**The Cell Game**

**Purpose** To review the life science unit covering parts of a cell, the cell theory, organism organization, homeostasis, asexual and sexual reproduction

**Materials**

* nine index cards cut in half
* poster board
* pencils, pens, and markers

**Scenario**

Suppose you’re a biologist during the day, but at night you have a hobby: You love to play board games. A famous board game company has asked you to help with a new project. They are designing a science board game just for middle school students. The game will require answering questions about life science to move a game piece forward.

A series of squares will extend from the start square to the winner’s circle. A roll of a die will determine the number of squares a player can move. After a player rolls, an opponent will draw a card with one question on it from the question bank. If the player answers the question on the card correctly, the player will move forward exactly the number on the die rolled.

You may also add a penalty for wrong answers and an option to pass for a player who doesn’t want to attempt to answer either question.

What the company wants from you is eighteen question cards, one card for each life science question. On the front of each card you must include one question and the correct answer to the question. They also want you to design the actual playing board for the game and include complete playing directions.

**Procedure**

1. **One Question Per Card** You will complete this investigation on your own. You will write question cards for each of the areas we learned about in the life science unit. Each question card should contain a question, and the answer. Write your questions on a piece of paper first. If you need help thinking of questions, refer back to your notes or the textbook.

**Topics to Write Questions About**

Parts of the Cell The Cell Theory

Levels of Organization of Organisms Homeostasis

Asexual Reproduction Sexual Reproduction of Plants

1. **Testing Your Questions** Review your questions by reading them one at a time aloud to a family member or friend. If the wording confuses you or the person you are reading it to reword that question. If questions are too hard or too easy, have them help you make them better.
2. **Neatness Counts** Once you are satisfied with the questions, write them on your cards as neatly as possible. You may type your questions and answers onto the cards.
3. **Create the Board** Now create a board game like the one described by the game company. Be sure to decorate the game with drawings from each of the categories listed. Make a space on the board for the stack of question cards and label it “Question Bank.” Also make a space for used question cards labeled “Question Dump”.
4. **Write the directions/rules** For all board games there are a set of directions informing the gamers on how to play your game. Be sure to tell how to determine who is the first player, what the game board spaces mean, how to take turns, who should read the questions aloud, explain how to use the dump and draw piles and how to determine who is the winner.

**Rubric**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Question** | **0-4**  Has 0-4 question cards with question on them. | **5-9**  Has 5-9 question cards with questions on them. | **10-14**  Has 10-14 question cards with question on them. | **15-18**  Has 15-18 question cards with question on them. |
| **Answers** | **0-4**  Has 0-4 correct answers written on question cards | **5-9**  Has 5-9 correct answers written on question cards | **10-14**  Has 10-14 correct answers written on question cards | **15-18**  Has 15-18 correct answers written on question cards |
| **Neatness** | **0-3**  Project is not neat | **4-6**  Project needs improvement in neatness | **7-9**  Project lacks in one neatness factor (handwriting, organization) | **10**  Project is neat (handwriting, organization) |
| **Card Piles** | **0**  Question bank and Question dumb piles are not present | **1**  One card pile was present | **1.5**  Both card piles were created but not labeled | **2**  Both card piles were created and labeled |
| **Drawings** | **0-1**  None to 1 drawing present on game board | **2-3**  2-3 drawings present on game board | **4-5**  4-5 drawings present on game board | **6**  Drawings present for each of the six categories. |
| **On Time** | **0**  5 or more days late | **2-3**  3-4 days late | **4-5**  1-2 days late | **6**  Turned in on time |
| **Game Directions** | Score from back: | | | |

**The Cell Game**

**Rubric**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Question** | **0-4**  Has 0-4 question cards with question on them. | **5-9**  Has 5-9 question cards with questions on them. | **10-14**  Has 10-14 question cards with question on them. | **15-18**  Has 15-18 question cards with question on them. |
| **Answers** | **0-4**  Has 0-4 correct answers written on question cards | **5-9**  Has 5-9 correct answers written on question cards | **10-14**  Has 10-14 correct answers written on question cards | **15-18**  Has 15-18 correct answers written on question cards |
| **Neatness** | **0-3**  Project is not neat | **4-6**  Project needs improvement in neatness | **7-9**  Project lacks in one neatness factor (handwriting, organization) | **10**  Project is neat (handwriting, organization) |
| **Card Piles** | **0**  Question bank and Question dumb piles are not present | **1**  One card pile was present | **1.5**  Both card piles were created but not labeled | **2**  Both card piles were created and labeled |
| **Drawings** | **0-1**  None to 1 drawing present on game board | **2-3**  2-3 drawings present on game board | **4-5**  4-5 drawings present on game board | **6**  Drawings present for each of the six categories. |
| **On Time** | **0-1**  4 or more days late | **2-3**  3-4 days late | **4-5**  1-2 days late | **6**  Turned in on time |
| **Game Directions** | Score from back:  /21 | | | |

**Score: \_\_\_\_\_\_\_\_\_\_\_\_\_ / 81 pts**

**Comments:**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**