

Scientist Trading Cards- 21st Century Competencies Artifact

Teacher: Rheanne Lehmkuhl

School: Elrose Composite School

Grade/ Subject: Chemistry 30

Summary:

Students were required to research various scientists who played an important role in the development of the atomic theory. Using their findings, students were to create a trading card and share their card with their classmates in a jigsaw activity.

21 CC Goals:

- Develop Creativity
- Develop Collaboration

Curricular Outcome and Related Indicator:

CH30-MS1 Examine the role of valence electrons in the formation of chemical bonds.

Trace the historical development of the model of the atom from Bohr to the modern quantum understanding, including the contributions of Einstein, Planck, Heisenberg and DeBroglie.

Demonstration of Creativity:

Although this assignment had specific criteria, students were given flexibility in the construction of their trading cards. They were able to make a card of any shape, size, colour, etc. Students were not restricted to create paper trading cards and could have chosen to develop a virtual card if desired; none of the students took this approach. Some students demonstrated their creativity visually while others did so through their written expression. Unfortunately, some students did not show much creativity at all and did the bare basics for this assignment.

Demonstration of Collaboration:

By the nature of this activity, collaboration was a central part. Students had to share their findings with each other by trading their cards in rotating partner groups.

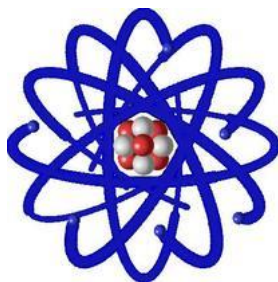
Assessment:

Student trading cards were summatively assessed using a rubric (enclosed). However, students were also assessed during the time of the unit exam where students were responsible for knowing the basics about each of the scientists' contributions to the atomic theory.

Reflection:

I found this activity to be enjoyable for me and the students. Rather than go through the major scientists responsible for the development of the atomic theory through a traditional note-taking approach, I passed the responsibility of learning on to the students. Many seemed to have fun creating their trading cards and sharing their information with their classmates.

HISTORY OF THE DEVELOPMENT OF THE MODEL OF THE ATOM: TRADING CARD ASSIGNMENT



There are a number of scientists who have played an important role in the development of the model of the atom. To explore these people and their contributions, each of you will be responsible for creating a trading card for the scientist you are assigned. Upon completion, each student will share what they have learned with each other by "trading" cards.

Assignment Requirements:

- Name of scientist
- Photo/Picture of scientist
- Brief biography/interesting personal facts
- Description of scientist's major contribution to the atomic theory including a brief description of the experiment that lead to the discovery, if applicable
- Time period of major discovery to the atomic theory

Assessment:

As a class, we will discuss how the trading cards will be graded. We will formulate the criteria for a rubric.

History of the Development of the Atom: Trading Card Assignment RUBRIC

Criteria	4	3	2	1
Originality/ Creativity	Trading card demonstrates outstanding originality and creativity.	Trading Card demonstrates originality and creativity.	Trading Card attempts at being creative and original.	Trading Card is not creative or original.
Accurate Content (Required: Name, photo, bio, interesting facts, major contribution, time period)	Trading Card includes all the required content.	Trading Card is missing one of the required components.	Trading Card is missing two of the required components.	Trading Card is missing three or more of the required components.
Construction - Materials	Appropriate materials were selected and creatively modified in ways that made them even better.	Appropriate materials were selected and there was an attempt at creative modification to make them even better.	Appropriate materials were selected.	Inappropriate materials were selected and contributed to a product that performed poorly.
Layout	Trading Card has the appropriate amount of white space and has an easy-to-read layout.	Trading Card has adequate white space but the layout is somewhat awkward.	Trading Card does not have enough white space and the layout is somewhat readable.	Trading Card is cluttered and hard to follow.
Overall Appearance	Great care taken in construction process so that the structure is neat, attractive and accurate.	Construction was careful and accurate for the most part, but 1-2 details could have been refined for a more attractive product.	Construction is accurate, but 3-4 details could have been refined for a more attractive product.	Construction appears careless or haphazard. Many details need refinement for a strong or attractive product.
Proper Spelling and Grammar	Trading Card has no misspellings or grammatical errors.	Trading Card has no more than two misspellings and/or grammatical errors.	Trading Card had three misspellings and/or grammatical errors.	Trading Card has four or more spelling errors and/or grammatical errors.
ADDITIONAL COMMENTS				

