

# Biology Final Exam Review Board Game Project

**Due Monday, June 17, 2014**

**Design your own board game. Game Theme: All Biology Topics We Covered**



**TASK:** You will create a card game or board game that relates to all of the topics we have covered in biology class this year. You will need to make the questions, game board, cards, and playing pieces.

**NOTE:** You may work alone or work in a small group. You **CANNOT** have more than 4 people in your group. All group members must contribute *equally* to the project.

## **REQUIREMENTS:**

- Your game must be based on all the topics we have covered this year. Please see the "Question Requirements" section below.
- Your game should involve a minimum of 4 players
- You must hand in:
  - **Game packaged** in a creative box (Must include all materials, any game boards, game pieces, and game cards)
  - **Instructional Booklet** on how to play the game. This booklet must include:
    - A title
    - Objective for the game (how is the winner determined)
    - Purpose of the game: explaining how the game helps to either test a player's knowledge or helps a player learn more about a topic
    - List of materials provided as part of the game
    - List any materials that are needed that are not provided
    - Step-by-step instructions on how the game is played
  - **One page flyer** advertising the game (must have picture or drawing of game)

## QUESTION REQUIREMENTS:

1. Topics covered should be varied so you should have a minimum of **two questions** per topic:
  - Experimental Design
  - Cell Structure
  - Evolution and Natural Selection
  - Osmosis
  - Homeostasis
  - Cell Transport
  - Asexual and Sexual Reproduction
  - Protein Synthesis
  - DNA
  - Cellular Respiration
  - Photosynthesis
  - Symbiotic Relationships (Mutualism, Commensalism, Predator-Prey, etc.)
  - Biodiversity
  - Genetic Engineering
  - Meiosis
  - Mitosis
  - Food Web/Energy Flow
  - Mutations
2. AVOID "low level" questions when possible. You will also be graded on the level of difficulty of your questions. Incorporate as many application questions as you can. Think like benchmark test writer.

## SUGGESTION:

- Start simply by trying to adapt a game you currently enjoy

### Examples of board games:

- Monopoly
- Chutes & Ladders
- Game of Life
- Clue

### Examples of card games:

- War
- Goldfish
- Taboo

- Think about how someone would win the game: What would they need to do to be a winner? When will they know when they have won or lost? (Different points in the game, the very end)
- Design a first draft for how you think the game will work and what it will look like.
- You need to see how well the rules hang together. Are there contradictory rules? Do situations arise that aren't covered by the rules at all? You may find that you have to adapt your rules to make playing the game more fun (or shorter! or understandable!) Or tweak the whole game slightly.

### **For board games:**

- You can use the old boards as a cardboard base - and customize the playing pieces. Your game pieces could also include old game pieces, marbles or money and again these will need designing.
- The board could be hand-drawn - or use graphics, photographs and clip art to get the effects you want. Don't forget that you could use 3D models on your board for a striking effect. This website has some free game templates that you could use. You will probably have to print out elements of the board separately and tape them together if you are using a large board:  
<http://donnayoung.org/homeschooling/games/game-boards.htm>
- If designing your game board, be sure to have a variety of spaces such as regular spaces, pick a card spaces, move ahead/move back/lose a turn spaces. Also, have a start space and finish space.

### **For card games:**

- For games using cards, we have found it best to use an old pack of playing cards and glue new designs/information onto them. But stick these down well or they will be difficult to shuffle?

# Grading Rubric: Board Game or Card Game

**Game Evaluator (YOUR NAME):**

\_\_\_\_\_

**Person(s) being evaluated**

\_\_\_\_\_

**Name of Game being evaluated:**

**NOTE:** You will fill one of these out to evaluate yourself as well as evaluate the game you are playing. Please take this seriously as how you rate impacts your grade and the person you are rating.

**Criterion 1: The rules are written clearly and in a logical order so anyone can play the game.**

5 points	4 points	3 points	2 points	1 point
Directions make it perfectly clear how to play game. They are written or typed neatly and contain 0-1 grammatical errors.	Directions are typed but have 2-3 grammatical errors. Directions somewhat unclear or missing 1 step.	There are more than 3 errors. Directions are unclear and 2-3 steps should be added to clarify.	Errors in grammar interfere with understanding of the directions. Much revision is needed.	Complete revision needed. Many steps are missing or incomplete and it is very difficult to understand how to play the game.

**Criterion 2: The game's essential design incorporates all required topics of biology.**

5 points	4 points	3 points	2 points	1 point
The purpose of the game relates directly to the theme and the format of the game related directly to the theme.	The purpose of the game closely relates to the theme and the format of the game somewhat relates to the theme	The purpose of the game partially relates to the theme, but the format of the game does not clearly relate to the theme.	The purpose and the format of the game only slightly relates to the theme.	It is unclear what the purpose and format of the game are from its appearance.

**Criterion 3: The game details demonstrate the creator's knowledge of the basics of biology.**

5 points	4 points	3 points	2 points	1 point
All information made for the game is correct, relates to theme, applied in an excellent playable way and demonstrates vast grasp of subject.	All information made for the game is correct, relates to theme, applied in a good way and demonstrates students grasp of the subject.	Most information made for the game is correct, relates to theme, applied in a playable way and demonstrates basic understanding of knowledge.	Some information made for the game is correct, somewhat relates to theme, applied in an unplayable way and demonstrates little grasp of subject matter.	Little information made for the game is correct, does not relate to theme, applied in an unplayable way and demonstrates little grasp of subject matter.

**Criterion 4: The game combines features of other games, includes some knowledge or strategy in addition to luck, and it fosters competition among the participants.**

5 points	4 points	3 points	2 points	1 point
The game combines at least 2 features of other games, includes knowledge or strategy, and creates competition among the participants.	The game combines at least 1 feature of other games, includes knowledge or strategy, and creates competition among the participants.	The game combines at least 1 feature of other games, missing some knowledge or strategy, and creates some competition among the participants.	The game combines at least 1 feature of other games, missing knowledge or strategy, and creates little competition among the participants.	The game combines no feature of other games, missing knowledge or strategy, and creates little to no competition among the participants.

**Criterion 5: Presentation and craftsmanship are neat, professional, and attractive.**

5 points	4 points	3 points	2 points	1 point
The game board, all game pieces, etc. is colorful, unique, neat, and has wonderful visual appeal.	The game board, all game pieces, and any other game related object is colorful, neat, and has some visual appeal.	The game board, and most of the game related pieces are colorful, neat and a mediocre appeal.	The game board and the game pieces are somewhat colorful, scattered design, and little to no appeal.	The game board and the game pieces are not colorful, scattered design, and little to no appeal.

**Criterion 6: Overall creativity.**

5 points	4 points	3 points	2 points	1 point
The group put a lot of thought and great strides into making the game interesting and fun to play as shown by creative design, game pieces and/or game objective.	The group put some thought and some effort into making the game interesting and fun to play as shown by creative design, game pieces and/or game objective.	The group tried to make the game interesting and fun, but some of the things made it harder to understand/enjoy the game.	Little thought was put into making the game interesting or fun but can understand to certain extent.	No thought was put into making the game interesting or fun and cannot understand at all.

**Criterion 7: Content and difficulty of questions and rules is appropriate**

5 points	4 points	3 points	2 points	1 point
Questions and rules are of an appropriate level—not too easy and not too difficult.	Rules of play are age appropriate but some questions are too easy or too difficult.	Game is a bit too simple for the grade level and some questions are too easy.	Game is very simple and most questions are too easily answered.	Game is not appropriate for the grade level and questions are too easy or too difficult.

**Criterion 8: The game teaches players about the all the topics we have covered in biology.**

5 points	4 points	3 points	2 points	1 point
Students playing could easily and correctly state several facts about the topic used for the game without looking at the game.	Students playing could easily and correctly state 5-10 facts about the topic used for the game without looking at the game.	Students playing could easily and correctly state 3-5 facts about the topic used for the game without looking at the game.	Students playing could easily and correctly state 1-3 facts about the topic used for the game without looking at the game.	Students could NOT correctly state facts about the topic used for the game without looking at the game

**Criterion 9: The instructional booklet includes all aspects that were required including:**

- A title;
- Objective for the game (how is the winner determined)
- Purpose of the game: explaining how the game helps to either test a player’s knowledge or helps a player learn more about a topic
- List of materials provided as part of the game
- List any materials that are needed that are not provided
- Step-by-step instructions on how the game is played

5 points	4 points	3 points	2 points	1 point
Booklet contains all elements listed above.	Booklet is missing one element listed above.	Booklet is missing 2 elements listed above.	Booklet is missing 3 elements listed above.	Booklet is missing more than 3 elements listed above.

**Criterion 10: The game created includes all aspects that were required including:**

- Your game should involve a minimum of 4 players
- Game packaged in a creative box (Must include all materials, any game boards, game pieces, and game cards)
- Game involves questions
- Instructional Booklet on how to play the game. This booklet must include:
- One page flyer advertising the game (must have picture or drawing of game)

<b>5 points</b> Game contains all elements listed above.	<b>4 points</b> Game is missing one element listed above.	<b>3 points</b> Game is missing 2 elements listed above.	<b>2 points</b> Game is missing 3 elements listed above.	<b>1 point</b> Game is missing more than 3 elements listed above.
---	--	---	---	--

**COMMENTS TO CREATOR:**

**Final Score:** \_\_\_\_\_ / 50

## Grading Rubric: Board Game or Card Game

**Person(s) being evaluated**

---

**Name of Game being evaluated:**

---

**Final Grade:** Your final grade is an average of the teacher grade weighted twice, self-evaluation grade, and students' grade.

Teacher Grade	Teacher Grade	Self Evaluation Grade	Students' Grade

**Total:** \_\_\_\_\_ / 200

**Final Score:** \_\_\_\_\_

**Strengths:**

**Ways to Improve:**

**Other comments:**