

Student's Learning Activities (Sibylla Merian and Cocoons)

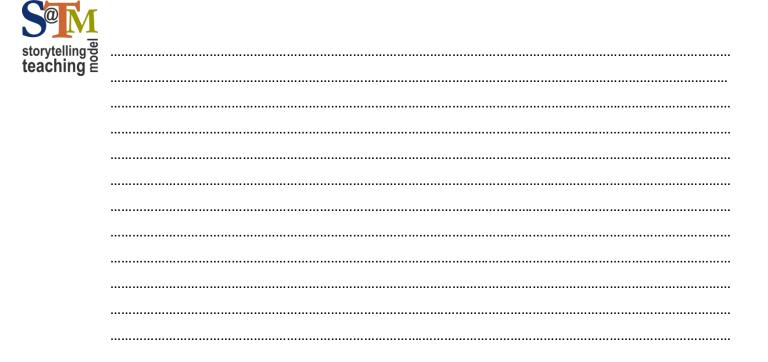
You will watch a video with narration or listen to a story from your teacher about Sibylla Merian

Activity 1

accord descrij during	ne metamorphosis of cocoons. Please write the most important points of the narration ing to your view and discuss them in your group. (Indicative points of the narration: the ption of the metamorphosis of cocoons, the description Sibylla's work, the detection of time which Sibylla's work was developed,)
For an a.	on the narration you have heard, please write down the way of metamorphosis of insects. accurate description you could use the following indicative resources: http://www.youtube.com/watch?v=hZCAgDBv-CU http://www.google.gr/imgres?imgurl=http://www.silkwormshop.com/images/lifecycle.jp g&imgrefurl=http://www.silkwormshop.com/silkworm_info.html&h=344&w=454&sz=4 6&tbnid=dvgh2H9kZedMoM:&tbnh=95&tbnw=125&zoom=1&usg=TsCdCMFvp1k14P7 ITfaZThGPg=&docid=KFoucLhWtPALjM&sa=X&ei=2KhdUoerN4jPtAbx0oGABQ&ved=0 CC4Q9QEwAA http://www.google.gr/imgres?imgurl=http://growingwithscience.com/cocoon.jpg&imgrefurl=http://blog.growingwithscience.com/2008/11/the-silkworm-story-a-thread-through-history/&h=285&w=320&sz=18&tbnid=uuyCY_8p1yARhM:&tbnh=90&tbnw=101&zoom=1&usg=bz2wLcxInKlhEh-AqPIunISODks=&docid=0nvOeO7-
	ZJSXaM&sa=X&ei=D3VdUrK6Eqnw4QST34GQBQ&ved=0CDYQ9QEwAQ



Activity 2
Activity 3
Please research in the internet for the proper websites about the way of the production of the silk.
Write a text (500 words) describing the way of this production.
Indicative websites:
http://www.youtube.com/watch?v=f1RTqAWKenM
http://www.youtube.com/watch?v=-wbmEjTvszI
http://www.youtube.com/watch?v=BibC0CqZhPI
nttp://www.youtube.com/watch?v=bibCocqZhP1
Activity 4
Please research in the internet to find proper websites about the story of the production of silk
from the ancient years until today. Write a text for this theme (500 words).
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Activity 5

Please read the following text and underline the most important points which indicate the contribution of Sibylla's book in comparison to other books which were published at the same time. "The first books dealing solely with insects were published not before the end of the 16th century. Very few books gained as much success as these from SibyllaMerian.

One of the most recognized books about insects had many fathers. In the late 16th century the English physician Thomas Moffet (also Mouffet and Muffet) compiled a book on insects using several unpublished sources. Yet he could not get it published. It appeared 30 years after his death, published by the famous physician Théodore de Mayerne. ...this work published in 1634 contained information that was gained some generations earlier. This can be taken as indication that only very few people were engaged in observing insects, especially holometabolic insects.

By the middle of the 17th century one can find an increasing number of published works on insects. Jan Swammerdam, a Dutch scholar, wrote in 1669 his 'Historia Insectorum Generalis' about the transformation of insects from the egg to the grub and finally the grown insect, using use optical equipment like magnifying glasses and micro-scopes for observation. The metamorphosis of insects was a topic of Johannes Goedaert as well as Swammerdam. Goedaert published a book the "Metamorphosis Et Historia Naturalis Insectorum" which was published in 1662.But it was Francesco Redi who was the first to show, that there was no such thing as abiogenesis, the creation of insects out of nothing. Using experiments with covered and uncovered meat, he showed, that insects only appeared where insects before laid their eggs.

Without doubt, Sibylla Merian was not the first to observe the metamorphosis of insects, but this cannot diminish her accomplishments. She was one of the first to observe the importance of specific host plants for the insects. Perhaps even more important is the extremely high quality of her illustrations and associated with this, the accuracy of her observations. Wherever possible she painted from the living insects and did not limit herself to the dead ones in collections.

The works of Sibylla Merian were received in a very positive way by the republic of letters. As the historian Londa Schiebinger points out, there were also very few resentments due to her female gender up to the 19th century."

One can conclude that the Baroque was a time where it was possible for women to participate in science, mostly as passive consumers, though".



Activity 6 Please read the following text and underline reasons which contributed to development of the work Sibylla Merian:
«Although sibylla was an untitled woman, born and raised in the household of a craftsman and artisan made her way into natural history. Two aspects seem to be of great importance. On the one hand, caterpillars, silkworms to be precise, were economically interesting. From the knowledge of the origin of silk the wish for European silkworm-cultivation emerged. One can assume that Sibylla Merian visited such a breeding station. Later she was always interested in an alternative to the silkworm. On the other hand she was the daughter of a famous engraver and got a professional training at the workshop of her stepfather, who also worked as a painter and engraverThis time was the Baroque time where it was possible for women to participate in science, mostly
as passive consumers, though Especially Amsterdam as the place of residence in her late years was close to ideal. The Netherlands were one of the leading maritime powers of the time and one of the most important trading points for goods from the Americas. Therefore it was possible for her to go to Surinam the Dutsch colony in America. Studying the butterflies and their metamorphosis was the main reason for this journey, on which she was accompnied by one of her grown up daughters.
Goods from other continents did not only satisfy the curiosity of the time, but also were economically important. The search for cures for the new diseases that appeared in the colonies was of great importance for the colonial empires. Those plants could also generate great profit in the old world. As example may serve the cacao, that came as a medical tonic to Europe and then turned into a beverage.
Naturally the indigenous population was not eager to cooperate with their suppressors.
They could be pressed to work, but not to reveal their knowledge. Sibylla Merian was one of the few naturalists who made friends with parts of the indigenous population. Later she criticized the repression of the natural population by their colonial masters. It should be mentioned, that the appetite for new knowledge had its limits. Some knowledge was not suitable for transfer in the eyes of most of the authors. The native people could prevent and abort pregnancies for example, using some plants. One of the very few reports about this was written by Sibylla Merian. Although she was not the only one to report this, the knowledge was not transferred to Europe.
One can conclude that the Baroque was a time where it was possible for women to participate in



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	Activity 7
	Please write an abstract of 500 characters in your group to answer the question: What science is
	The text should be based on the narration and the learning activities of today's lesson. Each group should give its own answer.

Activity 8 (project)

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Please research in your team about the professional employment of young people with the production and the trade of the silk, today. Discover the professional prospects for this theme in your country. We propose to publish the results of your research with proposals in order to help the young people for their professional employment with the production and the trade of the silk.

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