



Bonding with Chemistry through Cards

At the age of nine, Yoneyama Yuito invented a card game which helps players to learn about chemical bonds, and then set up a business at the age of twelve. The game has been a hit on the Japanese market and an English-language version is now in the works.

UMEZAWA AKIRA

CHEMISTRY Quest is a card game in which players compete to create chemical bonds. There are forty-eight cards in the pack. Each card represents an atom and is marked with a chemical symbol, either hydrogen, carbon, oxygen or nitrogen. Players form molecules by combining these atom cards. When a molecule is formed, a player is

rewarded with a card, and players compete to collect cards. For example, two hydrogen cards and one oxygen card will combine to form water. Three hydrogen cards and one nitrogen card will form ammonia. At the end of the game, the person with the most cards wins. Chemistry Quest is original because it helps players to learn about chemical bonds while also having fun.

The game was invented by Yoneyama Yuito, who is now 20 years old and a first-year student at the University of Tokyo. He was only nine when he came up with the idea for the game in 2008 and just twelve when he established Chemistry Quest Inc. in 2011 to make the game commercially available.

People are often put off by complicated, chemistry-themed games. Nevertheless, nearly 135,000 sets have been sold since Chemistry Quest was released, and an iOS app version of the game was also launched in 2012.

Yoneyama had an inquisitive mind from an early age, and

All Photos: Itabashi Yuichi

showed interest in many subjects. He explained that was because of the experiences he had in kindergarten.

“The kindergarten was unique because all communication was done in English. The classes were also unique. For example, we were tasked to introduce the place where we lived. We had to gradually expand the location, starting with the town, then prefecture, country, and last, Earth. I really enjoyed the class, which allowed me to discover the joy of pursuing my interests, instead of simply acquiring knowledge.”

Yoneyama’s home in Sagami-hara City, Kanagawa Prefecture, was close to the Japan Aerospace Exploration Agency (JAXA) Sagami-hara Campus, and he often visited the Campus to attend events open to the general public. To learn about space, he read everything that he could lay his hands on, including illustrated reference books, and he took interest in the history of Earth. Learning about space then spurred his interest in fossils and minerals.

“When I was investigating about minerals, I realized that minerals are composed of distinct elements. That is why atomic symbols are used to describe specific minerals. This is how I developed interest in chemistry, which has become the theme of the Chemistry Quest project,” Yoneyama says.

Playing a card game his friends had made themselves during lunch gave him an idea to create his own card game. “It was

similar to Shinkei-suijaku (a memory game), and I wanted to make something similar so that I could share the joy of learning chemistry through a game featuring chemical bonding.”

When he was eleven, Yoneyama presented Chemistry Quest at the Tokyo International Science Festival, an event where visitors can learn about science and technology in a fun way, to allow them to try it. Both young and old people evaluated it highly and recommended that he make it commercially available.

To pursue his desire to share the joy of learning chemistry through the game, at the age of 12 Yoneyama requested that a publishing company commercialize Chemistry Quest, and had a series of discussions with the employees of the publishing company despite the 20-year or more age difference, to decide on the design and contents of the rule book.

As soon as the game was made commercially available, Yoneyama established a company and assumed the position of CEO.

“Even if it were commercialized, there was a limit as to what I personally could do to make the game widely available across Japan. I thought a company could be a solution that would make it possible to reach out to as many people as possible and make them aware how fun this game is.”

When he was a second year high-school student, Yoneyama released a revised new edition of Chemistry Quest. He now studies



Yoneyama Yuito holding rule books for the Chemistry Quest game

at the College of Arts and Sciences at the University of Tokyo, while at the same time preparing for the launch of the English version of Chemistry Quest, with a view toward entering overseas markets.

“I hope that children around the world will play the game and take interest in chemistry. I am also hoping to make a new card game. Although I am busy studying at university and the lack of time is my biggest worry, I hope to realize this wish.” 