Lessons from Asian Art: *Material World*
Grades 6, 7, 8

LEARNING TARGET
Through a variety of classroom and museum experiences, students will apply their scientific inquiry skills to investigate different artistic mediums to discover how artists have applied various tools and technology in the transformation of raw materials into works of art.

STUDENT OUTCOMES
Students will:

- investigate how raw materials are transformed into works of art
- discover how different cultures use various media to create works of art
- explore the ways in which artists use their work to serve a variety of functions from utilitarian to ceremonial

GRAPHIC ORGANIZERS
- Pre-Visit: *This-and-That*
- Visit: *Magnifying Magic*
- Post-Visit: *Presentation Planner and Rubric*

FORMS
- Media: mother-of-pearl, rosewood, lacquer, palm leaves, watercolor, turquoise, shells, ceramics, wood, silk, metal
- Classification: sculpture, ceramics, textiles, decorative arts
- Symbols and terminology: alloy, gilded, inlay, opaque, manuscript, provenance

STEAM THEMES
- The chemistry behind the development of textiles, paper, paints, lacquers, and glazes
- The historical development of trade and technological advancements of East Asia
- Geographic skills mapping art in Japan, Korea, and China
- Introducing world views such as Buddhism, Confucianism, and Daoism

CCSS ALIGNMENT
CCSS English Language Arts: Speaking & Listening, Middle School
- CCSS.ELA-LITERACY.SL.6.1.A: Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion.
- CCSS.ELA-LITERACY.SL.6.2.L Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.
- CCSS.ELA-LITERACY.SL.6.5: Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information.
Lessons from Asian Art: *Material World*
Grades 6, 7, 8

**21ST CENTURY LEARNING SKILLS ALIGNMENT**

Creativity and Innovation
- Use a wide range of idea creation techniques (such as brainstorming)

Communication and Collaboration
- Communicate effectively in diverse environments (including multilingual and multicultural)

**MICHIGAN SCIENCE STANDARDS**

**STRUCTURE AND PROPERTIES OF MATTER**
- MS-PS1-3 Gather and make sense of information to describe that synthetic materials come from natural resources and impact society.

**HUMAN IMPACTS**
- MS-ESS3-4 Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth’s systems.

**MICHIGAN ART STANDARDS**

- **ANALYZE**
  Standard 3: Analyze, describe, and evaluate works of art.

- **ANALYZE IN CONTEXT**
  Standard 4: Understand, analyze, and describe the arts in their historical, social, and cultural contexts.

- **ANALYZE AND MAKE CONNECTIONS**
  Standard 5: Recognize, analyze, and describe connections among the arts; between the arts and other disciplines; between the arts and everyday life.

**SOURCES**

- Michigan Arts Standards: [https://www.michigan.gov/mde/0,4615,7-140-28753---,00.html](https://www.michigan.gov/mde/0,4615,7-140-28753---,00.html)
Lessons from Asian Art: *Material World*
Grades 6, 7, 8

PRE-VISIT ACTIVITIES

DAY 1

- **SLIDES 1-2**
  - Brainstorm with students a list of media that students have personally used to make art.
    - Ask students to describe where those materials come from or how they are created—are they natural or synthetic (human-made)?
    - Where do the raw materials for synthetic media originate and how are they processed?
    - In what ways are these materials manipulated using tools and technology to make art?

- **SLIDES 3-6**
  - Using the *Material World Artworks* and *This-and-That* graphic organizer provided, classify examples of the media used in many of the works on view in the DIA’s Asian Arts galleries into one of six categories: metal, stone, textiles, wood, clay, and paper.
    - Provide students with some background information on each of the six categories, then have students roll a die to determine which of the six categories they will investigate further, with the goal of answering the following question: What technology and processes are needed to transform these raw materials into works of art?
  - **Metal: copper, bronze, iron**
    - The Bronze Age in East Asia began around 1500 BCE along the central plains of the Yellow River Valley in present day China. As an alloy of copper and tin, bronze was first used for tools and weapons before being used for works such as ritual vessels that were both functional and artistic.
    - Possessing artistically made bronze vessels such as cauldrons, drinking cups, and wine ewers was a sign of power and prestige. Only wealthy people could afford such items, and using them for burials both honored the deceased and underscored the prestige of the living.
    - During this time, very few specialized artisans were independent entrepreneurs, since most were attached to noble families or royal lineages.
    - With the Iron Age, which had spread across East Asia by 500 BCE, tax-paying workers could be independent artists in addition to working for royal patrons if the quality of their work was high enough.
  - **Stone: soapstone, turquoise, limestone, jade**
    - The type of stone used by artists varied with subject matter and available tools.
    - Limestone is a sedimentary rock formed with calcium carbonate and other sediments, so its hardness and quality can vary
Lessons from Asian Art: *Material World*

Grades 6, 7, 8

dramatically. On the Mohs hardness scale, soapstone is one of the softest and easiest stones to carve, coming in with a rating between 1-5. Turquoise is much harder, rating between 5-6.

- Jade has a 6.0 rating, while granite and sandstone both rate between 6-7. Jade is typically not carved; instead, artists shape it by sanding down the surface with harder stones like quartz, which is a 7. The jade found in China and Korea was often imported from Central Asia or Siberia.

### Textiles: silk and metallic threads

- By the time of the Shang Dynasty, the use of sericulture, or raising silkworms for the production of silk, was already greatly developed. The growth of mulberry trees, whose leaves provide the only food caterpillars can live upon, also changed the countryside—1000 pounds of leaves are needed to feed 20,000 worms throughout their lifetime, and 2500 silkworms were typically needed to produce just one pound of raw silk.
- The process of weaving silk threads into panels applies to the production of any silk fabric.
- One use of silk is to make scrolls, which can be written on or painted using inks and watercolors.
- Silk can also be embroidered with designs and intricate patterns using thread made of silver, gold, more silk, or other materials. Such silk panels can then be cut and sewn together in order to create court robes.
- For Korean *Bojagi*, scraps of silk are sewn together to make a patchwork fabric that can be used for a variety of purposes such as gift wrapping.

### Wood: rosewood, bamboo

- Rosewood refers to a class of hardwoods that are very dense and resistant to both rot and insects. Bamboo is a much lighter material.
- Wood is often painted or covered with lacquer—thin layers of a resin made from tree sap that hardens to a shiny finish—in order to make the piece more durable. Sometimes lacquer is mixed with powdered cinnabar—a red-colored mineral—to make it appear red, or it may be combined with iron compounds, charcoal, or ocher in order to make other various colors.
- A lacquered piece may also be sprinkled with gold or silver dust to give it a shimmering appearance, using a technique that the Japanese refer to as *maki-e*. In other instances, the wood is directly gilded by applying a thin layer of a glue mixture followed by pieces of gold leaf.

### Ceramic: terracotta, earthenware, stoneware, porcelain

- Ceramic pieces were often decorated with paints and glazes such as ash, iron, iron-oxide, celadon, cobalt, clear gloss or matte. Early ceramic
Lessons from Asian Art: *Material World*
Grades 6, 7, 8

pieces were made of simple earthenware such as terracotta. Later, during the Bronze Age, we also find burnished and painted wares.

- The introduction of the pottery wheel and tunnel kilns for firing ceramics dramatically changed the nature of the art form during the Three Kingdoms Period in Korea (57 BCE–668 CE), making it possible to create stronger stonewares that were impervious to water. This is also the same time period in which the Chinese invented porcelain using fine kaolin clay.
- The development of controlled glazing techniques during Korea’s Unified Silla Kingdom (668–935 CE) eventually led to the sophisticated art of celadon ware.

- **Paper:** wood pulp or hemp decorated with inks or watercolors
  - Thin strips of wood, palm leaves, bones, bamboo, or silk were used for art and writing before the invention of paper. Brushes were traditionally made of animal hair, and pine soot was used for ink.
  - Traditionally believed to have been invented in China around the first century CE, paper utilizes pulverized plant fibers and water to create a smooth surface on which to create art.
  - Throughout the Han Dynasty, different types of plant fibers were tested, eventually resulting in a paper that had an absorbent writing surface that was deemed good enough for both calligraphy and painting.

**DAY 2**

- **SLIDES 7-9**

  Many artworks can be classified as mixed media. Using the following examples, have students work in teams to try and identify the materials that the artist used to create each piece. Use the contemporary work by Korean-American artist Ik-Joong Kang, *Happy World-Scattered Crumbs* as an example before dividing the class into teams for this investigation.

  - Gold and silver ink on indigo paper: *Japanese Sutra Scroll (Jingoji Sutra)*
  - Glazed stoneware caddy and ivory lid: *Tea Caddy (Cha-ire)*
  - Wood, paint, and copper: *Noh Mask for Namanari Role*
  - Lacquered wood box with sprinkled gold (*maki-e*), clamshells painted with color and gold: *Set of Equipment for the Shell Game*
  - Wood lacquer, mother-of-pearl, metal: *Comb case with Auspicious Symbols*
  - Ink, paint, ox horn, wood, ray skin, metal: *Box with Auspicious Symbols*
  - Ivory and paint: *Standing Guanyin with Child*
  - Copper, bronze, wood: *Buddhist Prayer Wheel*
  - Turquoise, coral, gold, silver, thread: *Turquoise Ornaments*
  - Wood, lacquer, gold, paint: *Shakyamuni as an Ascetic*
  - Ink and opaque watercolor on palm leaf: *Pages from Manuscript of the “Perfection of Wisdom in Eight Thousand Verses”*
  - Stoneware, glaze, bronze: *Money Tree*
Lessons from Asian Art: *Material World*
Grades 6, 7, 8

- Take this investigation of media to the next level by connecting it with what students are learning/have learned in Social Studies.
  - Students can examine the historical aspects of the trade of raw material by reading about the Song Dynasty in: [http://afe.easia.columbia.edu/songdynasty-module/outside-trade.html](http://afe.easia.columbia.edu/songdynasty-module/outside-trade.html) or the Ming voyages of Zheng He: [http://afe.easia.columbia.edu/special/china_1000ce_mingvoyages.htm](http://afe.easia.columbia.edu/special/china_1000ce_mingvoyages.htm)
  - Bring in a discussion of current events by explaining how the use and trade of some of these materials has changed over time, especially ivory and certain types of rosewood.
  - Use resources such as the following:
    - [https://africa.si.edu/collection/conservation/protect-ivory/](https://africa.si.edu/collection/conservation/protect-ivory/)

**DAY 3**

- SLIDE 10
  - As part of the students’ research projects on the media they selected in the second activity, have students consider how the extraction of raw materials from the environment impacts society and how that consumption of natural resources also impacts the Earth’s ecosystems.
    - While students are conducting their research to discover what technology and processes are needed to transform their given raw materials into works of art, make sure to reference the materials they will be learning as they tour the museum. Provide the guidelines for this project with the “Presentation Planner and Rubric” which is given in part of the Post-Visit Lesson.

**TOUR ACTIVITIES**

**DAY 4**

**Guided Tour Explanation & Rationale**
For the most beneficial experience, before the day of the field trip, it is important that the students can:

- differentiate between various media
- identify ways in which artists manipulate materials in order to produce works of art
- understand that the use of some materials has changed over time due to the development of new technology and regulations

**DIA Guided Experience (1 hour)**
When booking a guided experience at the Detroit Institute of Arts, please specify that you wish to see objects that align with this specific lesson plan. A suggested list of objects is found below. Gallery
Lessons from Asian Art: Material World
Grades 6, 7, 8

Teachers will select objects that are in areas of the museum that provide opportunities for comparisons across various cultures, places, and time. For the purposes of this guided experience, teachers can request that the gallery teacher show examples from each of the media being investigated by students: metal, stone, textiles, wood, clay, and paper. If teachers can divide students into groups based on their research, gallery teachers can spend more time focusing on specific media.

Suggested works for this tour may include:

- **Chinese Art**
  - Lion’s Head
  - Jade Cylinder
  - Chinese Dragon Robe
  - Bronze Ritual Objects
- **Korean Art**
  - Box with Auspicious Symbols
  - Folding screen on rotation
  - Celadon objects such as 80.39, 53.349, 74.87
- **Japanese Art**
  - Interconnection ‘15–4
  - Set of Miniature Painting Albums
  - Japanese Sutra Scroll (Jingoji Sutra), if on view
  - Tea objects, which may include works such as accession numbers 27.552, 73.182, 1989.45, 2013.44, 2014.36, 2016.77
- **Buddhist Art**
  - Shakyamuni as an Ascetic
  - Pages from Manuscript of the “Perfection of Wisdom in Eight Thousand Verses” on rotation
  - Standing Guanyin with Child
  - Buddhist Prayer Wheel
  - Turquoise Ornaments
- **Contemporary Connections**
  - In the Chinese art gallery, point out the interactive that explains Chinese dragon robes as changing symbols of status.
  - In the Japanese art gallery, make sure to explain the tokonoma and the ways in which art and the environment work together in harmony.

**Self-Guided Experience (45 Minutes)**

- Students spend time in the DIA’s Asian Galleries, focusing on the following types of works:
  - Chinese Art: paper, fiber, stone, metal
  - Japanese Art: ceramics, wood
  - Korean Art: ceramics, wood
  - Buddhist Art: wood, lacquer, metal, stone, ivory, palm leaf
- SLIDE 11
Lessons from Asian Art: *Material World*  
Grades 6, 7, 8

- Ask students to complete the *Magnifying Magic* graphic organizer that challenges them to identify at least one work of art in each of the Asian Arts galleries to investigate more deeply. Students should select works that will help them with their research project and use this graphic organizer as a way of recording information.

**Items of Note**
While the DIA includes dates on its labels, it does not include the names of dynasties because of shifting borders, cultural exchange, and the transformation of artistic practices that do not always align with political change.

The DIA’s collection of Asian works spans more than 4000 years and includes over 7000 objects. Only a portion of this collection is on display. Because of the fragility of works on paper and textiles, such pieces (or sections of larger works) are on display for rotation in the galleries, remaining on display for six or four months at a time.
POST-VISIT ACTIVITIES

**Material World**: Students will create a presentation describing how artists transform raw materials into aesthetically pleasing objects, using at least one example from the DIA collection.

**DAY 5**

- **SLIDES 12-13**
  - Using the following examples, discuss ways to represent the following objects in a presentation:
    - One example is the *Buddhist palm-leaf manuscript* which includes historic conservation work
    - DIA video feature: [https://www.youtube.com/watch?v=bDP7_gBsxcA](https://www.youtube.com/watch?v=bDP7_gBsxcA)
  - Another example to consider evaluating as a class is *The Tale of Genji* screen which features ink, colored paint, and gold on paper with silk on a wooden frame: [https://www.dia.org/art/collection/object/scene-tale-genji-chapter-maiden-49670](https://www.dia.org/art/collection/object/scene-tale-genji-chapter-maiden-49670)
    - For more information on *The Tale of Genji*, please see [http://afe.easia.columbia.edu/special/japan_600ce_genji.htm](http://afe.easia.columbia.edu/special/japan_600ce_genji.htm)
- **SLIDE 14**
  - Team up students and have them share either the graphic organizers from their self-guided tour or responses to the following questions based on the works seen on the tour:
    - How did a particular object contribute to their study of materials?
    - In what ways does it appear that the artist manipulated the media to get a desired effect?
    - How might the context of the piece (the time and place in which it was made) affect its importance, value, or meaning?
    - Based on the materials used to create a particular piece, what might the museum have to do in order to conserve this work of art?
      - Please reference: [https://www.dia.org/art/conservation](https://www.dia.org/art/conservation)
    - Using the visual evidence gathered and selecting one work, discuss the following:
      - Where did the materials for making that work of art originate?
Lessons from Asian Art: *Material World*
Grades 6, 7, 8

- How has that medium been used differently—by different artists in different regions, throughout time, for different types of art, with different tools or technology, etc.?
  - Thinking beyond the actual materials used to create the artwork, what signs of material culture are featured in the artwork itself? Are there buildings, people, plants, animals, or other objects that can tell us something about the time and place in which the artwork was made or the historical period featured in the work?

DAYS 6-8

- SLIDES 15-16
  - Ask students to apply these ideas to their own research to create a multimedia presentation or a visual display for presentation using the *Presentation Planner and Rubric*. Make sure students select at least one piece of art from the DIA collection that uses the particular medium they randomly rolled using the dice in the Pre-Visit Lesson. These presentations should include the following:
    - Scientific information about the raw materials used to make the work of art, including possible places of origin
    - Technological information regarding the tools and processes used by the artist(s) to manipulate the medium
    - Visuals including maps to reference locations
    - Cultural information regarding the purpose, function, or significance of the piece being examined
    - Museum information, including a picture, the label copy, and any available provenance

DAY 9

- Have students present their findings to the class. Curate the presentations to create a collaborative virtual tour to share with others.
- MINI PROJECT: (This can be done in conjunction with the art teacher if desired)
  - Students can create a replica of one of the pieces used in their research, substituting appropriate media and describing in their presentation how and why they made substitutions.

This educational resource was developed by Art teacher Angie Stokes in collaboration with the DIA Education Programs and Curatorial teams.

*Lessons from Asian Art* learning resources are supported by The Freeman Foundation Asian Arts & Culture Educational Funding Initiative.
Lessons from Asian Art: *Material World*
Grades 6, 7, 8

**Artworks**


Chinese. *Deep Footed Bowl*, 1388–1122 BCE. Copper alloy, 8 1/2 × 6 1/2 inches. Detroit Institute of Arts, Gift of Allan Gerdau. 51.300

Chinese. *Dragon Robe*, late 19th century. Woven and embroidered silk, gilded paper (wrapped silk thread), and brass, 55 × 81 inches. Gift of the Estate of Berthe McFadden Evans. 69.165

Chinese. *Jade Cylinder*, 8th century BCE. Jade, 9 3/8 × 2 1/4 × 2 1/4 inches. Detroit Institute of Arts, Gift of anonymous donor. 68.261


Chinese. *Money Tree*, 25–220 CE. Stoneware with green glaze, patinated bronze, 54 5/16 × 19 5/16 inches. Detroit Institute of Arts, Founders Society Purchase; gift of Mr. and Mrs. Lawrence Fisher by exchange. 1996.29


Indian. *Page from Manuscript of the “Perfection of Wisdom in Eight Thousand Verses,”* ca. 1160. Ink and opaque watercolor on palm leaf, 2 1/8 × 17 7/8 inches. Detroit Institute of Arts, Gift of P. Jackson Higgs. 27.586.1A

Japanese. *Noh Mask for Namanari Role*, 17th century. Hinoki wood, paint, copper, 8 1/4 × 5 5/8 × 3 7/8 inches. Detroit Institute of Arts, Museum Purchase, Asian Department Deaccession Fund, and gifts from K. Magarian, Mr. and Mrs. Herbert V. Book, Robert H. Tannahill, Roy D. Chapin, Jr., Mrs. Walter Rundle, Mr. and Mrs. W. R. Bryant by exchange. 2013.12


Japanese. *Tea Caddy (Cha-ire)*, 17th Century. Stoneware, glaze, ivory, 2 7/8 × 2 1/4 inches. Detroit Institute of Arts, City of Detroit Purchase. 27.552


Korean. *Deep Bowl*, 12th–13th century. Stoneware with deep porcelaneous glaze, 3 3/8 × 8 inches. Detroit Institute of Arts, Gift of Dr. and Mrs. Leo S. Figiel and Dr. and Mrs. Steven J. Figiel. 74.87


Tibetan. *Buddhist Prayer Wheel*, 19th century. Copper, bronze, wood, 8 7/8 × 2 3/4 inches. Detroit Institute of Arts, Gift of Frederick Stearns. 90.1S14489