

## TARGETED QUESTIONS

Use this [video](#) as a tool to spark classroom discussions. Encourage students to activate their prior knowledge and apply it to the conversation. Experiences with art can help students draw upon critical and creative thinking skills to practice analyzing, evaluating, and imagining across disciplines.



### VISUAL ARTS

**Ask Students:**

“Why do you think the painter, Johann Zacharias Quast, used the specific elements of art that he did (color, form, line, shape, space, texture, value)? What visual qualities does Quast’s plate have in common with the other example of insect porcelain shown in the video?”

Linked to Standard: Grades 7-8. Visual Arts. Responding. 7. Perceive and analyze artistic work. Analyze elements of a work that are indicative of the historical or cultural context in which it was created. (7-8.V.R.07)

**Ask students:**

“How do you think the painter, Johann Zacharias Quast, was influenced by the culture in which he was living, and how might that be reflected in ‘The Bug Plate’?”

Linked to Standard: Grades 7-8. Visual Arts. Responding. 8. Interpret intent and meaning in artistic work. Explain how an artistic work was influenced by the culture or historical context in which it was created. (7-8.V.R.08)

### SCIENCE

**Ask Students:**

“How could a scientist use an artwork from the past, like ‘The Bug Plate,’ to help make a claim about how environmental and genetic factors influence the growth of organisms?”

Linked to Standard: Grade 8. MS-LS1-5. Construct an argument based on evidence for how environmental and genetic factors influence the growth of organisms.

### ENGLISH LANGUAGE ARTS

**Ask Students:**

“This plate was most likely used as a decorative object. If you owned this plate, would you put it on display or serve food on it? Present your decision and share three distinct, detailed reasons that support your choice to use the plate in that way.”

Linked to Standard: Grade 8. Speaking and Listening Standards [SL]. Presentation of Knowledge and Ideas. 4. Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate vocabulary, eye contact, volume, and pronunciation.

**Ask Students:**

“If you were going to conduct research on this artwork, the insects and arachnids featured on it, and/or the process of producing porcelain, which research questions would you ask? How might those questions lead to additional questions to explore through research?”

Linked to Standard: Grade 8. Writing Standards [W]. Research to Build and Present Knowledge. 7. Conduct short as well as more sustained research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

# CREATIVE CHALLENGES

Encourage students to allow the creative process to guide their responses to the [video](#). Students' final products will differ as they apply their own unique skills, knowledge, and interpretations to the challenge.

## VISUAL ARTS

### Challenge Students:

“In the video we learn that sometimes artists of the era painted/drew insects from their imaginations based on what they knew about real insects. Using your knowledge about insects and the elements of art and principles of design, plan an artwork of an imaginary insect. If you get stuck, consider looking at images of real insects for inspiration.”

Linked to Standard: Grades 7-8. Visual Arts. Creating. 3. Refine and complete artistic work. Apply strategies to work through creative blocks. (7-8.V.Cr.03)

### Challenge Students:

“Create an artwork depicting a plate in your own personal artistic style. On ‘The Bug Plate,’ insects and arachnids are the repeating subject. Select a repeating subject that has personal significance to you. Be prepared to explain your artistic choices and influences.”

Linked to Standard: Grades 7-8. Visual Arts. Connecting. 10. Synthesize and relate knowledge and personal experiences to make art. Describe and demonstrate influences of personal artistic style and preferences in visual arts. (7-8.V.Co.10)

## SCIENCE

### Challenge Students:

“Develop a series of artworks to show the process of natural selection (over many generations) for an imaginary insect of your design. Show how the insect’s genetic variations of some traits increase its likelihood of surviving and reproducing in a changing environment.”

Linked to Standard: Grade 8.MS-LS4-4. Use a model to describe the process of natural selection, in which genetic variations of some traits in a population increase some individuals’ likelihood of surviving and reproducing in a changing environment. Provide evidence that natural selection occurs over many generations.

### Challenge Students:

“Conduct research on a modern porcelain factory to learn how porcelain is made using basic processes in manufacturing systems, including forming, separating, conditioning, assembling, finishing, quality control, and safety. Pay close attention to human control of these processes and computer control of the processes. Present your findings to the class and compare the advantages and disadvantages of human vs. computer control of the processes.”

Linked to Standard: Grade 8. MS-ETS2-5 (MA). Present information that illustrates how a product can be created using basic processes in manufacturing systems, including forming, separating, conditioning, assembling, finishing, quality control, and safety. Compare the advantages and disadvantages of human vs. computer control of these processes.



### Challenge Students:

“Write a creative short story or a dialogue poem about ‘The Bug Plate.’ Characters may include the painter, Johann Zacharias Quast, people working at the Lippert & Haas porcelain factory, and/or the insects and arachnids. Be sure to include elements that make a story successful, like incorporating description of visual details that you see on the plate.”

Linked to Standard: Grade 8. Writing Standards [W]. Text types and purposes. 3. Write narratives to develop experiences or events using effective literary techniques, relevant descriptive details, and well-structured sequences.

- Engage and orient the reader by establishing a context and point of view and introducing a narrator and/or characters; organize an appropriate narrative sequence.
- Use narrative techniques, such as dialogue, pacing, description, and reflection, to develop experiences, events, and/or characters.
- Use a variety of transition words, phrases, and clauses to convey sequence, signal shifts from one time frame or setting to another and show the relationships among experiences and events.
- Use precise words and phrases and relevant descriptive details to convey a tone (the writer’s attitude toward the subject: e.g., humorous, serious, or ironic) and to convey experiences or events.
- Provide a conclusion that follows from and reflects on the narrated experiences or events.

## ENGLISH LANGUAGE ARTS