

## Grade 7 Science April 1-April 9

Contact: Mrs. Weimer: [lweimer@rockwoodschoools.org](mailto:lweimer@rockwoodschoools.org) or 814-926-4688 ext 2204 (if I am not at school, let a message, I can call you back from home)

Online Students: All of your info is posted on google classroom

Offline Students (you do not have or have limited internet): All of your info is posted to the PDF

<ol style="list-style-type: none"><li>1. UNTIL 4/9 or when completed: Henrietta Lacks HW: <a href="https://docs.google.com/document/d/1-fYkzgyZ68rOvKtHVK0nQyusEytjB1XNNqLpsLejGo/edit?usp=sharing">https://docs.google.com/document/d/1-fYkzgyZ68rOvKtHVK0nQyusEytjB1XNNqLpsLejGo/edit?usp=sharing</a></li><li>2. Quizziz Review (please log in AS your name, so I can give you points for completion) Link: <a href="https://quizizz.com/join?gc=294971">quizizz.com/join?gc=294971</a></li><li>3. Cell Explorer: The Animal Cell <a href="https://biomanbio.com/HTML5GamesandLabs/Cellgames/cellexplorerpagehtml5.html">https://biomanbio.com/HTML5GamesandLabs/Cellgames/cellexplorerpagehtml5.html</a> (there are 5 levels, take a screenshot when you are done and email it to me @ <a href="mailto:lweimer@rockwoodschoools.org">lweimer@rockwoodschoools.org</a> for your points) /10</li><li>4. Cells Project – See Rubric</li></ol>

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Read both of these articles from the New York Times. You may highlight or take notes on the articles as you go. Then, answer the writing prompt using the guidelines provided. Be sure to include adequate details for each of the SIX required questions. Please answer in paragraph form and be sure to include an introduction, supporting details/facts/evidence/quotes, transitions, and an effective conclusion.

*The New York Times*

## 'The Immortal Life of Henrietta Lacks'

By  
JENNIFER CUTRARO  
, SARAH GROSS  
and THE LEARNING NETWORK

SEPTEMBER 30, 2015 4:03 PM

### Background

"The Immortal Life of Henrietta Lacks" has been assigned or suggested as a "common read" in thousands of high schools and colleges around the country. As the book's publisher [describes](#) it, it tells a "riveting (exciting) story of the collision between ethics (what we believe to be right and/or wrong), race, and medicine; of scientific discovery and faith healing; and of a daughter consumed with questions about the mother she never knew. It's a story inextricably connected (connected in a way that is like it's tangled and can't be undone) to the dark history of experimentation on African Americans, the birth of bioethics (feelings about what is right and what is wrong when doing research in the fields of science and medicine related to genetics), and the legal battles over whether we control the stuff we're made of."

For those not familiar with the background, a 2013 Times article summarized it this way:

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Henrietta Lacks was only 31 when she died of cervical cancer in 1951 in a Baltimore hospital. Not long before her death, doctors removed some of her tumor cells. They later discovered that the cells could thrive in a lab, a feat no human cells had achieved before.

Soon the cells, called HeLa cells, were being shipped from Baltimore around the world. In the 62 years since — twice as long as Ms. Lacks's own life — her cells have been the subject of more than 74,000 studies, many of which have yielded (brought about) profound insights (new, important information) into cell biology (the study of living things from a cellular level), vaccines, ... and cancer.

But Henrietta Lacks, who was poor, black and uneducated, never consented (gave permission to doctors) to her cells' being studied. For 62 years, her family has been left out of the decision-making about that research.

In 2013, her descendants learned her genes had been sequenced (broken down into its most basic parts to figure out the order of the DNA) and that the genome was made available to the public. After a protracted (lasting for a long time) fight, the family won the right to make the genome (sets of chromosomes that contain the DNA - Humans have 23 pairs of chromosomes - each pair contains DNA specific for each of your traits.) available only to scientists who apply, as well as to serve on a working group that will help review the applications.

They have never received any payment for Henrietta Lacks's cells or any compensation (payment) from the profits that have come from the research done using her cells.

**The New York Times**

Sunday Review | OPINION

**The Immortal Life of Henrietta Lacks, the**

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# Sequel

By **REBECCA SKLOOT** MARCH 23, 2013

LAST week, scientists sequenced the genome (**set of chromosomes**) of cells taken without consent from a woman named Henrietta Lacks. She was a black tobacco farmer and mother of five, and though she died in 1951, her cells, code-named HeLa, live on. They were used to help develop our most important vaccines and cancer medications, ..., gene mapping (**breaking down DNA to link the genes to specific traits**), cloning. Now they may finally help create laws to protect her family's privacy — and yours.

The family has been through a lot with HeLa: they didn't learn of the cells until 20 years after Lacks's death, when scientists began using her children in research without their knowledge. Later their medical records were released to the press and published without consent. Because I wrote a book about Henrietta Lacks and her family, my in-box exploded when news of the genome broke. People wanted to know: did scientists get the family's permission to publish her genetic information? The answer is no.

Imagine if someone secretly sent samples of your DNA to one of many companies that promise to tell you what your genes say about you. That report would list the good news (you'll probably live to be 100) and the not-so-good news (you'll most likely develop Alzheimer's, bipolar disorder and maybe alcoholism). Now imagine they posted your genetic information online, with your name on it. Some people may not mind. But I assure you, many do: genetic information can be stigmatizing (**gives others the a bad impression of who you are**), and while it's illegal for employers or health insurance providers to discriminate (**treat you differently based on your race, gender, culture, religion, etc.**) based on that information, this is not true for life insurance, disability coverage or long-term care.

"That is private family information," said Jeri Lacks-Whye, Lacks's

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granddaughter. “It shouldn’t have been published without our consent.”

Some scientists agree: [Jonathan Eisen](#), a genomics researcher at the University of California, Davis, [tweeted](#), “A bit stunned that the people publishing the HeLa genome appear to not have gotten consent from the family.” Another said this was going to further damage public trust in science. A few argued that the cells had changed so much over time, they couldn’t accurately tell us anything about Lacks (to which a geneticist replied, “Your claim is so wrong that I don’t know where to start”). Several noted that consent wasn’t required to publish the HeLa genome (true). But overall, the scientific community was surprisingly silent on the issue.

On its own, the HeLa genome doesn’t say anything specific about Lacks: it’s a string of billions of letters that detail the genetic information that makes up a HeLa cell, which is useful for science. A news release from the [European Molecular Biology Laboratory](#), where the HeLa genome was sequenced, said, “We cannot infer (**make an educated guess or draw conclusions about**) anything about Henrietta Lacks’s genome, or of her descendants, from the data generated in this study.”

But that’s not true. And a few scientists decided to prove it. One uploaded HeLa’s genome to a public Web site called [SNPedia](#), a Wikipedia-like site for translating genetic information. Minutes later, it produced a report full of personal information about Henrietta Lacks, and her family. (The scientist kept that report confidential, sharing it only with me.) Until recently, few people had the ability to process raw genome data like this. Now anyone who can send an e-mail can do it. No one knows what we may someday learn about Lacks’s great-grandchildren from her genome, but we know this: the view we have today of genomes is like a world map, but Google Street View is coming very soon.

Scientifically speaking, that’s good news. There’s a lot of hope for using

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technology like this for affordable “personalized medicine.” But legally and ethically speaking, we’re not ready for it.

As Francis S. Collins, director of the National Institutes of Health, says: “This latest HeLa situation really shows us that our policy is lagging years and maybe decades behind the science. It’s time to catch up.” The regulations governing this sort of research were written in the 1970s, long before anyone imagined what you could learn from a bit of DNA. They are largely based on the now outdated belief that if samples are “anonymized” (i.e., your name is removed), there’s no need to get consent before using them in research.

The problem, says [Yaniv Erlich](#), a fellow at the Whitehead Institute for Biomedical Research, is that anonymity (**ability to remain unknown**) vanishes when it comes to DNA: “People don’t realize it’s impossible to hide genetic information once it’s out there.” He and his colleagues recently proved that it’s possible to use online public databases to find the identities of people whose anonymous DNA samples had been sequenced and published online. Yet researchers aren’t required to tell you that there is no guarantee that a genome, once sequenced, will stay private or anonymous.

More than a year and a half ago, the N.I.H. and several government organizations proposed (**suggested**) changing current regulations (**rules or laws**) to require consent for tissue research, genome sequencing and sharing private data. The proposal generated public comment but nothing changed, and science continues to move forward with speed, potential and outdated regulation.

***The Lackses’ experiences over the last 60 years foretold nearly every major ethical issue raised by research on human tissues and genetic material. Now they’re raising a new round of ethical questions for science: though their consent is not (yet) required for publishing***

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***private genetic information from HeLa, should it be? Should we require consent before anyone's genome is sequenced and published? And what control should gene-sharing family members have?***

The Lacks family is proud of HeLa's contributions to society, and they don't want to stop HeLa research. But they do want to learn about the HeLa genome — how it can be used for the good of science while still protecting the family's privacy — so they can decide whether to consent to its publication. And they want researchers to acknowledge that HeLa cells are not anonymous and should be treated accordingly.

After hearing from the Lacks family, the European team apologized, revised the news release and quietly took the data off-line. (At least 15 people had already downloaded it.) They also pointed to other databases that had published portions of Henrietta Lacks's genetic data (also without consent). They hope to talk with the Lacks family to determine how to handle the HeLa genome while working toward creating international standards for handling these issues.

The publication of the HeLa genome without consent isn't an example of a few researchers making a mistake. The whole system allowed it. Everyone involved followed standard practices. They presented their research at conferences and in a peer-reviewed journal. No one raised questions about consent.

In the three years since my book about HeLa was published, the Lacks family and I have spoken to audiences by the thousands about these issues. Public response is overwhelmingly consistent and in line with several studies: the public supports the science and wants to help it move forward. But that support is dependent on consent and trust.

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**On a separate sheet of paper, answer this essay. Attach your essay to the article when you turn it in.**

**PROMPT: Using information from the text, what are the benefits and drawbacks of this situation? The answer **MUST** be in paragraph form. You must have an introductory sentence, all required details (see below) **WITH EXPLANATIONS OR QUOTES**, and a concluding sentence. You should address **ALL** of the following in your answer:**

- 1. State what is believed to be the problem with this medical and scientific situation.**
- 2. What rights (if any) were not considered?**
- 3. How does the Lacks family feel about the situation?**
- 4. What medical knowledge has been gained?**
- 5. How can biological and medical scientists and researchers “fix” the problems and still gain knowledge?**
- 6. Do you feel as though the Lacks family has found an appropriate solution to their problem? Explain why or why not.**

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PSSA READING

GRADES 4-8 REFERENCE

PSSA TEXT-DEPENDENT ANALYSIS SCORING GUIDELINES

Score Point	Description	Score Point	Description
4	<ul style="list-style-type: none"> <li>Effectively addresses all parts of the task demonstrating in-depth analytic understanding of the text(s)</li> <li>Effective introduction, development, and conclusion identifying an opinion, topic, or controlling idea related to the text(s)</li> <li>Strong organizational structure that effectively supports the focus and ideas</li> <li>Thorough analysis of explicit and implicit meanings from text(s) to effectively support claims, opinions, ideas and inferences</li> <li>Substantial, accurate, and direct reference to the text(s) using relevant key details, examples, quotes, facts, and/or definitions</li> <li>Substantial reference to the main idea(s) and relevant key details of the text(s) to support the writer's purpose</li> <li>Skillful use of transitions to link ideas</li> <li>Effective use of precise language and domain-specific vocabulary drawn from the text(s) to explain the topic and/or to convey experiences/events</li> <li>Few errors, if any, are present in sentence formation, grammar, usage, spelling, capitalization, and punctuation; errors present do not interfere with meaning</li> </ul>	2	<ul style="list-style-type: none"> <li>Inconsistently addresses some parts of the task demonstrating partial analytic understanding of the text(s)</li> <li>Weak introduction, development, and/or conclusion identifying an opinion, topic, or controlling idea somewhat related to the text(s)</li> <li>Weak organizational structure that inconsistently supports the focus and ideas</li> <li>Weak or inconsistent analysis of explicit and/or implicit meanings from text(s) that somewhat supports claims, opinions, ideas, and inferences</li> <li>Vague reference to the text(s) using some details, examples, quotes, facts, and/or definitions</li> <li>Weak reference to the main idea(s) and relevant details of the text(s) to support the writer's purpose</li> <li>Inconsistent use of transitions to link ideas</li> <li>Inconsistent use of precise language and domain-specific vocabulary drawn from the text(s) to explain the topic and/or to convey experiences/events</li> <li>Errors may be present in sentence formation, grammar, usage, spelling, capitalization, and punctuation; errors present may interfere with meaning</li> </ul>
3	<ul style="list-style-type: none"> <li>Adequately addresses all parts of the task demonstrating sufficient analytic understanding of the text(s)</li> <li>Clear introduction, development, and conclusion identifying an opinion, topic, or controlling idea related to the text(s)</li> <li>Appropriate organizational structure that adequately supports the focus and ideas</li> <li>Clear analysis of explicit and implicit meanings from text(s) to support claims, opinions, ideas, and inferences</li> <li>Sufficient, accurate, and direct reference to the text(s) using relevant details, examples, quotes, facts, and/or definitions</li> <li>Sufficient reference to the main idea(s) and relevant key details of the text(s) to support the writer's purpose</li> <li>Appropriate use of transitions to link ideas</li> <li>Appropriate use of precise language and domain-specific vocabulary drawn from the text(s) to explain the topic and/or to convey experiences/events</li> <li>Some errors may be present in sentence formation, grammar, usage, spelling, capitalization, and punctuation; errors present seldom interfere with meaning</li> </ul>	1	<ul style="list-style-type: none"> <li>Minimally addresses part(s) of the task demonstrating inadequate analytic understanding of the text(s)</li> <li>Minimal evidence of an introduction, development, and/or conclusion</li> <li>Minimal evidence of an organizational structure</li> <li>Insufficient or no analysis of the text(s); may or may not support claims, opinions, ideas, and inferences</li> <li>Insufficient reference to the text(s) using few details, examples, quotes, facts, and/or definitions</li> <li>Minimal reference to the main idea(s) and/or relevant details of the text(s)</li> <li>Few, if any, transitions to link ideas</li> <li>Little or no use of precise language or domain-specific vocabulary drawn from the text(s)</li> <li>Many errors may be present in sentence formation, grammar, usage, spelling, capitalization, and punctuation; errors present often interfere with meaning</li> </ul>

Student Name \_\_\_\_\_

Period \_\_\_\_\_

1. Student clearly addresses their perspective regarding the problem - \_\_\_\_\_ / 3 points

2. Student states the right(s) that were not considered - \_\_\_\_\_ / 3 points

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3. Student addresses the Lacks family's feelings - \_\_\_\_\_ / 3 points
4. Student outlines or lists the medical knowledge gained - \_\_\_\_\_ / 3 points
5. Student offers at least one new (medical/scientific) solution to the problem - \_\_\_\_\_ / 3 points
6. Student explains their perspective on the Lacks family's "solution" to the problem - \_\_\_\_\_ / 3 points
7. PSSA Writing Rubric \_\_\_\_\_ / 12 points (4 point rubric multiplied by three)

Total - \_\_\_\_\_ / 30 points

## Cell Project:

### Cell Organelle Project Grade 7 Science-Mrs. Weimer

In order to understand the roles that each organelle plays in a cell we're going to be doing a project. In this project we'll be focusing on the functions of each organelle. The manner you display your knowledge will be up to you and your partner. Understand that you do not have an unlimited amount of time and you must be ON TASK during this process or risk losing points.

#### Option 1: Cell Model

Design a cell model out of real world materials that you and your partner can bring in or make a list for Mrs. Weimer to pick up. Creativity is encouraged and all models must illustrate the features, real facts (functions for each organelle) and labels for the organelles of the cell.

#### Option 2: Haiku

A Haiku is a Japanese poem written in 3 lines. In this class our definition of a Haiku will be: the first line has exactly 5 syllables, second line 7, and third line 5. An example is below:

It's the control center  
Called the nucleus of the cell  
Contains DNA

Please write a Haiku about each organelle incorporating the function/nickname of that organelle. Then creatively display your haikus in flippable book and have them neatly decorated.

#### Option 3: Cell Analogy

Draw a cell diagram on a piece of paper with all of the listed organelles. Then, make an analogy (a cell city, factory, school, the Hunger Games, etc) comparing the cell and it's organelles to something of your choice. If you are a person that does well with understanding concepts by relating them to real world things, then this may be your project 😊. You MUST draw pointers from each of your analogies to the correct organelle on your diagram to create an analogy. Creativity is strongly encouraged but you must remember to include the real facts (functions) about the cell you choose.

#### Option 4: Cell Journey Story and or Brochure

Imagine you somehow ended up inside an animal cell. Use your imagination and scientific knowledge of cells to explain the journey you and your group would embark upon. Be sure to include a labeled cell diagram to clearly illustrate the path of your travels. Some possible ideas of ways to describe your travels include journal entries, a story, photo album with captions, or a fictional story. Be sure to include the listed organelles. Creativity is strongly encouraged but you must remember to include the real facts (functions) about the cell you choose.

#### Option 5: Cell Cartoon

If you are a visual learner and love television, consider making a video. This video must describe all the cells and their functions, but be prepared to be succinct! Be creative and don't forget punctuation.

Option 6: Cell RAP Remember when we did the plate tectonics dance? If that was something that interested YOU and that you learned from, consider making a RAP. Not only will this help you to remember the structures and functions of the cell, but it may help your classmates to remember them too. Be creative and you must have all the cell organelles and the functions of those organelles.

Option 7: Maybe you are exceptionally creative and can think of something else to show what you know, please check with Mrs. Weimer and share your idea, we will discuss logistics and see if that can function as an option-REMEMBER, this is so that YOU and YOUR PARTNER can remember the organelles, so pick something that will help you 😊.

### Cell Project Requirements

You must include the following organelles and their functions/analogies:

#### Animal Cell:

- Cytoplasm/Skeleton
- Golgi apparatus
- Mitochondria
- Cell membrane
- Rough endoplasmic reticulum
- Smooth endoplasmic reticulum
- Nucleus
- Ribosomes
- Lysosomes

**Plant Cell: (Because there are more organelles you can receive up to 6 bonus points for using a plant cell)**

- All of the animal cells organelles
- Chloroplasts
- Cell wall
- Vacuole

**RUBRIC**

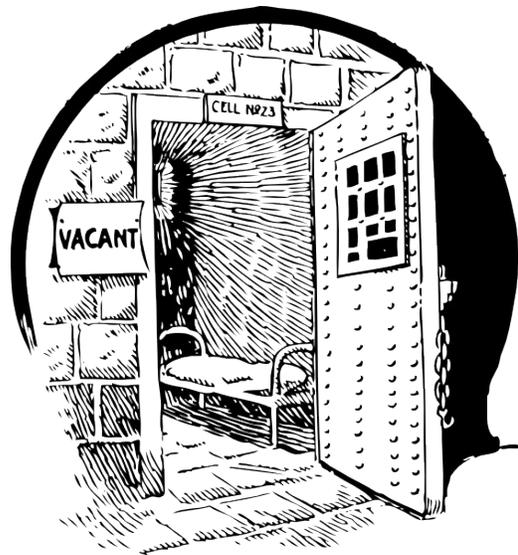
<u>Criteria</u>	<u>Basic or Below (1,0)</u>	<u>Proficient 2</u>	<u>Advanced 3</u>
Organelles listed (2 points for each organelle, 18 points total)		Student has listed all 9 organelles and they are in the appropriate places	
Organelle Function (2 points for each organelle, 18 points total)		Student has listed the appropriate function of each of the nine organelles	
Creativity		Creates visually exciting presentation media and includes elements in presentation that are especially fun, lively, engaging, or powerful to the particular audience	

**This is an EXAM grade**

Total  
BONUS

= \_\_\_\_\_/38 points= \_\_\_\_\_ %

Mrs. Weimer MAY extend the time frame based on the needs of the students and the conditions of the weather 😊.



## Cell Structure and Function

60 Questions

NAME : \_\_\_\_\_

CLASS : \_\_\_\_\_

DATE : \_\_\_\_\_

1. Cells only come \_\_\_\_

a) from prokaryotes

b) from other cells dividing

c) from fungi

d) from eukaryotes

2. The smallest unit of life is \_\_\_\_\_

a) a protist

b) an atom

c) bacteria

d) a cell

3. Prokaryote \_\_\_\_

a) contain simple cells

b) are unicellular

c) always have a flagellum

d) are a product of endosymbiosis

4. True or False. Prokaryotes contain cytoplasm.

a) True

b) False

5. An organelle involved in breaking down lipids, proteins, carbohydrates, damaged organelles, and bacteria are \_\_\_\_

a) Golgi Apparatus

b) Vesicles

c) Vacuole

d) Lysosomes

6. Both mitochondria and chloroplasts \_\_\_\_

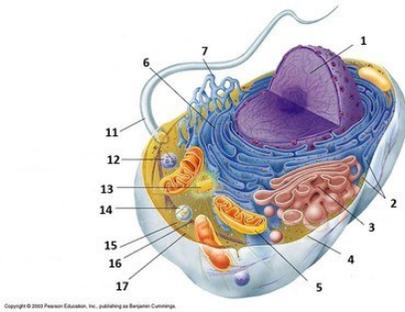
a) contain their own unique ribosomes that are different than the cells

b) contain their own unique DNA that are different than the cells

c) are specialized organelles that capture and release energy

d) are found in both in plants and animals

7.

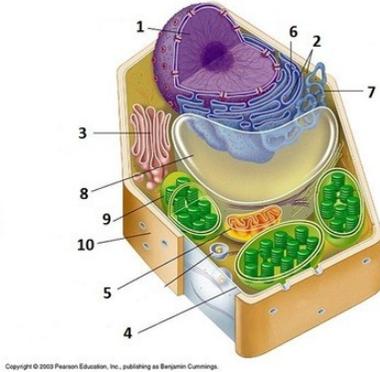


What is the structure labeled #1?

- a) Chloroplast
- c) Cell Membrane

- b) Nucleus
- d) Mitochondria

8.

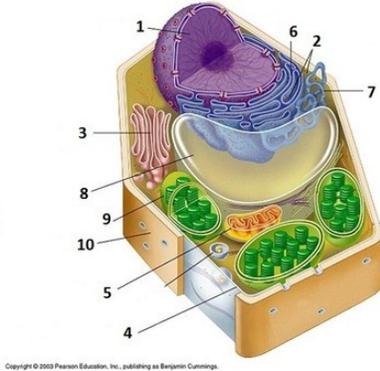


What is the structure labeled #5?

- a) Vacuole
- c) Mitochondria

- b) Chloroplast
- d) Lysosome

9.

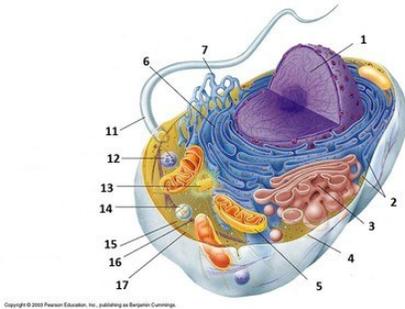


What is the structure labeled #9?

- a) Cell Wall
- c) Chloroplast

- b) Cytoplasm
- d) Mitochondria

10.

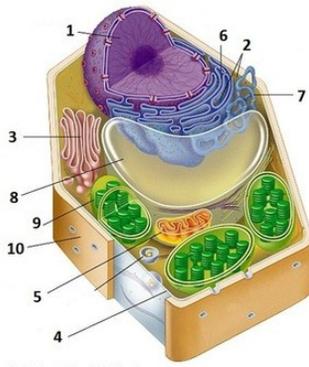


What is the structure labeled #6?

- a) Smooth ER
- c) Nucleus

- b) Golgi Body
- d) Rough ER

11.

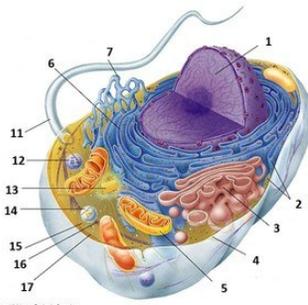


What is the structure labeled #8?

- a) Vacuole
- c) Nucleus

- b) Golgi body
- d) Lysosome

12.

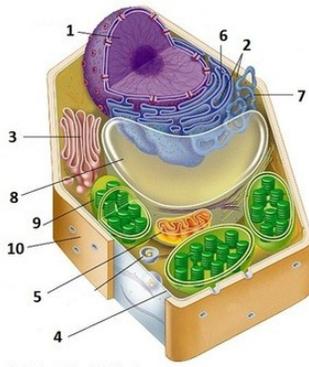


What is the structure labeled #4?

- a) Vacuole
- c) Cytoplasm

- b) Cell wall
- d) Cell membrane

13.

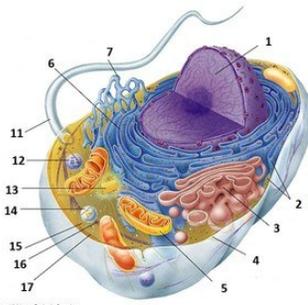


What is the structure labeled #7?

- a) Rough ER
- c) Golgi body

- b) Smooth ER
- d) Flagella

14.

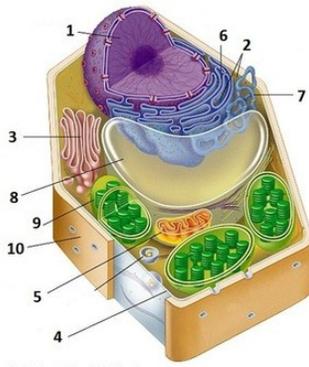


What is the structure labeled #2?

- a) Lysosome
- c) Ribosome

- b) Vesicle
- d) Mitochondria

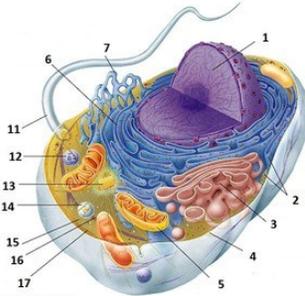
15.



What is the structure labeled #10?

- a) Cell membrane
- b) Cell wall
- c) Cytoplasm
- d) Centriole

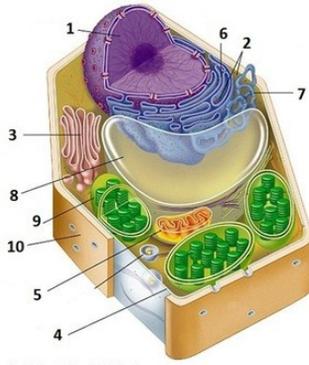
16.



What is the structure labeled #13?

- a) Centrioles
- b) Cytoplasm
- c) Lysosome
- d) Mitochondria

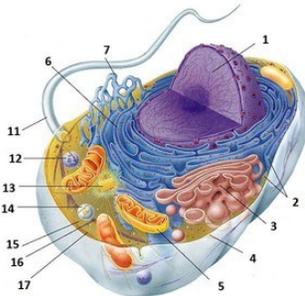
17.



What is the function of the chloroplast?

- a) site of digestive enzymes
- b) site of ATP (energy) production
- c) site of photosynthesis
- d) site of protein production

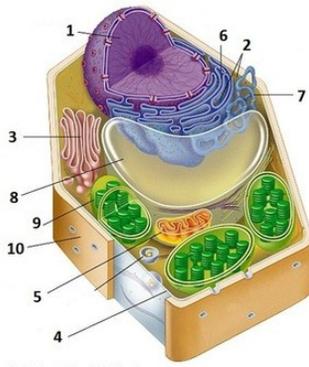
18.



What is the function of the lysosome?

- a) site of digestive enzymes
- b) site of ATP (energy) production
- c) site of photosynthesis
- d) site of protein production

19.

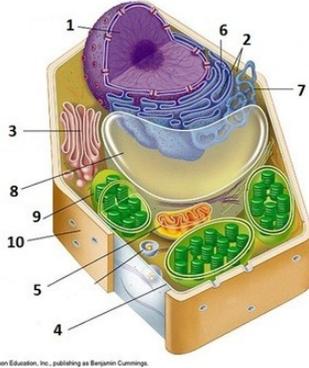


What is the function of the mitochondria?

- a) site of digestive enzymes
- c) site of photosynthesis

- b) site of ATP (energy) production
- d) site of protein production

20.

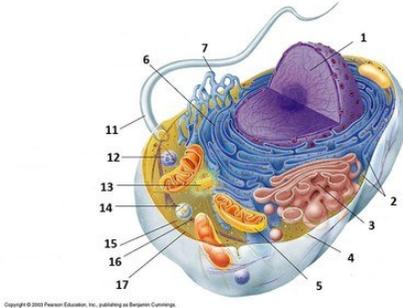


What is the function of the mitochondria?

- a) site of digestive enzymes
- c) site of photosynthesis

- b) site of ATP (energy) production
- d) site of protein production

21.

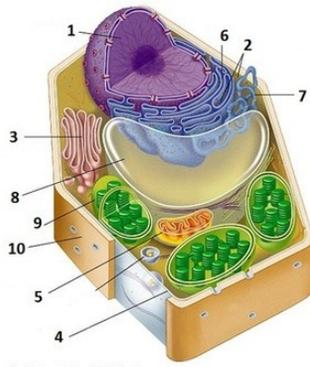


What is the function of the ribosome?

- a) site of digestive enzymes
- c) site of photosynthesis

- b) site of ATP (energy) production
- d) site of protein production

22.



What is the function of the cell membrane?

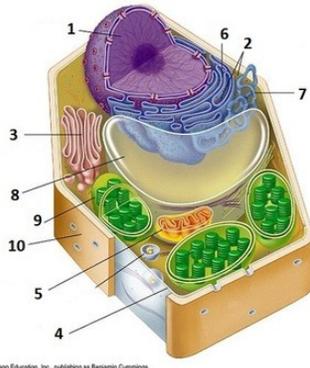
a) to control the activities within the cell

b) to package and ship cellular materials

c) to store water and nutrients

d) to control the materials that pass into and out of the cell

23.



What is the function of the vacuole?

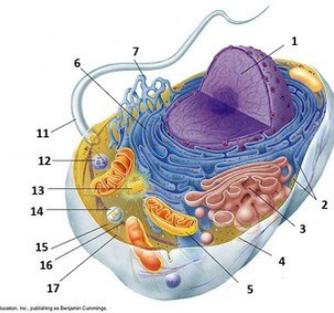
a) to control the activities within the cell

b) to package and ship cellular materials

c) to store water and nutrients

d) to control the materials that pass into and out of the cell

24.



What is the function of the nucleus?

a) to control the activities within the cell

b) to package and ship cellular materials

c) to store water and nutrients

d) to control the materials that pass into and out of the cell

25. suspends organelles in the cell

a) cytoplasm

b) cell membrane

c) cell wall

d) ribosomes

26. surrounds the cell; controls what enters/leaves cell; maintains homeostasis

a) vacuole

b) cell wall

c) cell membrane

d) lysosome

27. control the cell's activities; contains the cell's DNA

a) mitochondria

b) cell membrane

c) nucleus

d) golgi body

28. breaks down food to release energy

a) nucleus

b) lysosomes

c) mitochondria

d) vacuole

29. moves substances within a cell (pipe like structures)

a) endoplasmic reticulum

b) nucleus

c) cytoplasm

d) vacuole

30. makes proteins

a) nucleus

b) ribosomes

c) lysosomes

d) vacuole

31. changes and packages cell products

a) nucleus

b) cell wall

c) vacuole

d) golgi body

32. contains enzymes (proteins that speed up digestion and chemical reactions)

a) lysosome

b) ribosome

c) nucleus

d) golgi body

33. holds materials like water and is very large in a plant cell

a) nucleus

b) golgi body

c) chloroplast

d) vacuole

34. What structure is in plant cells but not animal cells?

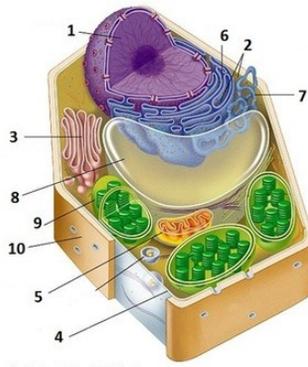
a) Cell Membrane

b) Mitochondria

c) Cell Wall

d) Vacuole

35.



What is the function of the chloroplast?

- a) site of digestive enzymes
- b) site of ATP (energy) production
- c) site of photosynthesis
- d) site of protein production

36. Which of the following organisms do not have cell walls?

- a) plants
- b) fungi
- c) bacteria
- d) animals

37. An example of a prokaryotic cell is a \_\_\_\_\_ cell.

- a) **plant**
- b) fungi
- c) **bacteria**
- d) **animal**

38. Which organelle prepares proteins into vesicles to transport from one area of a cell to another?

- a) golgi apparatus
- b) chloroplasts
- c) rough ER
- d) mitochondrion

39.



I am a protein packaging and shipping machine! Who am I?

- a) vacuole
- b) ribosome
- c) mitochondrion
- d) golgi apparatus



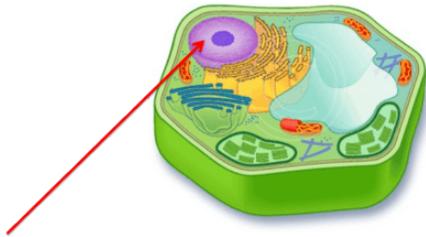
48. Choose all parts that BOTH prokaryotic and eukaryotic cells have.

- a) cell membrane
- b) cytoplasm
- c) nucleus
- d) ribosomes
- e) gel-like capsule

49. Which organelle is like the warehouse because it stores materials?

- a) vacuole
- b) endoplasmic reticulum
- c) golgi apparatus
- d) lysosomes

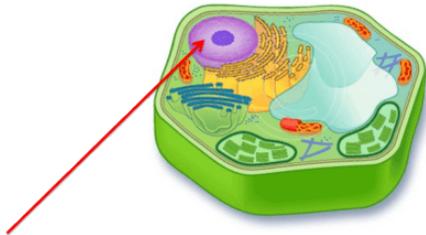
50.



What is this structure?

- a) Mitochondria
- b) Nucleus
- c) Chloroplast
- d) Vacuole

51.



What is the function of this structure?

- a) Breaks down glucose to make usable energy (ATP)
- b) Does photosynthesis to make glucose
- c) Controls what goes in and out of the cell
- d) Stores DNA and directs the cell's processes

52. control the cell's activities; contains the cell's DNA

- a) mitochondria
- b) cell membrane
- c) nucleus
- d) golgi body

53. breaks down glucose to release energy for the cell

- a) nucleus
- b) lysosomes
- c) mitochondria
- d) vacuole

54. What is the cell organelle that stores water, food and waste called?

- a) The cytoplasm
- b) The lysosomes
- c) The vacuole
- d) The mitochondria

55. What is the main difference between prokaryotic and eukaryotic cells?

- a) Prokaryotic cells have a nucleus and Eukaryotic cells do not
- b) Prokaryotic cells are unicellular and Eukaryotic cells are multicellular.
- c) Prokaryotic cells do not have a nucleus, Eukaryotic cells do have a nucleus.
- d) Prokaryotic cells are plant cells and Eukaryotic cells are animal cells.

56. The cytoplasm

- a) Is the gel-like fluid that holds other organelles in place.
- b) Breaks down food to produce energy for the cell.
- c) Is known as the "brain" of the cell.
- d) Is where photosynthesis takes place.

57. Ribosomes are the cell organelle that

- a) Break down food to produce energy for the cell.
- b) Produce proteins for the cell.
- c) Break down broken cell parts.
- d) Make food for the cell using the sun's energy.

58. Organisms composed of many cells are called

- a) Prokaryotic
- b) Eukaryotic
- c) Unicellular
- d) Multicellular

59. Plant and animal cells are identical.

- a) True
- b) False

60. What is the correct order of organization

- a) tissues-cells-organs-organ systems-organism
- b) cell-tissue-organs-organ systems-organism
- c) organism-cells-tissues-organ systems-organism
- d) tissues-cells-organs-organ systems-organism