

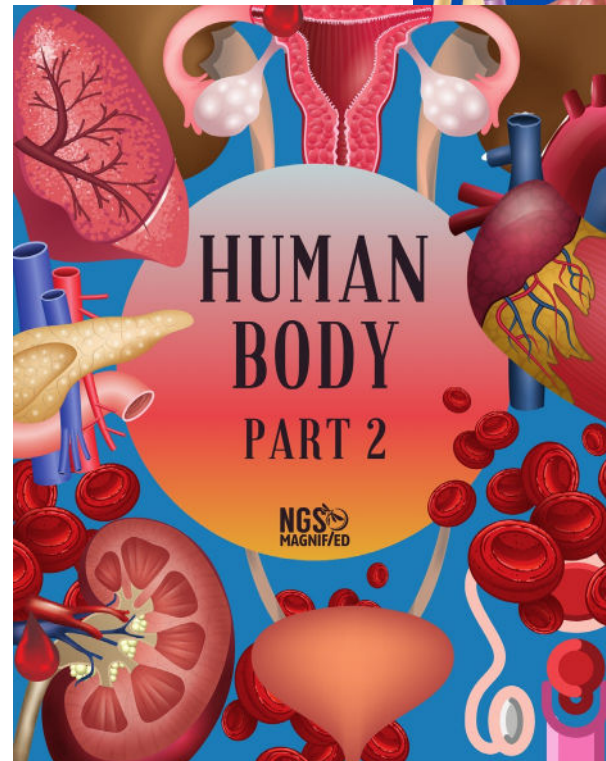
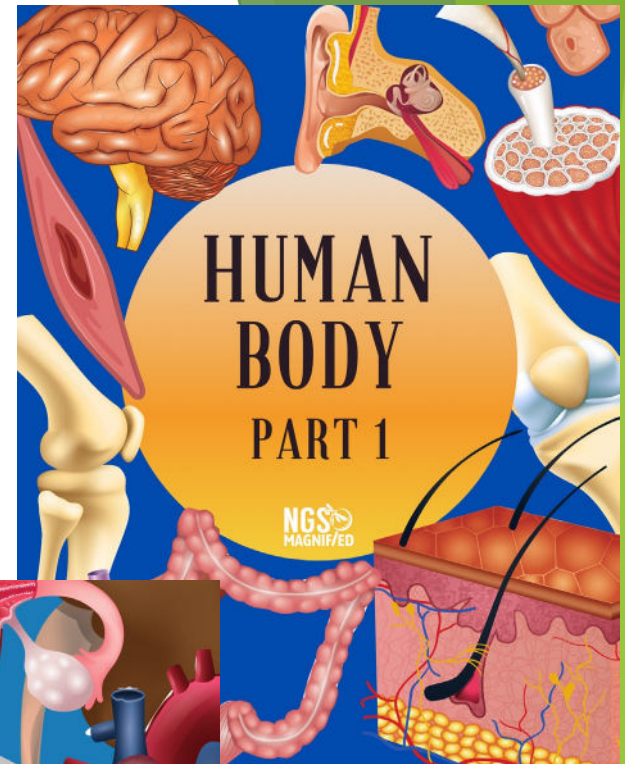
Human Body



Human Body Unit includes two units –
Human Body Part 1 & Human Body Part 2

Each unit includes:

- Print and digital Interactive Notebooks
- Editable Resources including notes, PowerPoints, and test
- Instructional Videos
- Teacher-led Demos & Guided Inquiry Labs
- Task Cards & Digital Task Cards
- Study Guides



Suggested Pacing Guide

The following is a **suggested pacing guide** for my COMPLETE COURSES (Earth, Life or Physical Science) which are based on 50-minute class periods. There are three variations below. **Each variation is based on the number of sections in your SCIENCE INTERACTIVE NOTEBOOK chapter.**

Based on a **4-Section Chapter**

Day	Lesson/Activity	Engage	Explain	Explore	Elaborate	Evaluate
1	• Teacher Demo	x				
	• Section 1 Notes – INB input		x			
	• INB Activity – INB output (homework if not completed in class)			x		
2	• Mini-quiz					x
	• Section 2 Notes – use PowerPoint		x			
	• INB Activity			x		
3	• Mini-quiz					x
	• Guided Inquiry Lab – Student Led			x		
4	• Section 3 Notes – use PowerPoint		x			
	• INB Activity			x		
5	• Mini-quiz					x
	• Section 4 Notes – use PowerPoint		x			
	• INB Activity			x		
6	• Mini quiz					x
	• Science Stations				x	
7	• Science Stations				x	
8	• Final draft and testing for Creation Station (STEM)				x	x
9	• Task Card Review (game-style, full class, partner)				x	
10	• Chapter Test					x
	• Have students complete notes for next chapter*	x				

* **Note-taking option:** Once students are done with chapter test, they get the next set of notes and work quietly on completing them while other students finish up. All notes are to be completed when they return to class. Have students glue each page of notes into the next few pages of their INB (right side only). This way, when you go over the PowerPoint each day, they have already reviewed topic and are ready for class.

5 E Model

Engage – Teacher-led demos foster wonder and classroom discussion and serve as the hook for the lesson. Videos and images of natural phenomena also foster questioning and communication. NGSS phenomena are aligned to middle school NGSS standards.

Explain – PowerPoints, instructional videos, and guided notes (input side of interactive notebooks) provide definitions, explanations, and information through mini-lecture, text, internet, and other resources which encourages students to explain concepts and definitions in their own words.

Explore – Students investigate problems, events, or situations. As a result of their mental and physical involvement in these activities, students question events, observe patterns, identify and test variables, and communicate results.

Elaborate – It is important to involve students in further experiences that apply, extend, or elaborate the concepts, processes, or skill they are learning. Elaborate activities provide time for students to apply their understanding of concepts and skills. They might apply their understanding to similar phenomena or problems.

Evaluate – Use a variety of assessment to gather evidence of student's understanding and provide opportunities for them to assess their own progress.

Student Interactive Notebook



Each concept shares:

- Actual photos of both the INPUT and OUTPUT pages of Science Interactive Notebook
- Instructions on how to create/use/complete activity for OUTPUT side
- Mini-Quizzes for each concept to check students' understanding
- Answer Keys for all mini-quizzes
- Appendix with Teacher Notes for Interactive Notebook in LARGE print.

Section 2: Muscular System

Directions: Cut out the following packets and flashboards. For color in the muscle that is named on the front of each card. Mark the "Anterior Muscles" packet and "Posterior Muscles" packet. Science Interactive Notebook and place completed flashboards on opposite sides.

Muscular System

Directions: Cut out the following packets and flashboards. For color in the muscle that is named on the front of each card. Mark the "Anterior Muscles" packet and "Posterior Muscles" packet. Science Interactive Notebook and place completed flashboards on opposite sides.

Name: _____ Date: _____

Quiz: Muscular System

1. List the three types of muscle tissue.
2. The line diagram to the right is showing anterior or posterior muscles?
3. What is the difference between voluntary and involuntary muscles?
4. What is the muscle labeled "A"?
5. What is the muscle labeled "B"?
6. What is the muscle labeled "C"?

The Skeleton

Directions: Please help this computer show about understanding before this skeleton is shown. Use the word "skeleton" to describe the structure. Then cut and glue the "Anterior" and "Posterior" packets. In the Science Interactive Notebook, make sure to cut out the various the body parts.

The Skeleton

Directions: Please help this computer show about understanding before this skeleton is shown. Use the word "skeleton" to describe the structure. Then cut and glue the "Anterior" and "Posterior" packets. In the Science Interactive Notebook, make sure to cut out the various the body parts.

Section 4: Nervous System

Directions: Cut out the following packets and flashboards. For color in the brain that is named on the front of each card. Mark the "Left Brain Dominant" packet and "Right Brain Dominant" packet. Science Interactive Notebook and place completed flashboards on opposite sides.

Right or Left Brain Dominant?

Introduction: Humans are like a complex computer system that is so powerful. Each hemisphere controls different skills or ways of thinking. The right hemisphere of the brain is referred to as the "right brain". It controls the senses, creativity and artistic senses, processing information from the "right" side of the body. The left hemisphere is sometimes referred to as the "left brain". It controls logical thinking, reading and writing and processes information in a sequential way.

The funny thing about our brain, however, is that our right and left hemispheres control two opposite sides of our bodies. For instance, the right hemisphere controls our left side movements and what our left eye sees, whereas our right hemisphere controls the right side of our body and processes what our right eye sees.

Even though humans tend to have a more dominant side, both sides of the brain are used and interact constantly. The two sides work together to make all the things we do every day. Thinking, learning, and working with others are all things that we do every day. Using a dominant side is just a way to help us understand how our brain works.

The Intestines Cut-out

Quiz: The Skeleton

Name: _____ Date: _____

1. skeleton

2. skull

3. ribs

4. pelvis

5. vertebrae

6. hip

7. shoulder

8. arm

9. leg

10. foot

Instructions:

This is a great activity to get students thinking about the nervous system and their brain. They will love determining which side of their brain is more dominant, which will lead to discussions among group members about other possible personality traits or actions that may be controlled by the right and left brain. A short reading is included along with the task table, brain and a mini-quiz.

Student Digital Notebook

The student notebook is on Google Drive and ready for you to share with your students. Here's a quick overview of the features:

Set up like a traditional interactive notebook with input and output sides.

Hyperlinked tabs so student can easily move through chapter for review

Students watch video < 6 min to complete notes.

The screenshot displays a digital notebook page for the Cardiovascular System. On the left, a box titled 'THE HEART: WHAT A MUSCLE!' contains a diagram of a heart with various parts labeled with red arrows pointing to empty boxes for student input. Below the diagram is a list of labels: inferior vena cava, superior vena cava, pulmonary artery, right ventricle, left ventricle, aorta, right atrium, pulmonary vein, and left atrium. To the right of the diagram is a section titled 'CARDIOVASCULAR SYSTEM' with text notes and a list of blood vessels: Arteries, Veins, and Capillaries. Further right is a video player titled 'The Cardiovascular System (Aka The Circulatory System)' with a play button. Below the video player is a 'Digital Textbook' button and a link to 'Hearth, Structure, and Function'. A red arrow points from the 'Hearth, Structure, and Function' link to the text 'Some pages have links so students can go deeper into the topic if they need.'

Encouraging independent learners. Directions for output side are here along with what they need to complete the activity.

Notes are chunked into manageable sections with large spaces for textboxes

Some pages have links so students can go deeper into the topic if they need.

Demos, Labs, & Science Stations

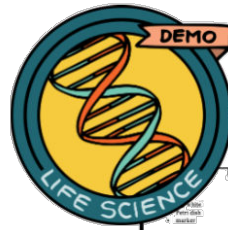
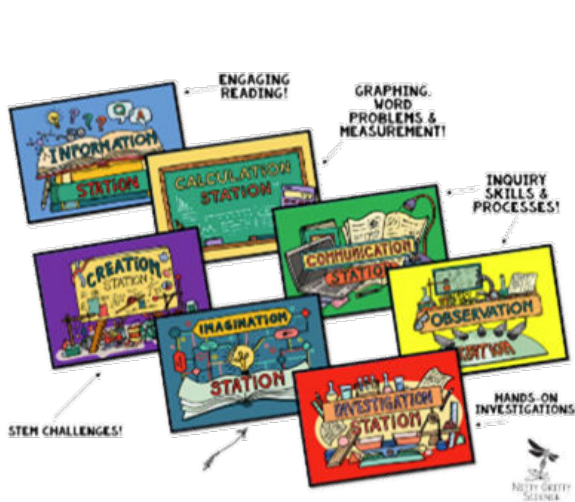
Working in the lab and being engaged in science experiments is the most exciting part of science.



Demo, Labs, and Science Stations Includes:

1. **SCIENCE STATION SIGNAGE** for all 7 stations is provided in color and in black and white (see preview) and all student answer sheets have icons that correspond with each station for ease of use.
2. **DEMONSTRATION** (teacher-led) allows teachers to invite scientific discussions and can help uncover misconceptions and, most importantly, lead to heightened curiosity and interest in the topic being studied.
3. **GUIDED INQUIRY LAB** which is a traditional lab that allows students to perform an investigation in order to solve a problem. Students will hypothesize, collect and analyze data and communicate their results.
4. **TEACHER GUIDES to DEMOS & SCIENCE STATIONS** help get you started and give you background information to make your science lessons engaging.
5. **7 SCIENCE STATIONS** which are designated locations in the classroom with activities that challenge students to extend their knowledge and elaborate on their science skills by working independently of the teacher in small groups or pairs. Stations included are:
 - **INFORMATION STATION** – Group members will read an interesting and relevant science passage then complete a task to help increase science literacy and deepen their understanding of the science concept.
 - **OBSERVATION STATION** – Group members will have images, illustrations, or actual samples at this station that show applications or processes of the science topic. Using what they've learned, they will need to apply their observation skills to complete the questions attached to each.
 - **CALCULATION STATION** – Group members use their math skills to complete the station challenge. Skills may include graphing, analyzing data, using models, measurement, and calculating formulas or word problems.
 - **INVESTIGATION STATION** – Group members will work with one another to explore the concept through hands-on activities so they may practice specific inquiry process skills as they learn.
 - **COMMUNICATION STATION** – There are three different options for this station: interviews, video, group essay. Depending on the option you choose, group members will communicate what they know by answering questions in creative ways.
 - **CREATION STATION** – Group members will work together to solve a STEM (Science, Technology, Engineering, Math) challenge by creating models or designs that demonstrate their understanding of the science topic being taught.
 - **IMAGINATION STATION** – This station makes science concepts relevant for students by asking them to imagine scenarios that will bring about discussion and critical thinking.
6. **INQUIRY PROCESS SKILLS CHECKLIST** is provided with each set to show teachers and administrators the inquiry skills used by students in each activity. These skills include, but are not limited to, communicating, creating models, inferring, classifying, identifying variables, measuring, observing, predicting, gathering and organizing data, comparing and contrasting, interpreting data, and manipulating materials.

SCIENCE STATIONS



Eye Safety

SCIENCE SKILLS AND LAB SAFETY

Procedure:

- Place all eyes on the outside of the Post-It and display for class using the projector.
- Each group has a sign for the eye vision only of the front sign.
- Explain that the purpose is to show how the eye is similar to those found in the protective layer of the eye.
- Ask students to make observations of what is happening to the eye vision.
- Try adding water to cover the effects. Have students make observations.

What's Happening?

The purpose is to show how the eye is similar to those found in the protective layer of the eye. The purpose is to show how the eye is similar to those found in the protective layer of the eye. The purpose is to show how the eye is similar to those found in the protective layer of the eye.

Discussion:

- What happened to the eye?
- The protective layer became cloudy and the eye vision.
- What type of safety equipment must be worn when doing lab?
- Explain to students how they should wear safety equipment.



Discussion questions and teacher set-up included!

Teacher guide and answer key offered for every lab!

Easy-to-get materials!



Measure with SI Units

SCIENCE SKILLS AND LAB SAFETY

Procedure:

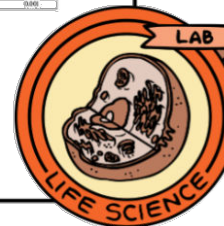
- Place all eyes on the outside of the Post-It and display for class using the projector.
- Each group has a sign for the eye vision only of the front sign.
- Explain that the purpose is to show how the eye is similar to those found in the protective layer of the eye.
- Ask students to make observations of what is happening to the eye vision.
- Try adding water to cover the effects. Have students make observations.

What's Happening?

The purpose is to show how the eye is similar to those found in the protective layer of the eye. The purpose is to show how the eye is similar to those found in the protective layer of the eye. The purpose is to show how the eye is similar to those found in the protective layer of the eye.

Discussion:

- What happened to the eye?
- The protective layer became cloudy and the eye vision.
- What type of safety equipment must be worn when doing lab?
- Explain to students how they should wear safety equipment.



Drip, Drop, Splat!

How does the density of a liquid and drop height affect the shape of droplet splatters?

Materials:

- colored water (graduated cylinder A)
- colored syrup (graduated cylinder B)
- eye dropper
- paper
- metric ruler
- meter stick

Procedure:

- Make a hypothesis of how density of a liquid will affect splatter size on your lab sheet.
- Place the piece of paper down on the lab table in order to catch splatters.
- Measure the heights listed in the data table using a meter stick. Place meter stick with end starting at zero on paper and move up stick when increasing height of drop.
- Use the eye dropper to drop ONE drop of colored water and ONE drop of colored syrup. Make sure to drop on different places on paper.
- Measure the size of the splatter in MILLIMETERS. Record in data table on answer sheet.
- Repeat for each height.
- Use the collected data to graph the splatter size versus drop height for each liquid.

Analyze and Conclude:

- Was your hypothesis correct? Explain.
- What are two controls in your experiment that helped you collect the most accurate data possible?

USER-FRIENDLY PAGES:
Students easily recognize which answer sheet to use at each station by matching station icons located on each page!!

Investigation Station

Name _____ Date _____

Hypothesis

Drop Height (cm)

Drop Height (cm)	Water (mm)	Syrup (mm)
5		
10		
15		
20		
25		
30		
35		
40		
45		
50		

Height of Drop vs. Splatter Size

Height of Drop (cm)

Splatter Size (mm)

Legend:

- Water
- Syrup

Analyze and Conclude:

-
-

TEACHERS SAVE TIME:
Laminate station pages and reuse for each class and for years to follow!
Inquiry skills used are timeless!

Instructional Videos

Human Body Instructional Videos and Digital Assessments are designed to help teachers move instruction from the group learning space to the individual learning space. Not only does this give students independence in their learning, but it also allows more time for dynamic and interactive learning when teachers meet with students in a group setting.

This resource is perfect for:

- Flipped Classroom
- Absent students
- 1:1 Classrooms
- Sub Plans
- Hybrid Schedules
- Teachers who want more time to guide students as they apply concepts and engage creatively in the subject matter

Features of this resource include:

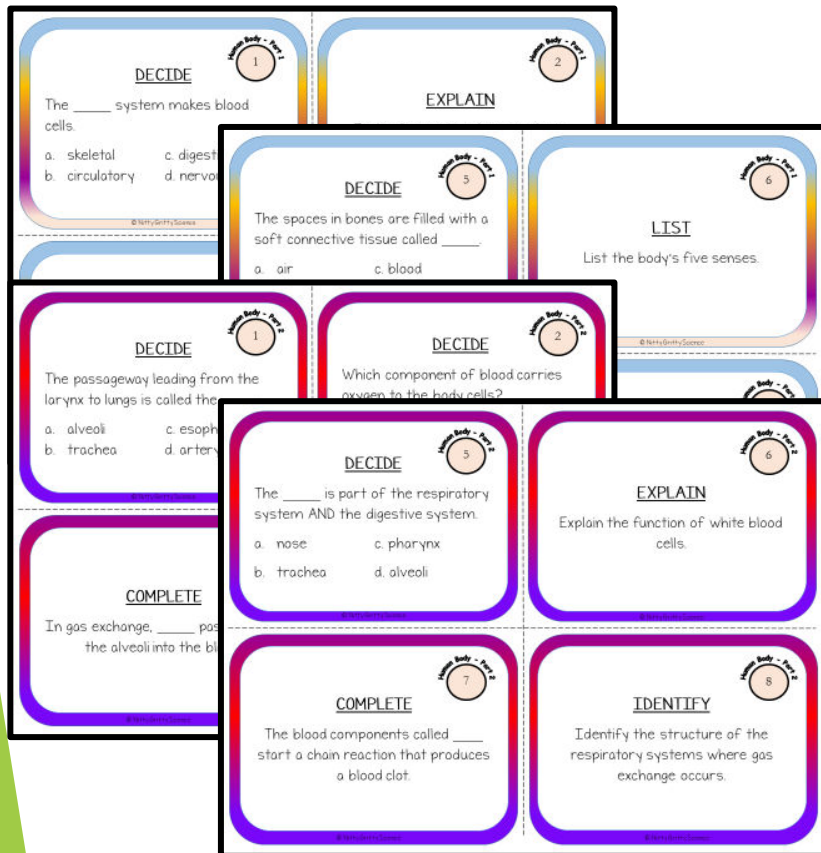
- Instructional videos which are six minutes or less to keep students focus
- Videos and assessments can be completed independently
- Auto grading and reporting in Google Forms
- Share link with students through educational platforms or email
- Quizzes are editable with 5 – 8 questions per quiz
- Information in video pairs with NGS Magnified Interactive Notebooks

Task Cards & Digital Task Cards

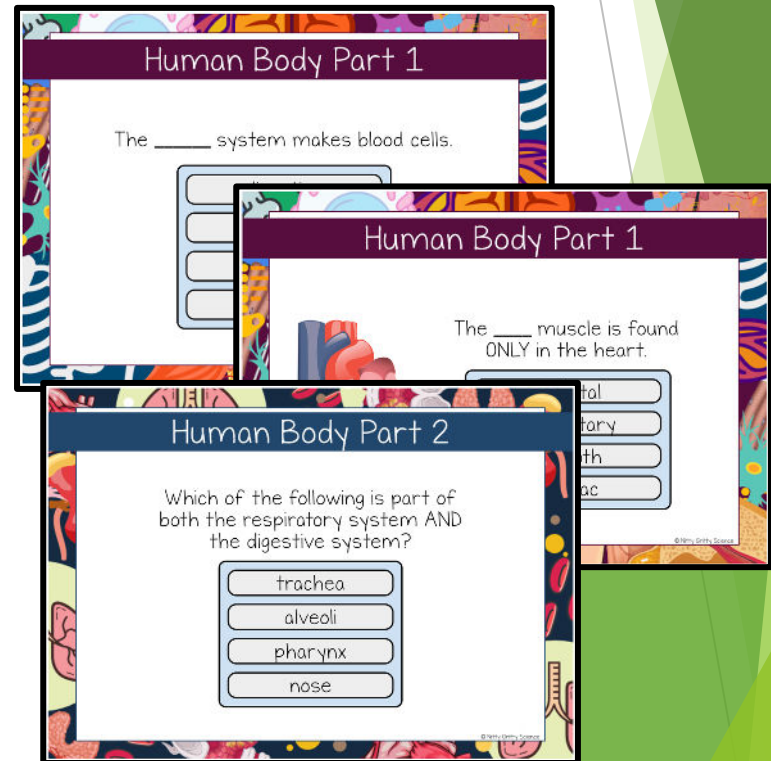
Task cards are a great tool for concept review that can be used in a variety of ways – pairs, small groups, team games, or individually. The reason they are so effective is there is only ONE task per card, allowing students to focus on that single task until they have successfully completed it. Answers sheet and answer key for teachers are included.

The digital, self-checking task cards are hosted at Boom Learning™ and are compatible with Google Classroom. These are perfect for displaying on your interactive whiteboard and leading class games or review sessions.

Print Task Cards



Digital Task Cards



Study Guides: Includes **print** or **digital** options

NGS Magnified Study Guides are directly aligned to the notes and assessments offered by NGS Magnified and include a variety of review strategies that meet the needs of your learners for independent study and indirect instruction.

Each study guide provides a combination of strategies which may include:

- Graphic organizers
- Vocabulary building
- Compare and contrast
- Problem-solving
- Concept mapping
- Interpreting data
- Critical thinking
- Theme connection
- Matching
- Fill-in-the-blank
- Short answer
- Real-world application
- QR videos with accompanying questions

STUDY GUIDE

THE HUMAN BODY PART 2

Name: _____ Date: _____

SECTION 1

Directions: Answer the questions below about the respiratory system.

1. Describe the purpose of the respiratory system.

2. What is the difference between breathing and respiration?

Breathing _____ Respiration _____

SECTION 2

Directions: Label the parts on the diagram that are involved in the process of respiration. Then pick *two* of them and explain their primary function below.

Trachea, bronchi, nose, lungs, pharynx, epiglottis

SECTION 3

Directions: Fill in the table below with the correct description for each.

Purpose of the excretory system	Function of kidneys	Function of respiratory system

and state the purpose of each organ below.

SECTION 4

Directions: Label the heart using the word bank then answer the questions below.

1. _____ left atrium, right atrium, left ventricle, right ventricle

2. Describe each of these parts of the heart.

Septum	Pericardium

3. Fill in the blanks with each of the correct terms.

Blood vessels _____ Capillaries _____

a. _____ carry blood to every part of the body.

b. _____ are microscopic and are the site of exchange.

c. _____ is the force of blood pressure.

SECTION 5

Directions: Explain the difference between arteries and veins. Then explain the two patterns of blood flow.

Arteries _____ Veins _____

Single loop _____ Double loop _____

SECTION 6

Directions: Fill in the blanks with the correct terms.

1. I help blood clot.

2. I'm made mostly of water and contain nutrients and minerals.

3. I contain hemoglobin and transport oxygen.

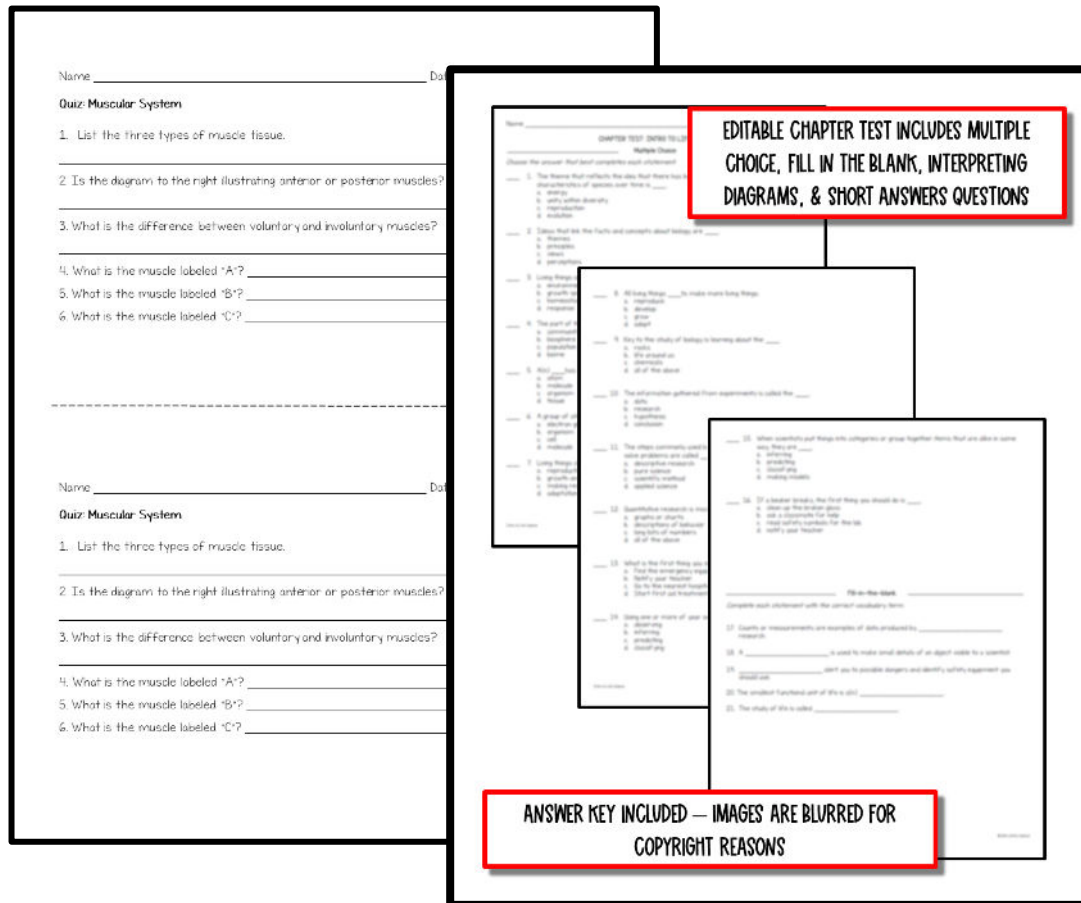
4. I help fight bacteria and viruses.

Directions: Explain the lymphatic system. Include in your description the terms *lymph* and *lymph nodes*.



Assessments:

Teachers can use a variety of assessments to evaluate student progress throughout the unit. The curriculum provides mini-quizzes for each Interactive Notebook chapter and an online assessments that goes with the instructional videos. The chapter test includes multiple choice, short answer, interpreting diagrams, and an essay.



Terms of Use:



Thank you for sharing NGS Magnified with your students!

Terms of Use

Copyright © NGS Magnified, LLC (formerly Nitty Gritty Science, LLC.) All rights reserved by author Dr. Erica Colón. This product is to be used by the original downloader only. Copying for more than one teacher, classroom, department, school, or school system is prohibited. This product may not be distributed or displayed digitally for public view. Failure to comply is a copyright infringement and a violation of the Digital Millennium Copyright Act (DMCA). Clipart and elements found in this PDF are copyrighted and cannot be extracted and used outside of this file without permission or license. Intended for classroom and personal use ONLY.

Contact Information:

Email: admin@nittygrittyscience.com

Website: www.NGSmagnified.com

TPT: <https://www.teacherspayteachers.com/Store/Nitty-Gritty-Science>

