

## Tick! Tock! Time for Art at the Biggs!

**Grades:** Grade 4  
**Subject:** Visual Arts, Geometry  
**Time Required:** 30-45 minutes  
**Author:** Monica DeHart, Clayton Elementary  
**Featured Biggs**  
**Artwork:** *Tall Clock*, movement: George Crow Wilmington, DE, case: Philadelphia, 1745-55  
*Tall Clock*, movement: Jonas Alrichs, Wilmington, DE, case: John Erwin, Wilmington, DE 1780-90  
*Tall Clock*, movement: Benjamin Chandlee, Wilmington DE, case: John Janvier, Head of Elk (Elkton), MD, 1770  
*Talk Clock*, movement: Duncan Beard and Christopher Weaver, Wilmington, DE, case: Thomas Janvier, New Castle, DE, 1792

<b><u>ANCHOR STANDARD:</u></b>	<p><b>VA:</b> Cn11. 1. 4a</p> <p><b>VA:</b> Pr6. 1. 4a</p> <p><b>Math Content 4:</b> GA. 1</p> <p><b>Math Content 4:</b> GA. 3</p>
<b><u>ESSENTIAL QUESTION and ENDURING UNDERSTANDING:</u></b>	<p>How is personal preference different from an evaluation?</p> <p>What is an art museum? How does the presenting and sharing of objects, artifacts, and artworks influence and shape ideas, beliefs, and experiences? How do objects, artifacts, and artworks collected, preserved, or presented, cultivate appreciation and understanding?</p>
<b><u>PERFORMANCE STANDARD:</u></b>	<p><b>VA:</b> Through observation, infer information about time, place, and culture in which a work of art was created</p> <p><b>VA:</b> Compare and contrast purposes of art museums, art galleries, and other venues, as well as the types of personal experiences they provide</p> <p><b>Math:</b> Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.</p> <p><b>Math:</b> Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.</p>

<p><b><u>I CAN STATEMENT</u></b></p>	<p>I CAN learn about times, places, and different cultures from looking</p> <p>I CAN compare and contrast the purpose of different places art is displayed and why people go there</p>
<p><b><u>ACTIVATING STRATEGIES:</u></b></p>	<p>Students will learn about the history, craftsmanship, and collaborative nature of grandfather clocks, as well as the geometric shapes they are made of</p> <p>Students will understand that these clocks were originally used in people homes, but were brought into the museum so visitors could learn about the past</p> <p>Students will draw their own grandfather clock based on what they've observed in other clocks</p>
<p><b><u>ACCELERATION STRATEGIES:</u></b></p>	<p><b>Vocabulary</b></p> <p><b>base:</b> large square or rectangle at the base of the case of a grandfather clock</p> <p><b>bonnet:</b> the decoration on the top of a longcase clock</p> <p><b>carving:</b> decorations in solid objects made by removing parts of the object with sharp tools</p> <p><b>clock face:</b> the part of the clock that shows the hours and minutes</p> <p><b>circle:</b> a shape that is made of one, round line</p> <p><b>curator:</b> staff person at an art museum who organizes and chooses how art is displayed</p> <p><b>feet:</b> supports that lift a clock base off the ground</p> <p><b>free-standing:</b> a three dimensional object that does not need support to stand</p> <p><b>geometric:</b> a design that is decorated with regular lines and shapes</p> <p><b>horizontal:</b> a line that runs from left to right</p> <p><b>longcase, tall, or grandfather clock:</b> a tall clock build on a rectangular center</p> <p><b>parallel:</b> two lines that run next to one another and never meet</p> <p><b>pediment:</b> portion of a grandfather clock on top of the bonnet, often triangular</p> <p><b>pendulum:</b> a weight that hangs from a wire, string, or rod that swings evenly in two directions</p> <p><b>rectangle:</b> a four sided object in which two parallel sides are longer than the other two parallel sides</p> <p><b>scallop:</b> curved decoration that gets its name from a scallop shell</p> <p><b>semi-circle:</b> half of a circle</p> <p><b>square:</b> any shape with four sides</p> <p><b>vertical:</b> a line that runs from top to bottom</p>

	<b>waist:</b> the center of a grandfather clock
<b><u>LEARNING STRATEGIES:</u></b>	The history and making of grandfather clocks are explained. Students are then shown how to break down the shapes in a grandfather clock and draw their own. Students also learn to recognize parallel lines and symmetry in the three dimensional clocks and transpose this into their drawings.
<b><u>SUMMARIZING STRATEGIES:</u></b>	Students can share their work with the group or works can be on display in schools with a 2-3 sentence artist statement  In a classroom in lieu of or following a visit to the Biggs, students can be tested on their knowledge of the vocabulary included in the lesson
<b><u>EXTENDED THINKING STRATEGIES:</u></b>	Students can take their original drawing of their clock and redraw it in an imagined home and museum to understand how it could be displayed differently in these spaces

### Featured Artwork

*Tall Clock*, movement: George Crow Wilmington, DE, case: Philadelphia, 1745-55

*Tall Clock*, movement: Jonas Alrichs, Wilmington, DE, case: John Erwin, Wilmington, DE 1780-90

*Tall Clock*, movement: Benjamin Chandlee, Wilmington DE, case: John Janvier, Head of Elk (Elkton), MD, 1770

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### Lesson Objectives

At the conclusion of this lesson, students should:

- Understand that all objects are made up of recognizable geometric shapes
- Understand that many objects in museums that tell us about the past were once used for practical reasons in people's homes
- Have expanded their vocabulary to include the different parts of a clock

### Materials

- Paper
- Drawing Materials

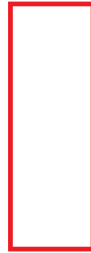
## Lesson Steps

1. View *Tall Clock*, movement: George Crow Wilmington, DE, case: Philadelphia, 1745-55 to introduce grandfather clocks
  - a. Ask the students if they've ever seen a clock like this
  - b. Ask them where they saw it – a house, museum, store, movie
  - c. Explain that this is a grandfather clock, which was also called a “long case” clock
  - d. Explain the different parts of the clock using the included diagram and ask them why each part got its name
    - i. Clock face
    - ii. Bonnet
    - iii. Waist
    - iv. Feet
    - v. Base
    - vi. Pediment
  - e. Explain that inside the case a pendulum swings back and forth to keep everything inside the clock moving, including that hands on the clock
    - i. Demonstrate how a pendulum moves using a weighted string and allow students to try it themselves
  - f. Ask students what the face in the circle of this clock is (moon) – explain that this part of the clock rotated throughout the day to show if it was day or night
    - i. Once they understand this, ask them what might be on the other side of the part that spins (sun)
  - g. Ask students if they think the clock makes noise and ask them to make the noises themselves
    - i. Explain that clocks would often issue a specific number of tolls that corresponded to the hour – ask students how many times it would toll if it was five o'clock and make the sound of the clock toll as a group five times
  
2. View *Tall Clock*, movement: Jonas Alrichs, Wilmington, DE, case: John Erwin, Wilmington, DE 1780-90 to discuss how clocks were used in homes and how they are used in museums
  - a. Explain that these clocks all would have been used in homes when they were first made
  - b. Ask students what kind of person they think may have owned this clock originally – wealth, poor, educated
  - c. Encourage students to think about how they might have looked in a home – would they seem large in a smaller space? How does the way they look in a museum vary from the way they might have looked in a home?
  - d. Explaining that there is no right or wrong answer, ask students if they think this clock is a work of art or furniture or both. Ask them to explain the reasoning behind their answer.

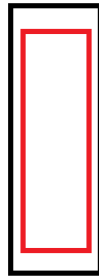
- e. Ask students why they think these clocks and other pieces of furniture are put into museums like the Biggs
    - i. Explain the role of a curator
  - f. Ask them to describe what they might put around in the clock if they put it in their home. Then ask what they might put around the clock if they were a curator in a museum
3. View *Tall Clock*, movement: Benjamin Chandlee, Wilmington DE, case: John Janvier, Head of Elk (Elkton), MD, 1770 to explain that grandfather clocks were made by multiple artisans
- a. Ask students how many different materials this clock is made from
    - i. Metal and wood
  - b. Explain that working with each of these materials required very different skills
    - i. Encourage a discussion of what skills might be needed to shape and use these materials in a clock
  - c. Explain that because each part was so different, at least two people would work together to create one clock
    - i. The movement – clock face and pendulum – would have been made by a silversmith
    - ii. The case would have been made by a carpenter
4. View *Talk Clock*, movement: Duncan Beard and Christopher Weaver, Wilmington, DE, case: Thomas Janvier, New Castle, DE, 1792 to explain the geometric basis of grandfather clocks
- a. Explain that the people who made grandfather clocks had to be very precise about what shapes they used and that some shapes were used to make the piece strong and some were used for decoration
  - b. Ask students to point out what shapes they see in the clock and ask them if that shape makes the piece strong and stable, or if it looks like it is just for decoration
  - c. As you execute this portion of the lesson, try to integrate the following terms:
    - i. rectangle
    - ii. semi-circle
    - iii. circle
    - iv. square
    - v. horizontal
    - vi. vertical
    - vii. parallel
    - viii. scallop
5. Lead student through step-by-step instructions to draw a grandfather clock using basic geometric shapes. If this lesson is completed in a classroom, students can be shown a short YouTube video on How to Draw a Grandfather Clock Real Easy with award winning illustrator, Shoo Rayner. Otherwise, the teacher can draw the

clock on a larger surface as students follow along.

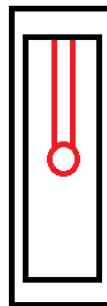
**Step 1:** Create the body of the clock by drawing a rectangle. The teacher can decide the height and width of this, the size of the rectangle, based on the size of the paper.



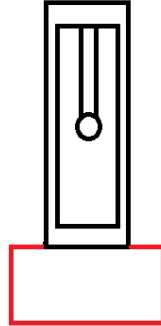
**Step 2:** Create the door that opens to show the pendulum by drawing a rectangle centered inside the waist of the grandfather clock. Explain that this part is sometimes made of glass in order to reveal what is behind it.



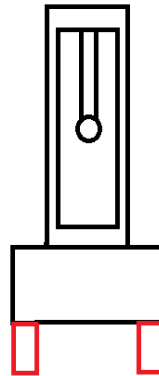
**Step 3:** Create the pendulum by drawing a circle centered inside the rectangle that was just drawn in **Step 2**. Then, draw two parallel lines down the center of the rectangle until they meet the circle.



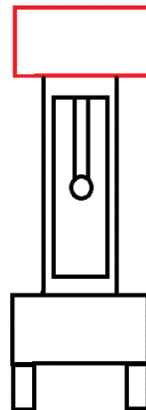
**Step 4:** Create the base of the clock by drawing a square that is slightly wider than the bottom of the rectangle, using the bottom of the rectangle as the top of the square



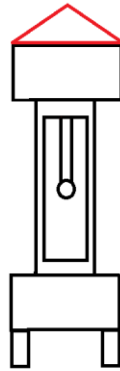
**Step 5:** Create the feet of the clock by adding two small rectangles to either side of the bottom of the base's square



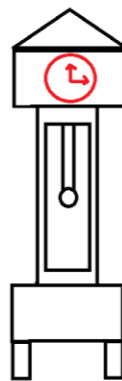
**Step 6:** Create the bonnet of the clock that mirrors the base by drawing a square on the top of the rectangle that is slightly wider than the top of the rectangle, using the top of the rectangle as the base of the square.



**Step 7:** Create the pediment for the bonnet by drawing a triangle on top of the top square



**Step 8:** Create the clock face by drawing a circle inside the square that makes up the bonnet. Then place a dot in the center and draw two diagonal arrows pointing out to the time you want the clock face to show.



**Step 9:** Students will complete the drawing of the clock by adding numbers to the clock face. Encourage students to start with 12, 3, 6, and 9 so that they adjust their spacing. A chart displaying Roman numerals can be shown to students as they might choose to draw the numbers in that way.

**Step 10:** Students can personalize their clocks by adding decoration to the bonnet and pediment. Encourage students to sign their name on the clock, as this is what silversmiths would have done on the clock face



# Diagram of Clock Parts

