



Animal Cells: Teacher-Led Lesson Plan

Subject/Strand/Topic: Science / Biology / Reproduction	Grade / Courses 9 / SNC1P/D	Ontario Expectations: BY1.01(P), BY1.02(D)
Key Concepts: animal cells, cell structures, cell functions		
Link: http://www.wisc-online.com/objects/index_tj.asp?objID=AP11403		
Required Materials: <input type="checkbox"/> Pre-Assessment/Answer Key, <input type="checkbox"/> Teacher-Led Handout, <input type="checkbox"/> Teacher-Led Handout Answer Key, <input type="checkbox"/> Post-Assessment/Answer Key & Data Projector		
Before Starting: <ol style="list-style-type: none">1. Students should be familiar with what cells are and some basic organelles and their function.2. Practice using learning object prior to lesson.		
Introduction (~ 10 minutes including pre-assessment) <ol style="list-style-type: none">1. Distribute the pre-assessment to each student; collect when complete (5 min).2. Put students in groups of 2 - 3 for the lesson.3. Introduce learning object to class. Have students brainstorm cell structures; record on board. Draw the outline of a cell on board. In their groups, have students come to board draw a structure and state the function.		
Use of Learning Object with Handout (~ 15 - 20 minutes) <ol style="list-style-type: none">1. Distribute handout and explain organization.2. Students complete handout as teacher uses learning object and discusses content.3. Part 1 of student handout:<ol style="list-style-type: none">a. Go to Screen 2. Ask students to pick an organelle and guess what part of the cell is.b. Show the correct answer. Discuss function of organelle highlighting important aspects you want students to know. Remind students to record the information needed for Question 1.c. Repeat for all organelles you wish to cover.d. Give students 3-5 minutes to complete Question 2.4. Part 2 of student handout:<ol style="list-style-type: none">a. Go to Screen 3. Organelles will come up in random order. You may wish to skip organelles you did not cover in Part 1.b. In their groups, have students guess and record the name of each organelle. NOTE: You will also need to record the names and order of the organelles for taking up/marking later.c. Take up Part 2. Have students mark this section.		
Tips and Tricks <ul style="list-style-type: none">▪ Have students use the computer to investigate a few of the organelles for the class.▪ Some organelles and function descriptions are advanced. Don't read the descriptions of the organelles directly off the screen, tailor the descriptions to suit your class.▪ Focus on the visual aspect of the learning object.▪ Turn Part 2 into a game where the group with the most number of correct organelles wins.		
Consolidation (~ 10 minutes including post-assessment) <ol style="list-style-type: none">1. When learning object/handout complete, distribute the Post-Assessment; collect (5 minutes).2. Think-Pair-Share: Introduce the idea that a cell is like a factory. Ask students to describe how a cell is like a factory, using the correct name of the organelles. (nucleus – the boss with plans for company, nuclear membrane – boss' office, ribosomes – make the product, endoplasmic reticulum – moves the product along the conveyer belt, golgi apparatus – trucks that take the product away, cell membrane – walls of factory, etc.)3. Collect handout as ticket-out-the-door.		



Animal Cells

Teacher-Led Lesson Pre-Assessment

Name: _____

Birthday: _____

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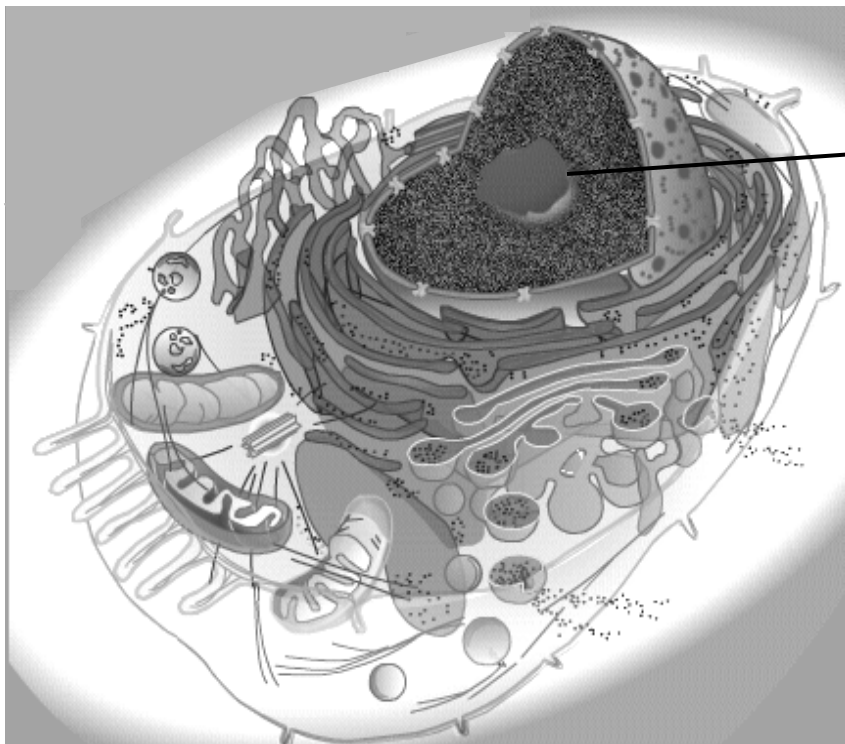
1. What is the function of the mitochondrion? [1 mark]

2. What is the function of the ribosome? [1 mark]

3. Which of the following is NOT in an animal cell? [1 mark]

- A. Centrioles
- B. Chloroplast
- C. Nucleus
- D. Ribosomes

4. Use a line show where each cell structure is on the diagram. The first one has been done for you. [2 marks]



A. Nucleolus

B. Centriole

C. Mitochondrion



Animal Cells

Teacher-Led Lesson Pre-Assessment

Name: _____

Birthday: _____

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Answer Key

1. **What is the function of the mitochondrion?** [1 mark]

It is where energy is produced in the cell.

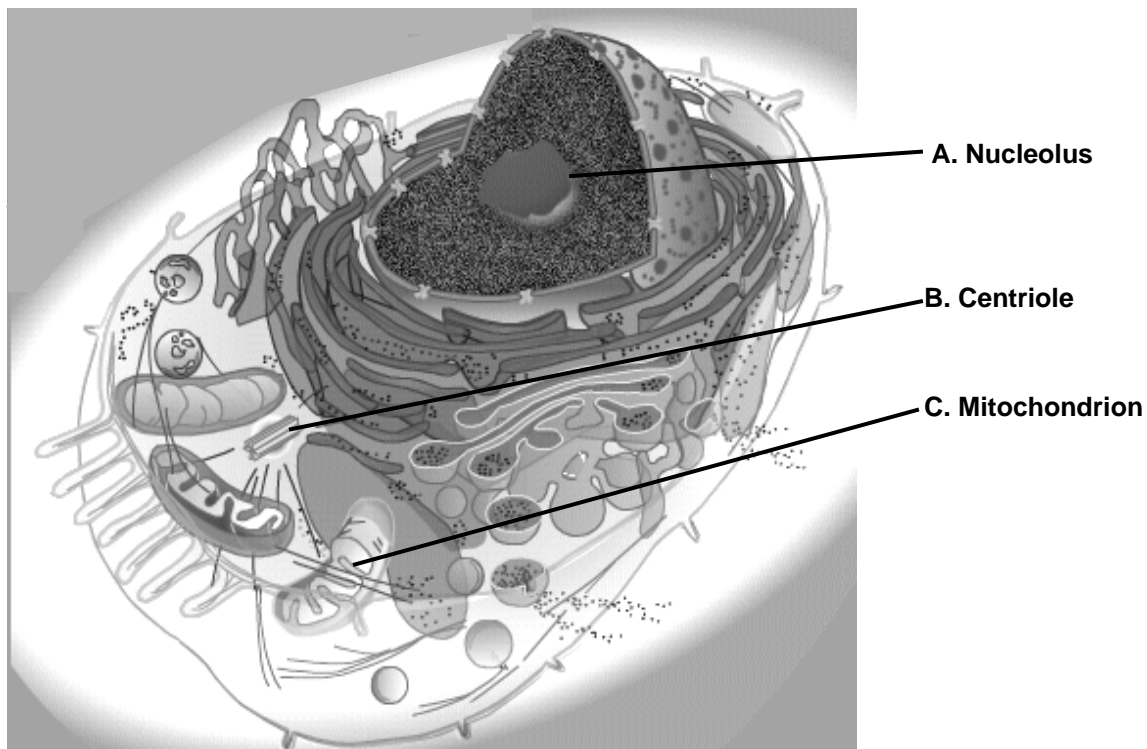
2. **What is the function of the ribosome?** [1 mark]

Ribosomes are responsible for protein synthesis

3. **Which of the following is NOT in an animal cell?** [1 mark]

- A. Centrioles
- B. Chloroplast
- C. Nucleus
- D. Ribosomes

4. **Use a line show where each cell structure is on the diagram. The first one has been done for you.**
[2 marks]





Animal Cells

Teacher-Led Lesson Handout

Name: _____

Date: _____

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Part 1: Cell Organelles and Functions [19 marks]

1. Complete the following chart as your teacher goes through the learning object. [11 marks]

	Cell Organelle	Function
1	Centrioles	
2	Chromatin	
3	Endoplasmic reticulum	
4	Golgi apparatus	
5	Lysosome	
6	Mitochondrion	
7	Nuclear envelope	
8	Nucleolus	
9	Nucleus	
10	Plasma (Cell) membrane	
11	Ribosomes	



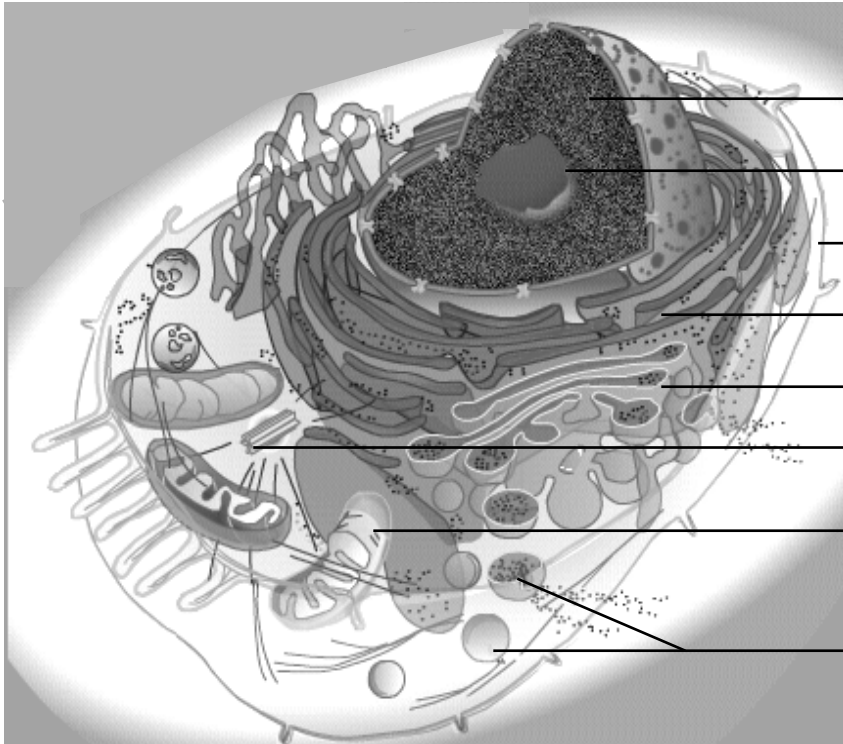
Animal Cells

Teacher-Led Lesson Handout

Name: _____

Date: _____

2. Label the following diagram. Use what you learned in Question 1 to help you. [8 marks]



- A. _____
- B. _____
- C. _____
- D. _____
- E. _____
- F. _____
- G. _____
- H. _____

Part 2: Guess the organelle?

[10 marks]

3. Your teacher will show a picture and description of each organelle. Record name of each of each organelle. [10 marks]

Name of Organelle	Name of Organelle
1	6
2	7
3	8
4	9
5	10



Animal Cells

Teacher-Led Lesson Handout Answer Key

Name: Teacher Answer Key

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Part 1: Cell Organelles and Functions

[19 marks]

1. Complete the following chart as your teacher goes through the learning object. [11 marks]
Suggested answers are given, though they may vary with the level of detail you want your class to know.

	Cell Organelle	Function
1	Centrioles	Only in animal cells and are important during cell division.
2	Chromatin	Long strands of DNA scattered through the cell's nucleus.
3	Endoplasmic reticulum	Folded membrane that forms a system of canals that transport materials in the cell
4	Golgi apparatus	Packages and moves materials out of the cell.
5	Lysosome	Breaks down food and digests wastes and old cell parts.
6	Mitochondrion	Where energy is produced in the cell.
7	Nuclear envelope	The membrane that contains the nucleus.
8	Nucleolus	A darker, condensed part of the nucleus that makes the ribosomes.
9	Nucleus	The 'control centre' of the cell that contains the DNA and nucleolus.
10	Plasma (Cell) membrane	A selectively permeable membrane that encloses the cell contents.
11	Ribosomes	Manufacture the proteins in the cell (protein synthesis)

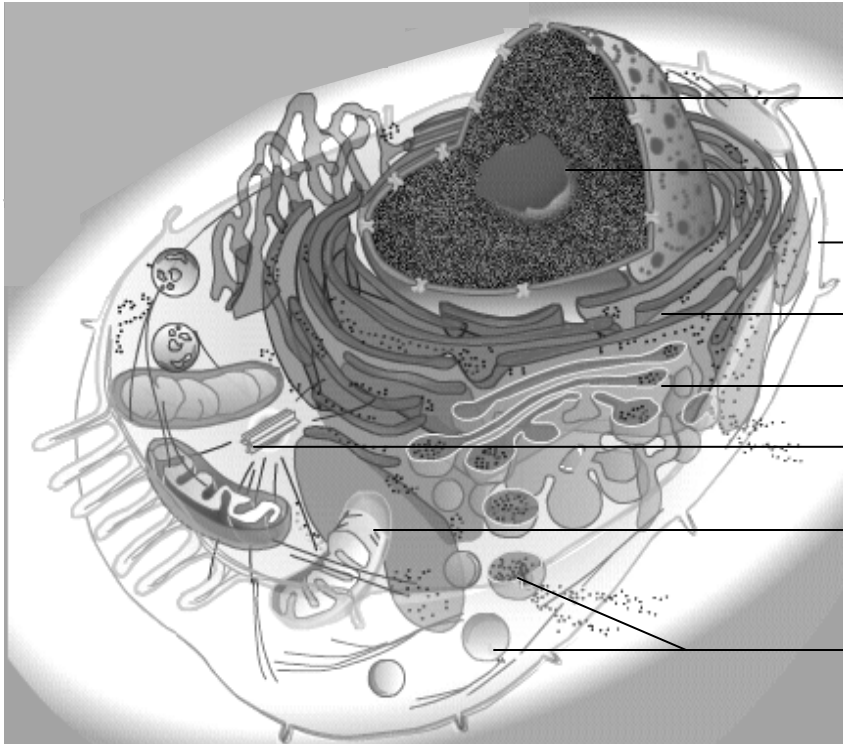


Animal Cells

Teacher-Led Lesson Handout Answer Key

Name: Teacher Answer Key

2. Label the following diagram. Use what you learned in Question 1 to help you. [8 marks]



A. Chromatin

B. Nucleolus

C. Plasma (cell) membrane

D. Endoplasmic reticulum

E. Golgi apparatus

F. Centrioles

G. Mitochondrion

H. Lysosome

Part 2: What did you learn?

[10 marks]

3. Your teacher will show a picture and description of each organelle. Record name of each of each organelle. [10 marks]

Answers will vary because the order of the organelles is random. Keep track of the order the organelles on your own sheet for marking or taking up this activity.

Name of Organelle	Name of Organelle
1	6
2	7
3	8
4	9
5	10



Animal Cells

Teacher-Led Lesson Post-Assessment

Name: _____

Birthday: _____

5

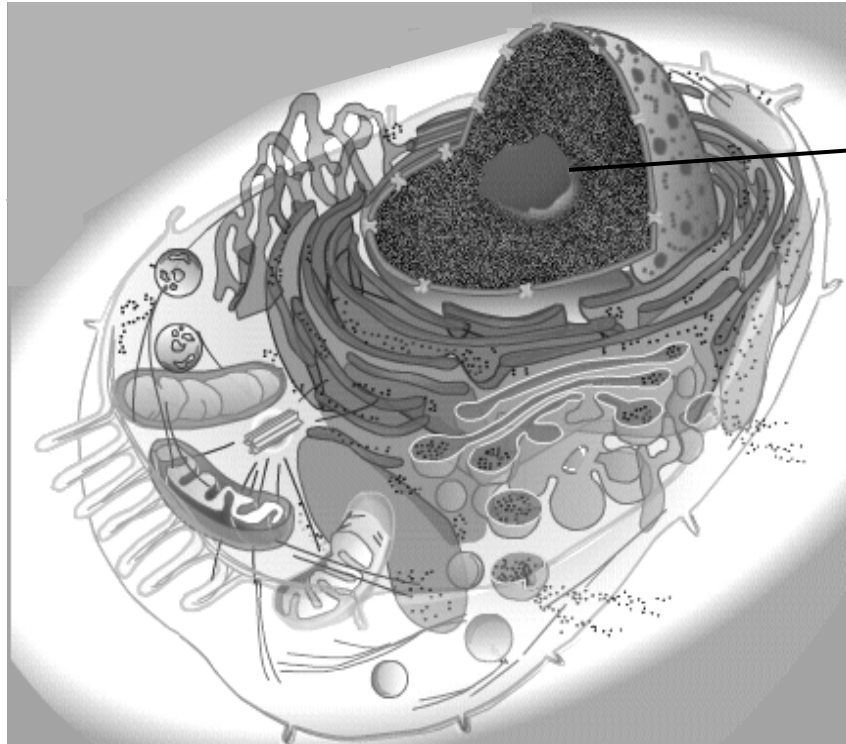
1. Which of the following is NOT in an animal cell? [1 mark]

- i. Centrioles
- ii. Chloroplast
- iii. Nucleus
- iv. Ribosomes

2. What is the function of the ribosome? [1 mark]

3. What is the function of the mitochondrion? [1 mark]

4. Use a line show where each cell structure is on the diagram. The first one has been done for you. [2 marks]



A. Nucleolus

B. Mitochondrion

C. Centriole



Animal Cells
Teacher-Led Lesson Post-Assessment

Name: _____

Birthday: _____

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Answer Key

1. Which of the following is NOT in an animal cell? [1 mark]

- i. Centrioles
- ii. Chloroplast
- iii. Nucleus
- iv. Ribosomes

2. What is the function of the ribosome? [1 mark]

Ribosomes are responsible for protein synthesis

3. What is the function of the mitochondrion? [1 mark]

It is where energy is produced in the cell.

4. Use a line show where each cell structure is on the diagram. The first one has been done for you. [2 marks]

