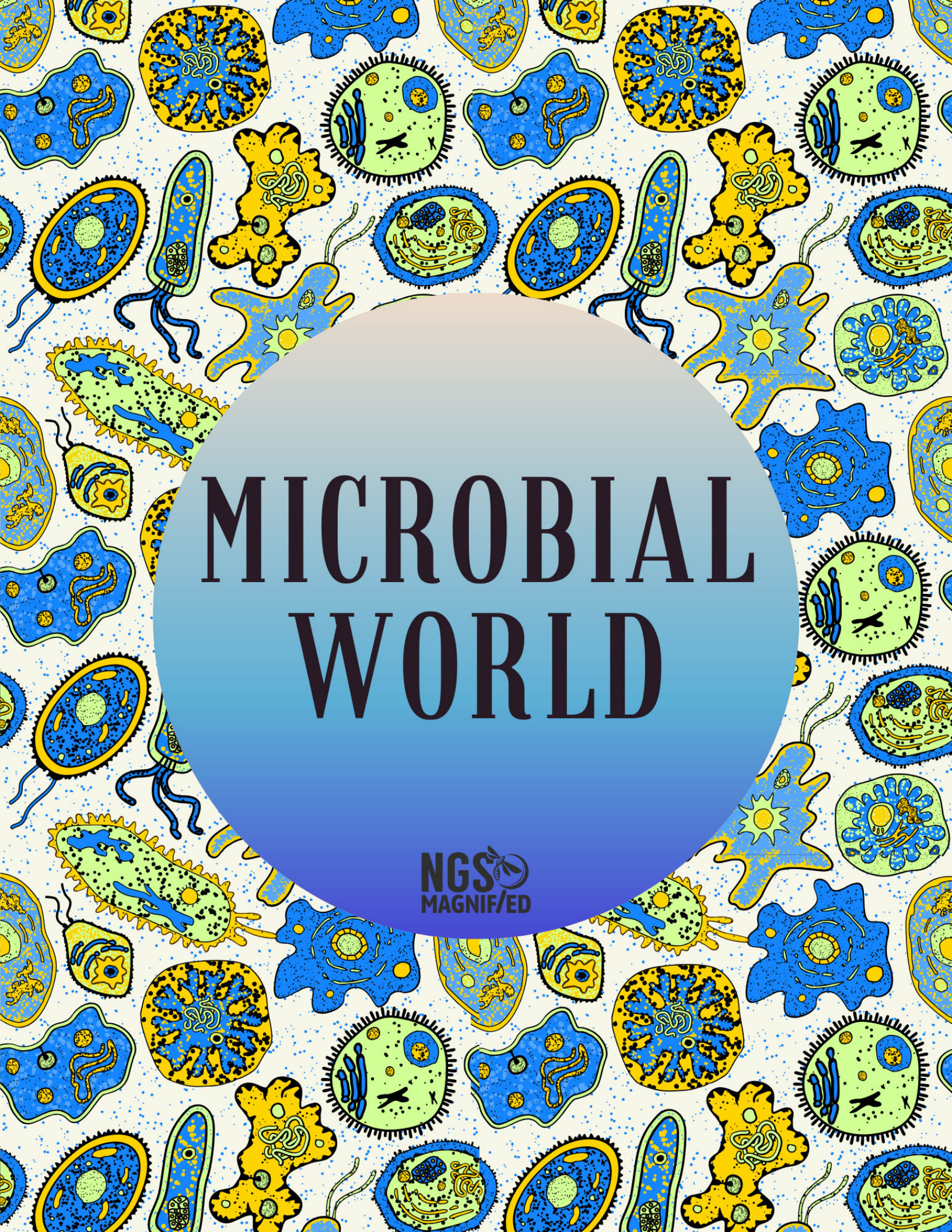

MICROBIAL
WORLD
NGS
MAGNIF/ED

Table of Contents:
The Microbial World

Introduction

If you are new to the idea of using a Science Interactive Notebook in your classroom, **stop by my Nitty Gritty Science shop and download my Intro to Science Interactive Notebooks tutorial for FREE!** In there you will find tips on how to begin with your students, what materials to have on hand and, most importantly, how it will enhance your students learning through reflection and creativity.

Focused Lessons with Differentiated Instruction

The lessons shared on the following pages cover National Science Standards and meet students' needs. I have given you the notes that I would give my students (Right Side - Input Side of Notebook) so you can understand what I'm having the students focus on when working on their creative assignments (Left Side - Output Side of Notebook). Each lesson focuses on a Question of the Day (QOD) represented in red in the top margin of each "Input" page with the student giving an answer in red on "Output" page.

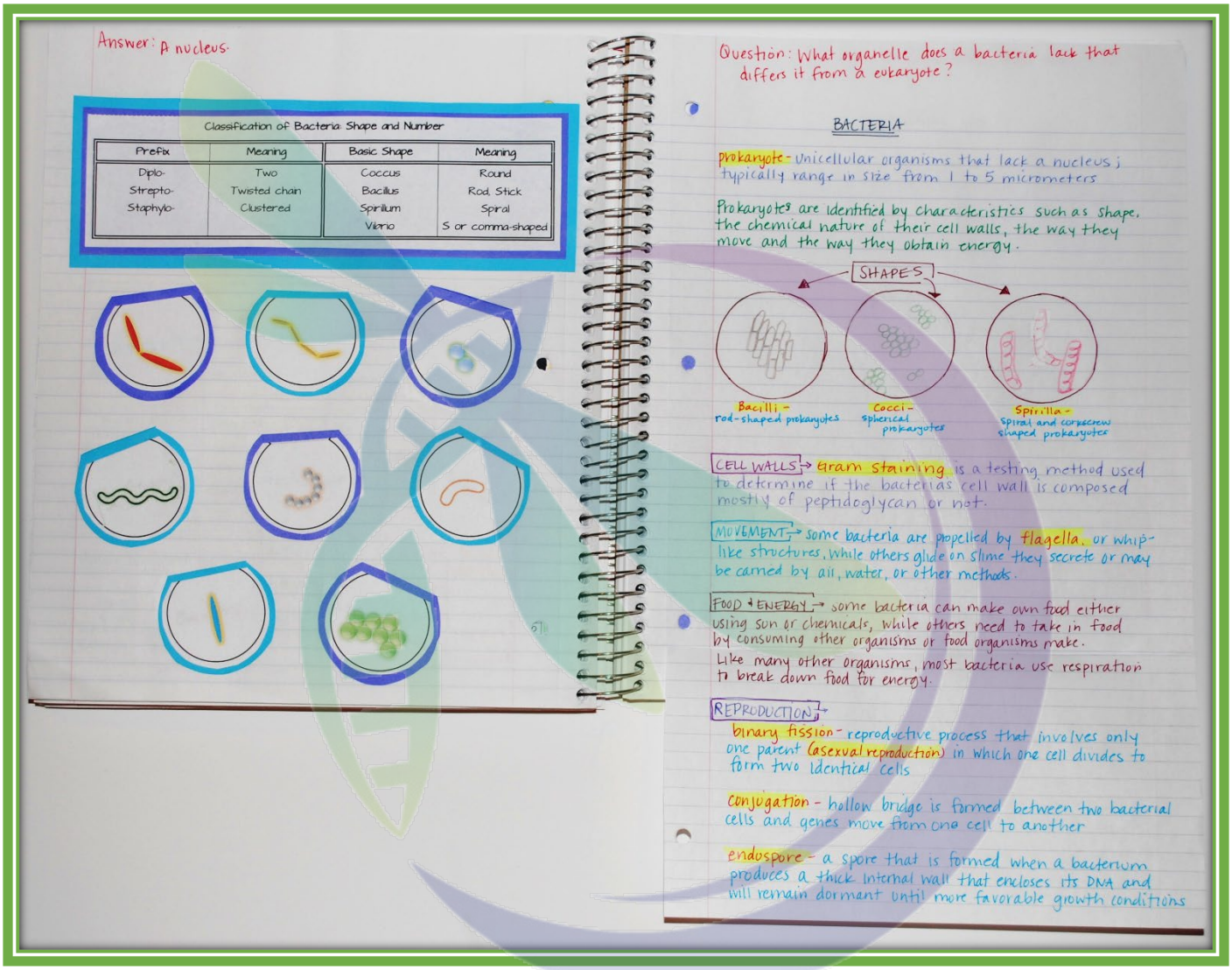
Left Side - Output

Instructions for each Output Side are included. This includes cut-outs, foldables or master copies where applicable. You may find that students work slowly at first, but once groups are organized and students know what is expected from them, not only will you see more energy focused on the final product, but also you will be shocked at the level of creativity certain students have in certain areas.

Mini-Assessments

Mini quizzes will be given for each section so you may monitor student's level of understanding. For reproduction purposes, there are two quizzes to a page so you can cut in half and save on paper.

Section 1: Bacteria



Instructions:

Students will learn to classify bacteria by characteristics such as shape and number of cells in this activity. They will make use of biology terms and prefixes to correctly identify each bacteria "sample."

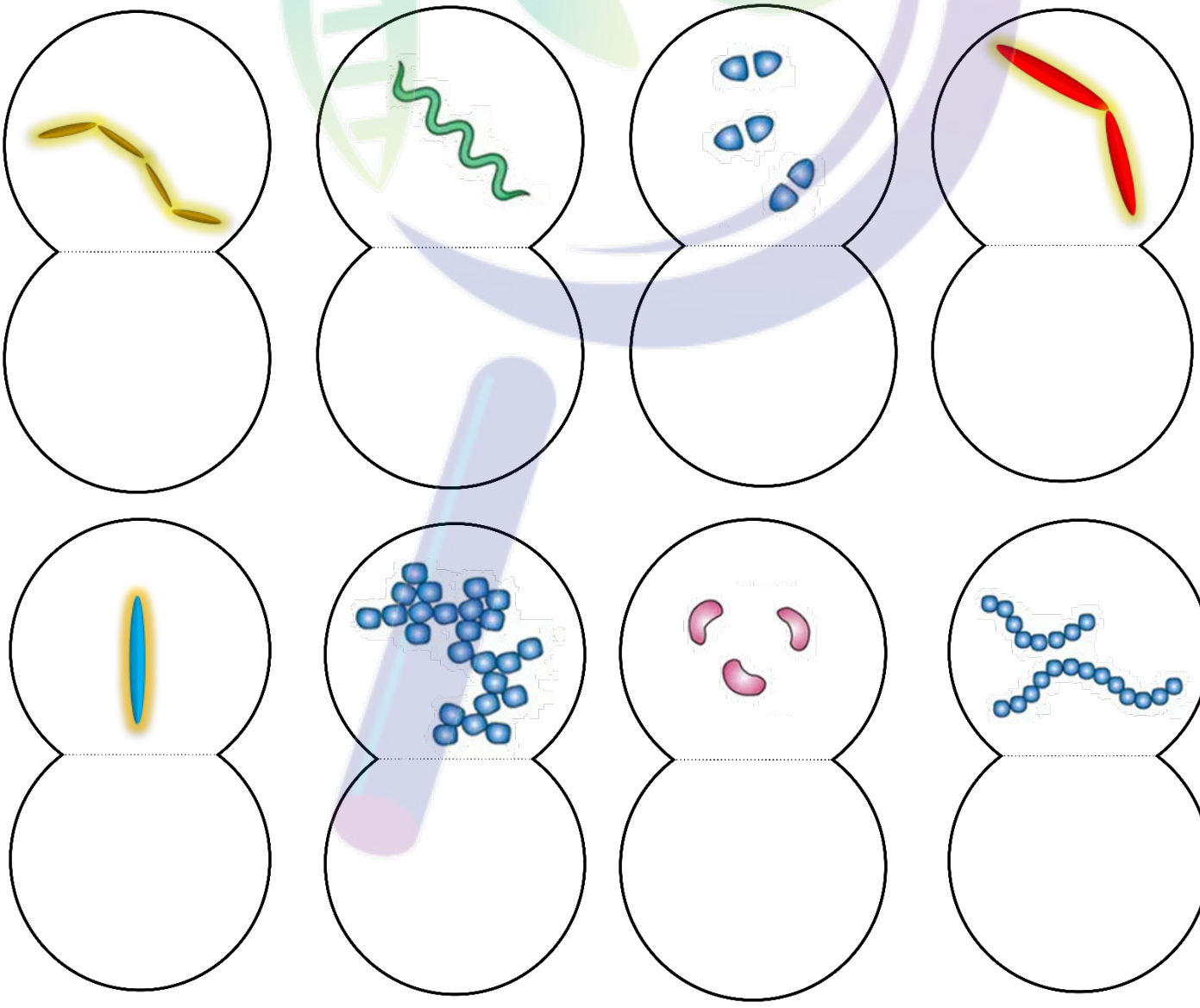
The Bacterial Classification printable is included along with an answer key and a mini-quiz.

Name That Bacteria

Directions: Cut out the circle flaps below and fold each on the dotted line. Use the table below to identify and write the names of the bacteria inside each flap. When complete, glue table and circle flaps into your Science Interactive Notebook.

Classification of Bacteria: Shape and Number

Prefix	Meaning	Basic Shape	Meaning
Diplo–	Two	Coccus	Round
Strepto–	Twisted chain	Bacillus	Rod, Stick
Staphylo–	Clustered	Spirillum	Spiral
		Vibrio	S or comma–shaped



Name _____ Date _____

Quiz: Protists

Matching

_____1. ciliates
_____2. algae
_____3. zooflagellates
_____4. protozoans
_____5. diatom
_____6. seaweeds
_____7. slime molds

a. large, multicellular marine algae that can be brown, red or green
b. protists that are named for their hair-like projections that help them move and feed
c. unicellular algae that has a glass-like cell wall containing silica
d. protozoan that moves by using one or more flagella
e. animal-like protists that are heterotrophs and lack a cell wall
f. plant-like protists that contain chloroplasts and can make their own food
g. fungus-like protists that use spores to reproduce

MINI QUIZZES INCLUDED FOR EACH SECTION

Name _____ Date _____

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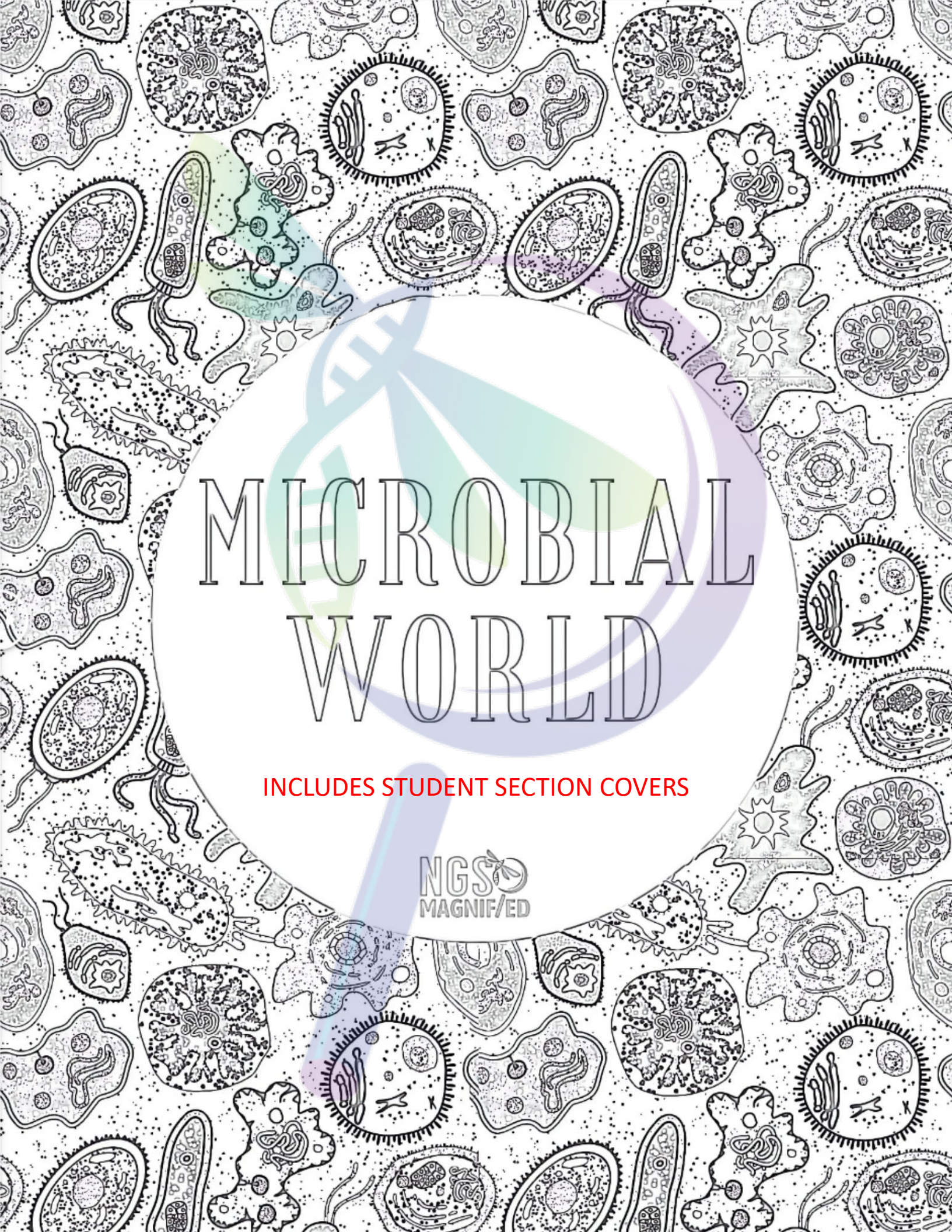
MICROBIAL
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Question: What organelle does a bacteria lack that differs from a eukaryote?

BACTERIA

Prokaryote – unicellular organisms that lack a nucleus; typically range in size from 1 to 5 micrometers.

Prokaryotes are identified by characteristics such as shape, the chemical nature of their cell walls, the way they move and the way they obtain energy.

SHAPES

Bacilli	Cocci	Spirilla
rod-shaped prokaryotes	spherical prokaryotes	spiral and corkscrew shaped prokaryotes

CELL WALLS – Gram staining is a testing method used to determine if the bacteria's cell wall is composed mostly of peptidoglycan or not.

MOVEMENT – some bacteria are propelled by flagella, or whip-like structures, while others glide on slime they secrete or may be carried by air, water, or other methods.

FOOD & ENERGY – some bacteria can make their own food either using sun or chemicals, while others need to take in food by consuming other organisms or food organisms make. Like many other organisms, most bacteria use respiration to break down food for energy.

REPRODUCTION

Binary fission – reproductive process that involves only one parent (asexual reproduction) in which one cell divides to form two identical cells

Conjugation – hollow bridge is formed between two bacterial cells, and genes move from one cell to another

Endospore – a spore that is formed when a bacterium produces a thick internal wall that encloses its DNA and will remain dormant until more favorable growth conditions.

Thank you for sharing NGS Magnified with your students!

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