

## Cells: The Inside Story – Scoring Sheet

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

Place a score (1-4) in each row corresponding to the student's college readiness level.

**Exceeding College Ready (4):** Substantially exceeds the performance expectations**College Ready (3):** Shows proficiency in all of the performance expectations**Approaching College Ready (2):** Meets only some of the performance expectations**Initiating College Ready (1):** Does not yet meet the performance expectations

KEY COGNITIVE SKILLS	Student's Self-Assessment	Instructor's Score
<b>Intellectual Curiosity</b> (engages in scholarly inquiry and dialogue)		
<b>Reasoning</b> (constructs well-reasoned arguments to explain phenomena, validate conjectures, or support positions)		
<b>Academic Behaviors</b> (self-monitors learning needs and seeks assistance when needed; uses good study habits; strives for accuracy and precision; perseveres to complete and master tasks)		
<b>Work Habits</b> (works independently; works collaboratively)		
<b>Academic Integrity</b> (attributes ideas and info to sources; understands and adheres to ethical codes of conduct)		
FOUNDATIONAL SKILLS	Student's Self-Assessment	Instructor's Score
<b>Reading Across the Curriculum</b> (identifies the key information and supporting details)		
<b>Writing Across the Curriculum</b> (writes clearly and coherently using standard writing conventions; writes in a variety of forms for various audiences and purposes)		
<b>Research Across the Curriculum</b> (synthesizes and organizes information effectively; designs and presents an effective product; integrates source material; present final product)		
<b>Technology</b> (uses technology to gather information; uses technology to communicate and display findings in a clear and coherent manner)		
SCIENCE STANDARDS	Student's Self-Assessment	Instructor's Score
<b>Nature of Science: Scientific Ways of Learning and Thinking</b> (exercises cognitive skills in science; demonstrates literacy in current scientific technology; effectively communicates scientific information)		
<b>Foundational Skills: Scientific Applications of Communication</b> (demonstrates appropriate reading and writing practices for science; presents scientific information accurately; demonstrates research literacy)		
<b>Biology</b> (identifies and describes accurately the structure and function of major subcellular organelles)		

**See reverse for  
comments.**

Score	College Readiness Level
42-48	Exceeding College Ready
35-41	College Ready
18-34	Approaching College Ready
0-17	Initiating College Ready

Total Score: \_\_\_\_\_

Grade: \_\_\_\_\_

See Scoring Guide for grade conversion chart.

## Cells: The Inside Story – Scoring Guide

*Note: The letters and numbers of the skills below refer to their designation in the College and Career Readiness Standards.*

### KEY COGNITIVE SKILLS

#### A. Intellectual Curiosity

##### 1. Engage in scholarly inquiry and dialogue.

*College Ready Description:* Student engages fellow classmates in discussion, correcting their misconceptions as well as considering their reasoning and arguments. Student attempts to answer questions informally posed by the instructor.

*Evidence for Scoring:* Student follows an experimental procedure carefully and methodically and demonstrates an understanding of experimental design by validating conclusions and comparing hypotheses to results obtained.

#### B. Reasoning

##### 2. Construct well-reasoned arguments to explain phenomena, validate conjectures, or support positions.

*College Ready Description:* Student effectively describes a role for each organelle within the analogous system chosen.

*Evidence for Scoring:* Student's presentation draws an analogy between the mitochondrion and a power conversion element in the analogous system, describing the forms of energy input and output in each.

#### D. Academic Behaviors

##### 1. Self-monitor learning needs and seek assistance when needed.

*College Ready Description:* Student keeps a mindful eye on his or her integration of knowledge as it progresses and is able to ask fellow students and the instructor for help.

*Evidence for Scoring:* Student is comfortable admitting he or she does not know an answer and is willing to re-examine the material to relearn.

##### 2. Use study habits necessary to manage academic pursuits and requirements.

*College Ready Description:* Student looks over the material he or she needs to incorporate and tries to come up with a logical approach to complete the task in the allotted time.

*Evidence for Scoring:* Student designs a timeline for completing the activity in which milestones are reasonable and roughly evenly distributed throughout the assignment period.

##### 3. Strive for accuracy and precision.

*College Ready Description:* Student accurately and precisely describes the structure of the organelles. Student accurately and precisely describes the functions of the organelles.

*Evidence for Scoring:* Student's presentation and narrative describe the structure of the Golgi apparatus as a stack of membrane-enclosed cisternae with different functions depending on their location in the

stack. Student's presentation and narrative describe function of the Golgi apparatus in transporting and modifying proteins and lipids to locations within the cell or for secretion from the cell.

#### 4. Persevere to complete and master tasks.

*College Ready Description:* Student submits a final work product that reflects a thorough understanding of the topic and meets all requirements of the assignment.

*Evidence for Scoring:* Student presents each of the six organelles thoroughly in both the presentation and narrative.

### E. Work Habits

#### 1. Work independently.

*College Ready Description:* Student can work through the problems by themselves.

*Evidence for Scoring:* Student does not wait until the group work to start thinking about the activity.

#### 2. Work collaboratively.

*College Ready Description:* Students actively and equally work together on the problem at hand. Students recognize different people have different skills and knowledge and try to use the best everyone has for the betterment of the group.

*Evidence for Scoring:* One student does not do all the work while the other students just sit passively.

### F. Academic Integrity

#### 1. Attribute ideas and information to source materials and people.

*College Ready Description:* Student adequately documents the work of others and uses standard bibliographic and reference formats.

*Evidence for Scoring:* Student's citations for facts are correctly formatted and are correctly associated with the relevant text.

#### 4. Understand and adhere to ethical codes of conduct.

*College Ready Description:* Student adequately documents the work of others.

*Evidence for Scoring:* Student's photographs and figures are public domain and attributed.

## FOUNDATIONAL SKILLS

### A. Reading Across the Curriculum

#### 4. Identify the key information and supporting details.

*College Ready Description:* Student thoroughly summarizes the major points of organelle structure and function and uses the analogy to further clarify them.

*Evidence for Scoring:* Student covers the full diversity of functions of each organelle in the presentation and narrative.

## B. Writing Across the Curriculum

### 1. Write clearly and coherently using standard writing conventions.

*College Ready Description:* Student introduces a simple analogy that is then supported by detailed examples that refer to specific elements of organelle structure and function. Student uses proper citation conventions, grammar, mechanics, punctuation, and spelling.

*Evidence for Scoring:* Student's narrative begins by pointing out that the analogous system has parts with specialized functions just as the cell has parts with specialized functions.

### 2. Write in a variety of forms for various audiences and purposes.

*College Ready Description:* Student is able to adapt the same material into two formats with differing strengths and constraints.

*Evidence for Scoring:* Student's presentation contains concise statements, formatted for instantaneous comprehension, and the narrative contains information in full, well-structured sentences.

## C. Research Across the Curriculum

### 5. Synthesize and organize information effectively.

*College Ready Description:* Student effectively combines the information on function with the chosen analogy and organizes the presentation of information.

*Evidence for Scoring:* Student's slides in the presentation share a common format that facilitates the viewers' comprehension.

### 6. Design and present an effective product.

*College Ready Description:* Student prepares and delivers an engaging presentation that clearly communicates the major and minor points of structure and function of organelles.

*Evidence for Scoring:* Student's descriptions are key ideas that can be elaborated on orally and are introduced with an informative and engaging title.

### 7. Integrate source material.

*College Ready Description:* Student effectively integrates source materials into text by accurately summarizing, paraphrasing, and quoting. Student effectively balances the use of source materials with relevant explanations.

*Evidence for Scoring:* Student's descriptions of each organelle's functions in the narrative are written accurately in the student's own words. Student's explanation of an organelle's function includes an explanation of the wider function of the cell.

### 8. Present final product.

*College Ready Description:* Student prepares and presents scientific/technical information in appropriate formats for various audiences.

*Evidence for Scoring:* Student's analogy is well-developed and appropriate, and these characteristics are evident in the presentation.

## E. Technology

### 1. Use technology to gather information.

*College Ready Description:* Student uses appropriate methods to collect necessary information.

*Evidence for Scoring:* Student finds information from reliable website sources, such as those at .gov or .edu domains, or from reliable sources identified in library databases.

### 3. Use technology to communicate and display findings in a clear and coherent manner.

*College Ready Description:* Student uses technology to effectively present information graphically, textually, and orally.

*Evidence for Scoring:* Student’s slides provide a clearly organized scaffold for a detailed oral presentation of the facts about organelle function.

## SCIENCE STANDARDS

### I. Nature of Science: Scientific Ways of Learning and Thinking

#### A.2. Cognitive skills in science.

*College Ready Description:* Student uses creativity and insight to recognize and describe patterns in natural phenomena.

*Evidence for Scoring:* Student thinks logically through all the steps of the process of creating a complete and effective analogy. Student asks questions such as “What if we change this?” and follows through to see how different changes in parts of the analogy affect the overall quality of the representation.

#### D.1. Current scientific technology.

*College Ready Description:* Student demonstrates literacy in computer use.

*Evidence for Scoring:* Student is able to find appropriate reference material and illustrative diagrams using internet resources.

#### E.1, 2. Effective communication of scientific information.

*College Ready Description:* Student uses several modes of expression to describe or characterize natural patterns and phenomena; these models of expression include narrative, numerical, graphical, pictorial, symbolic, and kinesthetic. Student uses essential vocabulary of the discipline being studied.

*Evidence for Scoring:* Student selects an analogy that appropriately illustrates the roles of subcellular organelles and effectively explains that analogy to the class.

### III. Foundational Skills: Scientific Applications of Communication

#### A.1. Scientific writing.

*College Ready Description:* Student uses correct applications of writing practices in scientific communication.

*Evidence for Scoring:* Student produces a summary of information about 12 organelles to inform the reader about their function within the cell.

**B.3. Scientific reading.**

*College Ready Description:* Student recognizes scientific and technical vocabulary in the field of study and uses this vocabulary to enhance clarity of communication.

*Evidence for Scoring:* Student appropriately incorporates the proper terminology used to describe the structure and function of subcellular organelles.

**C.1. Presentation of scientific/technical information**

*College Ready Description:* Student prepares and presents scientific/technical information in appropriate formats for various audiences.

*Evidence for Scoring:* Student presents the analogy for organelle function within the cell to the class, focusing on the technical accuracy and appropriateness of the analogy.

**D.1. Research skills/information literacy.**

*College Ready Description:* Student uses search engines, databases, and other digital electronic tools effectively to locate information.

*Evidence for Scoring:* Student is able to find appropriate reference material and illustrative diagrams using internet resources.

**VI. Biology****A.3. Structure and function of cells.**

*College Ready Description:* Student accurately and precisely describes the structure and function of major subcellular organelles.

*Evidence for Scoring:* Student's presentation and narrative describe the structure of the Golgi apparatus as a stack of membrane-enclosed cisternae with different functions depending on their location in the stack.

## Cells: The Inside Story – Scoring Instructions

Place a score (1-4) in each row of the scoring sheet corresponding to the student's college readiness level.

**Exceeding College Ready (4):** Substantially exceeds the performance expectations

**College Ready (3):** Shows proficiency in all of the performance expectations

**Approaching College Ready (2):** Meets only some of the performance expectations

**Initiating College Ready (1):** Does not yet meet the performance expectations

Suggested Grade Conversion:

This chart reflects equal weight given to each skill. As key cognitive skills, foundational skills, and discipline content knowledge are all important elements of college readiness, we recommend this grading approach. However, you may certainly choose to implement different weights to particular scales and assign a grade at your discretion.

Score	Grade		Score	Grade		Score	Grade		Score	Grade
48	100		39	89		30	80		21	73
47	99.5		38	87		29	79.5		20	72
46	99		37	86		28	79		19	71
45	98		36	85		27	78.5		18	70
44	97		35	84.5		26	78		17	68
43	96		34	84		25	77		16	66
42	95		33	83		24	76		15	64
41	93		32	82		23	75		14	62
40	91		31	81		22	74		13	60