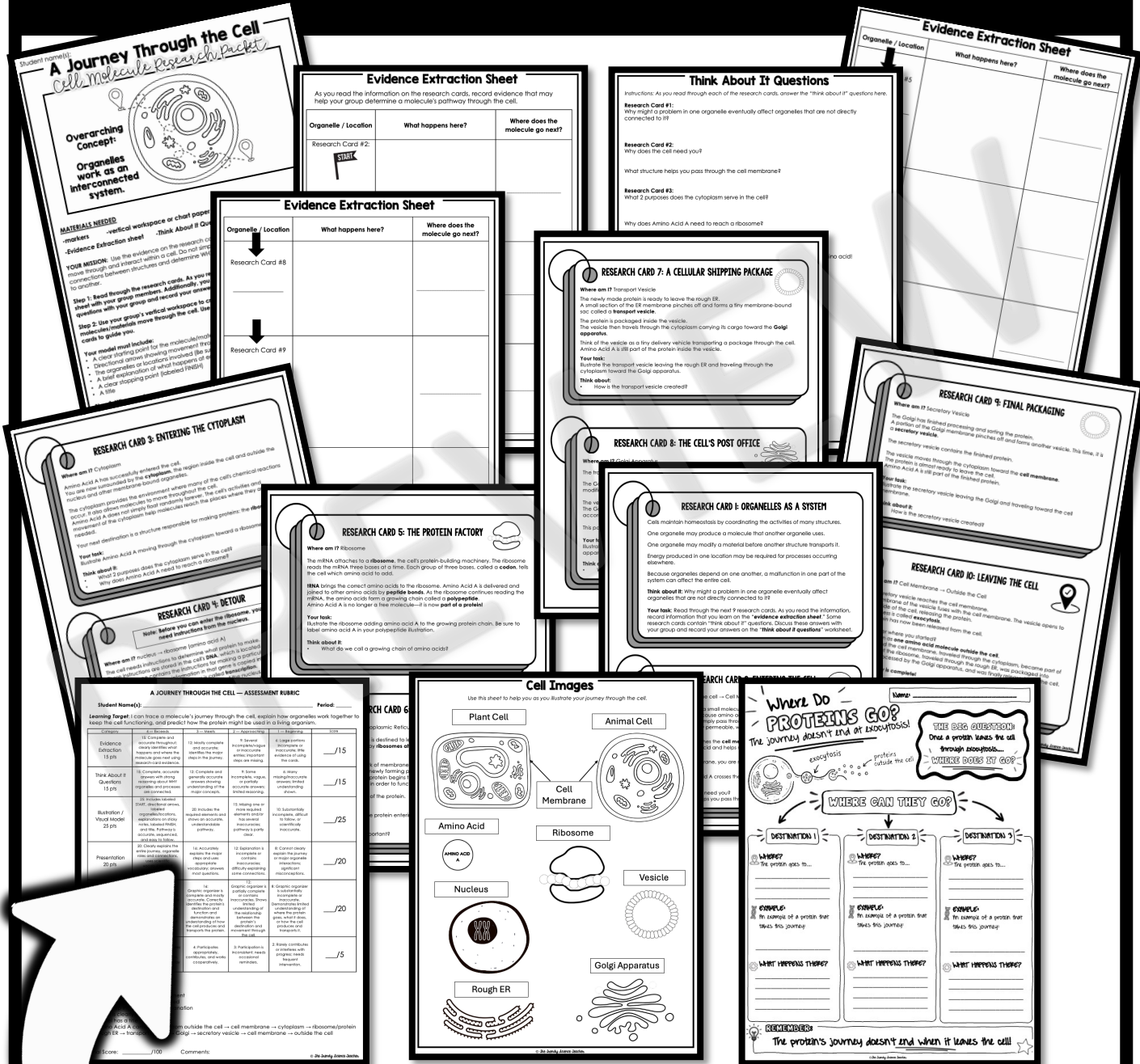
WHERE CAN THEY GO?

DESTINATION 1	DESTINATION 2	DESTINATION 3
WHERE? The protein goes to...	WHERE? The protein goes to...	WHERE? The protein goes to...
EXAMPLE: An example of a protein that takes this journey:	EXAMPLE: An example of a protein that takes this journey:	EXAMPLE: An example of a protein that takes this journey:
WHAT HAPPENS THERE?	WHAT HAPPENS THERE?	WHAT HAPPENS THERE?

REMEMBER!
The protein's journey doesn't end when it leaves the cell!

Students will research 3 possible uses for the protein that was made in their illustration. This is a GREAT way to tie to prior knowledge!

PRINTABLES INCLUDED



Editable Rubric

BRING YOUR CELLS UNIT TO LIFE WITH THIS COLLABORATIVE ASSESSMENT!



*Digital Option
Included!*

**I HAVE ALSO
INCLUDED A
DIGITAL, GOOGLE
SLIDES, VERSION
OF THIS
ACTIVITY.**

*Perfect for
Distance
Learning*