Distance Learning at The Cleveland Museum of Art

Math Connections in Art
Grades 6 – 10

This packet includes:

How to Prepare Your Class for the Distance Learning Presentation

Teacher Information will be sent or made available to you prior to the program.

Please familiarize yourself with the materials and discuss them with your class.

Have the Teacher Information Packet (T.I.P.) materials on hand in the classroom, ready for the program. These materials may be used during the videoconference.

Be prepared to facilitate by calling on students yourself during the lesson. Students are sometimes initially shy about responding to questions during a distance learning lesson.

Explain to students that this is an interactive medium and encourage them to ask questions.

Reinforce topics discussed in the program by asking students to complete some of the suggested pre- and post-conference activities in the Teacher Information Packet.

We ask teachers, after the program, to please fill out the Evaluation Form and return it to:
> Dale Hilton/Distance Learning
> The Cleveland Museum of Art
> 11150 East Boulevard
> Cleveland, OH 44106

Thank You!

Teacher Information Guide:

Program Objectives:
Students will learn and understand…

1. Understand how Chuck Close, and other artists, use math in creating their art.
2. Using grid system can help accurately enlarge an image in a work of art.
3. How to determine the size of the enlarged image, based on proportion. (For example: what is a 50% enlargement of an 8' x 10' photograph?)

Students will be introduced to the work of American painter and printmaker Chuck Close and will also learn to apply math concepts and skills used by the artist to transfer photographic images to another working surface. Beginning with photos of themselves, students will measure, grid and reproduce their portrait into a painting or pencil rendering which may be finished later at home or in the classroom. Concepts such as ratio, percent, and area are reinforced. This is a four-part series consisting of an introduction to Chuck Close, two hands-on in-classroom sessions in which the CMA presenter guides students through gridding their photographs and producing self portraits, and a final session to discuss the students' artwork and assess comprehension of math concepts.

Common Core State Standards Applicable:

English Language Art & Literacy in History/Social Studies, Science, and Technical Subjects-
6th Grade
CCSS.ELA-Literacy.SL.6.1
Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led)with diverse partners on *grade76 topics ,texts, and issues*, building on others' ideas and expressing their own clearly.

7th Grade
CCSS.ELA-Literacy.SL.7.1
Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led)with diverse partners on *grade76 topics ,texts, and issues*, building on others' ideas and expressing their own clearly.

8th Grade
CCSS.ELA-Literacy.SL.8.1
Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led)with diverse partners on *grade 8 topics ,texts, and issues*, building on others' ideas and expressing their own clearly.

Grades 9-10
CCSS.ELA-Literacy.SL.9-10.1

Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grades 9–10 topics, texts, and issues,* building on others' ideas and expressing their own clearly and persuasively.

Math-
6th Grade:
CCSS.Math.6.EE.9
Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation.

7th Grade:
CCSS.Math.7.EE.4
Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.
CCSS.Math.7.G.1
Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.

National Education Standards:
For Visual Arts Education (grades 5-8, 9-12):

- Understanding and applying media, techniques, and processes

- Understanding the visual arts in relation to history and cultures.

- Making connections between visual arts and other disciplines.

For Mathematics – Numbers and Operations (grades 6-8, 9-12):

- Understand numbers, ways of representing numbers, relationships among numbers, and number systems

- Understand meanings of operations and how they relate to one another

- Compute fluently and make reasonable estimates

For Mathematics – Algebra (grades 6-8, 9-12):

- Understand patterns, relations, and functions

- Represent and analyze mathematical situations and structures using algebraic symbols

For Mathematics – Measurement (grades 6-8, 9-12):

- Understand measurable attributes of objects and the units, systems, and processes of measurement

- Apply appropriate techniques, tools, and formulas to determine measurements

Vocabulary:

Area – The amount of surface included within the lines of a geometric figure.

Grid – A system of lines that breaks down the surface area of image into smaller parts, allowing the artist to transfer an image accurately, especially when enlarging and reducing. Each shape in the grid is reduced to design elements, such as color, line and shape. Only together will the shapes form a recognizable image.

Perimeter – The outer boundary of a figure.

Photorealism– A style of painting in which an image is created in such exact detail that it looks like a photograph. Artists created a link between representational systems of painting and photography.

MATH CONNECTIONS – Part One

CMA Distance Learning
Lesson Plan

I. TITLE: Introduction to Chuck Close and Gridding Process

II. CURRICULUM CONTENT: Art Studio, Art History, Art Criticism and Art Appreciation

    A.   General Description – Students will be introduced to the art of Chuck Close, specifically his painting *Paul III, (1996)* from The Cleveland Museum of Art's collection. Students will learn and apply math concepts and skills used by the artist in his method of transferring a photographic image to the canvas. During this lesson, the students will review math concepts and attempt the gridding procedure. (Starting in Lesson 2, the students will use Xeroxes of photographs of themselves to measure, grid and reproduce their portrait into a black and white drawing. Enlargement, reduction, area and perimeter will be applied.)

    B.   Cognitive Goals:
1. Recognize the artwork of Chuck Close.
2. Understand how Chuck Close, and other artists, use math in creating their art.
3. Know formula for determining area is length x width. ($A = L \times W$)
4. Know the formula for determining perimeter is 2 x length plus 2 x width. ($P = 2L + 2W$)
5. Learn the system for gridding a piece of paper and a photographic image to be transferred to that paper.

    C. Affective Goals:
1. Ask questions about Chuck Close and his artwork.
2. Practice gridding on a piece of blank paper.
3. Volunteer to give examples of math skills used by Chuck Close.
4. Discuss opinions on the different styles of Chuck Close's artwork.
5. Remember some aspects of the life of Chuck Close.

    D. Psycho/Motor Skills:
1. Drawing straight lines with a ruler.
2. Drawing lines that intersect.

3. Drawing horizontal, vertical and diagonal lines.
4. Drawing *lightly* with a pencil.
5. Using measurement to determine length and width.

E. Vocabulary: defined

Area – The amount of surface included within the lines of a geometric figure.

Grid – A system of lines that breaks down the surface area of image into smaller parts, allowing the artist to transfer an image accurately, especially when enlarging and reducing. Each shape in the grid is reduced to design elements, such as color, line and shape. Only together will the shapes form a recognizable image.

Perimeter – The outer boundary of a figure.

Photorealism– A style of painting in which an image is created in such exact detail that it looks like a photograph. Artists created a link between representational systems of painting and photography.

F. Materials/Tools for Part One:

For each student - Pencils or pens, rulers, erasers, blank pieces of paper (8.5 x 11 Xerox paper is fine)

III. TEACHING STRATEGIES

A. Motivation: (Artistic, Intellectual)

Showing the examples of artwork by Chuck Close from the Cleveland Museum of Art, as well as some examples not in the museum's collection.

B. Methodology/Procedure:
1. Discuss the life of Chuck Close.
2. Show early works of Chuck Close, discussing style of **photorealism** that he used.
3. Show more recent examples of his work (*Paul III*), and explain how his style began to change.
4. Discuss some possible influences on his style of painting (Impressionism, Pointillism, mosaics, etc.)
5. Introduce the concept of **gridding.**
6. Discuss the math skills used by Chuck Close (measurement, fractions, percentages, geometry, addition, subtraction, multiplication, division, etc.)
7. Discuss the formulas for **area** and **perimeter**.
8. Have the students use their papers to follow along in a demonstration on gridding (which also shows how the formulas for area and perimeter work). *(See attached "grid procedure".)*
9. Explain to the students that we will use this system in creating their portraits.
10. Discuss how gridding made painting easier for Chuck Close, and how it will make our portraits more accurate.
11. Describe the project that will be started in the next lesson, and remind students they will need their photos and Xeroxes.

IV. EVALUATION: critical analysis of observed results

A. Student – Evaluation based on ability to follow directions and pay attention. Assessment also based on how accurately they complete the practice gridding demonstration.

B. Teacher – Evaluation based on ability to hold students' attention. Assessment also based on how well the students grasp concepts of gridding and how Chuck Close used math in his artwork.

MATH CONNECTIONS – Part Two
CMA Distance Learning
Lesson Plan

I. TITLE: Begin Students' Self-Portraits (gridding and enlarging)

II. CURRICULUM CONTENT: Art Studio and Art History

A. General Description – The students will grid the Xeroxes of their photographs. If their photos are not uniform in size (8 x 10 is preferred), each must then be cropped to a size that is proportional. If time permits, students will also grid their white drawing paper. Enlargement, reduction, proportion, area, percents and fractions will be discussed. *** Please note the supplies, listed in section F, that are required for this distance learning lesson. These supplies should be brought to the video conference to enable students' participation.*

B. Cognitive Goals – *Students will:*
      1. Understand how Chuck Close, and other artists, use math in creating their art.
      2. Know formula for determining area is length x width. (A = L x W)
      3. Learn the system for gridding a piece of paper and a photographic image to be transferred to that paper.
      4. Understand that the photo must be proportional to the drawing paper.** *(see Materials/Tools)*
      5. Understand that ratio is the relation between two like numbers.
      6. Know that percent is a number of parts of one hundred, and can also be written as a fraction.

C. Affective Goals – *Students will:*
    1. Ask if the dimensions of their photo are in proportion to the final paper.
    2. Volunteer to give the next step of gridding procedure.
    3. Discuss why the gridding procedure helps make the image they will produce more accurate.

D. Psycho/Motor Skills – *Students will practice:*
    1. Drawing straight lines with a ruler.
    2. Drawing lines that intersect.
    3. Drawing horizontal, vertical and diagonal lines.
    4. Drawing *lightly* with a pencil.
    5. Using measurement to determine length and width.

6. Calculating the dimensions their photo must be (if it is not a uniform size.)
7. Calculating percents into fractions.

   E. Vocabulary:

Area – The amount of surface included within the lines of a geometric figure.

Grid – A system of lines that breaks down the surface area of image into smaller parts, allowing the artist to transfer an image accurately, especially when enlarging and reducing. Each shape in the grid is reduced to design elements, such as color, line and shape. Only together will the shapes form a recognizable image.

Photorealism– A style of painting in which an image is created in such exact detail that it looks like a photograph. Artists created a link between representational systems of painting and photography.

Proportion – A relation of one part to another or to a whole.

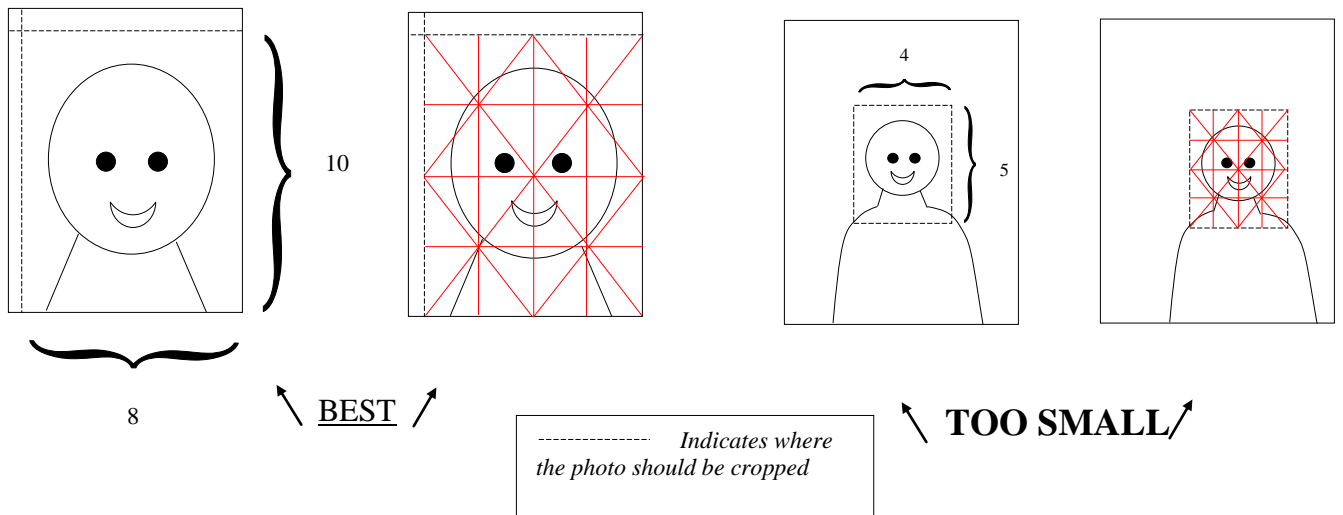**Ratio –** The relation between two like numbers or two like values.

   F. **Materials/Tools** for **PART TWO**: (***Please bring to the distance learning lesson ↓)***

For each student - Pencils, rulers, erasers, photographs of each student (8 x 10 is desired), a Xerox of each student's photograph, white drawing paper (12 x 15, if photos are 8 x 10), paper clips (to keep each student's materials together until next lesson) ***Photographs of students should be measured and prepared <u>before</u> the distance learning lesson. See below for proper method of measurement and cropping, if necessary.***

** If all photos are not the same size, help students calculate other possible dimensions for their photos to be cropped to. (The dimensions must still be in proportion to 8 x 10 – other possibilities include: 6 x 7.5, 4 x 5, and 3 x 3.75) If the photos are not proportional to the final paper, their grids and final drawings will be distorted.

If the face is too small in the photo, it must cropped to a size smaller than 8 x 10, but still **proportional.** Possible dimensions include: 6 x 7.5, 4 x 5, and 3 x 3.75. But, it is much easier if all the photos are 8 x 10.

If photo is 8.5 x 11, crop (trim edges) to 8 x 10. This is the area that will be

| \ BEST ↗ |

| --------------- Indicates where the photo should be cropped |

\ **TOO SMALL** ↗

III. TEACHING STRATEGIES
   A. Motivation: (Artistic, Intellectual)

Showing the examples of artwork by Chuck Close from the Cleveland Museum of Art, as well as some examples not in the museum's collection. Also, showing the drawing done by the distance learning instructor, who will draw along with the students.

B. Methodology/Procedure:
1. Review the artwork of Chuck Close, and review style of **photorealism** that he used.
2. Discuss how gridding made painting easier for Chuck Close, and how it will make our portraits more accurate.
3. Review the process of **gridding.**
4. Discuss how the students will grid their photos. (Gridding will be done on the Xerox, so they will still have their original photo for drawing reference.)
5. Review the formula for **area**.
6. Explain to the students that we must calculate a 50% enlargement of their photos, for the final drawing. (If all photos are 8 x 10, final drawings will be 12 x 15.) Go though this process, and explain why their final drawing must be in **proportion** with their photo.
7. Help students grid their Xeroxes.
8. If time permits, begin gridding the white drawing paper, in the same fashion.

IV. **EVALUATION:** critical analysis of observed results
A. Student – Evaluation based on ability to follow directions and pay attention. Assessment also based on how accurately they complete the gridding of their photos and white paper.

B. Teacher – Evaluation based on ability to hold students' attention. Assessment also based on how well the students grasp concepts of gridding and how Chuck Close used math in his artwork.

MATH CONNECTIONS – Part Three
CMA Distance Learning
Lesson Plan

I. TITLE: Continue Students' Self-Portraits (gridding and enlarging)

II. CURRICULUM CONTENT: Art Studio and Art History

A. General Description – The students should complete the gridding of the Xeroxes of their photographs, as well as the gridding of the white drawing paper. Students begin drawing, using their grid to help accurately render their faces proportionally. If time permits, students will also work on shading their portraits. Enlargement, reduction, proportion, area, percents, fractions and drawing of facial features will be discussed.

B. Cognitive Goals – *Students will:*
1. Understand how Chuck Close (*American, b. 1940)*, and other artists, use math in creating their art.
2. Know that line, shape and form are elements of design.

3. Understand that each part of their grid reduces the area they will draw into simple elements of design.

4. Learn the system for gridding a piece of paper and a photographic image to be transferred to that paper.

5. Understand that the photo must be proportional to the drawing paper.

6. Understand that ratio is the relation between two like numbers.

7. Know that percent is a number of parts of one hundred, and can also be written as a fraction.

C. Affective Goals – *Students will:*

1. Ask questions about gridding their photographs and gridding their drawing papers.

2. Ask questions about drawing their faces.

3. Volunteer to give the next step of gridding procedure.

4. Discuss why the gridding procedure helps make the image they will produce more accurate.

D. Psycho/Motor Skills – Students will practice:

1. Drawing straight lines with a ruler.

2. Drawing lines that intersect.

3. Drawing horizontal, vertical and diagonal lines.

4. Drawing lightly with a pencil.

5. Using measurement to determine length and width.

6. Calculating the dimensions their photo must be (if it is not a uniform size.)

7. Calculating percents into fractions.

E. Vocabulary: defined

Area – The amount of surface included within the lines of a geometric figure.

Grid – A system of lines that breaks down the surface area of image into smaller parts, allowing the artist to transfer an image accurately, especially when enlarging and reducing. Each shape in the grid is reduced to design elements, such as color, line and shape. Only together will the shapes form a recognizable image.

Photorealism– A style of painting in which an image is created in such exact detail that it looks like a photograph. Artists created a link between representational systems of painting and photography.

Proportion – A relation of one part to another or to a whole.

Ratio – The relation between two like numbers or two like values.

F. Materials/Tools for Part Three:

For each student - Pencils, rulers, erasers, photographs of each student (8 x 10 if possible), a Xerox of each student's photograph, white drawing paper (12 x 15, if photos are 8 x 10), paper clips (to keep each student's materials together until next lesson)

III. TEACHING STRATEGIES

A. Motivation: (Artistic, Intellectual)

Showing the examples of artwork by Chuck Close (*American, b. 1940)* from the Cleveland Museum of Art, as well as some examples not in the museum's collection. Also, showing the drawing done by the distance learning instructor, who will draw along with the students.

B. Methodology/Procedure:
      1. Review the work done in the last lesson (gridding of the photo) and make sure everyone has correctly done this step.
      2. If the students have not begun gridding their white drawing papers, discuss how the students will grid their papers. **
      3. If necessary, review gridding process.
      4. When gridding of white paper is complete, discuss how the students will begin drawing their faces.
      5. Show examples of how to draw facial features, and demonstrate how to draw using their grid as a guide.
      6. Demonstrate shading techniques.
      7. If time permits, students will complete portraits. (Otherwise, students should be given time to complete portraits, preferably before the final distance learning lesson – part four.)

IV. EVALUATION: critical analysis of observed results
      A. Student – Evaluation based on ability to follow directions and pay attention. Assessment also based on how accurately they complete the gridding of their photos and white paper, as well as how they use their grids to assist in drawing their portraits.

      B. Teacher – Evaluation based on ability to hold students' attention. Assessment also based on how well the students grasp concepts of gridding and how Chuck Close (*American, b. 1940)* used math in his artwork. Assessment also based on how well the students comprehend explanations of how to draw, especially using the grid.

** *Even if students begin their project with a smaller cropped photo, their final drawing will be 12 x 15, and should fill the paper. The entire 12 x 15 drawing paper should be gridded.*

photo →   *drawing →*

MATH CONNECTIONS – Part Four
CMA Distance Learning
Lesson Plan
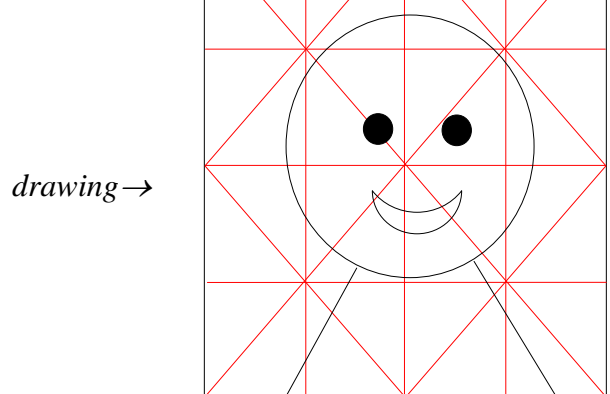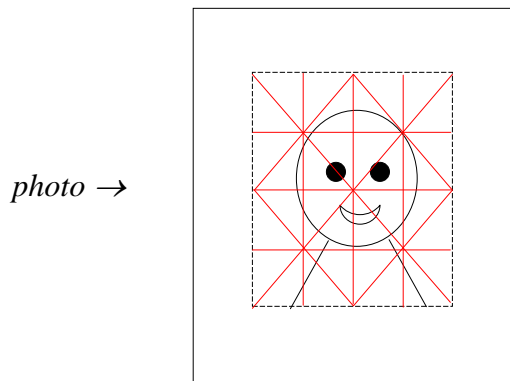
I. TITLE: Final Lesson – Wrap up and Review of Chuck Close (*American, b. 1940)* and math concepts

II. CURRICULUM CONTENT: Art Studio, Art Criticism, Art Appreciation and Art History

A. General Description – The students will show their final projects to the distance learning instructor. The life and art of Chuck Close (*American, b. 1940),* as well as the math concepts covered, will be reviewed in this lesson. The gridding process will also be reviewed. The students can ask questions about the material and the project. The instructor will also review the worksheet from Lesson 2 with the class. (It is not necessary to bring the students worksheets to the final lesson; there will be a worksheet for them to look at on camera.) ***The students should have completed their portraits between Lesson 3 and Lesson 4, and should bring them to this final distance learning lesson.***

B. Cognitive Goals – *Students will:*
      1. Understand how Chuck Close (American, b. 1940), and other artists, use math in creating their art.
      2. Understand that each part of their grid reduces the area they will draw into simple elements of design.
      3. Know the system for gridding a piece of paper and a photographic image to be transferred to that paper.
      4. Understand that the photo must be proportional to the drawing paper.
      5. Understand that ratio is the relation between two like numbers.
      6. Know that percent is a number of parts of one hundred, and can also be written as a fraction.

C. Affective Goals – *Students will:*
      1. Ask questions about gridding their photographs and gridding their drawing papers.
      2. Ask questions about drawing their faces.
      3. Volunteer to give the next step of gridding procedure.
      4. Discuss why the gridding procedure helps make the image they will produce more accurate.
      5. Discuss what they enjoyed or disliked about this program.
      6. Discuss the art of Chuck Close (American, b. 1940), in comparison with portraits done by other artists.

D. Psycho/Motor Skills – *Students will practice:*
      1. Drawing straight lines with a ruler.
      2. Drawing lines that intersect.
      3. Drawing horizontal, vertical and diagonal lines.
      4. Drawing lightly with a pencil.
      5. Using measurement to determine length and width.
      6. Calculating the dimensions their photo must be (if it is not a uniform size.)
      7. Calculating percents into fractions.

E. Vocabulary: defined
    Area – The amount of surface included within the lines of a geometric figure.

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Proportion – A relation of one part to another or to a whole.

Ratio – The relation between two like numbers or two like values.

F.   Materials/Tools for Part Three:
For each student - Pencils, rulers, erasers, photographs of each student (8 x 10 if possible), a Xerox of each student's photograph, white drawing paper (12 x 15, if photos are 8 x 10), paper clips (to keep each student's materials together until next lesson)

III.   TEACHING STRATEGIES
A.   Motivation: (Artistic, Intellectual)
Showing the examples of artwork by Chuck Close (*American, b. 1940)* from the Cleveland Museum of Art, as well as some examples of portraits done by other artists for comparison.

B.   Methodology/Procedure:
1. View and discuss the students finished portraits.
2. Discuss how color could be used in these portraits at a later time.
3. Review artwork of Chuck Close (American, b. 1940), and compare/contrast his work with portraits done by other artists.
4. Review gridding process.
5. Review other math concepts used, using the worksheet from lesson 2 (students can look at the worksheet shown on camera).
6. Ask students opinion of the program – what did they enjoy? What did they dislike? Will these the gridding technique for drawing the future? Did they enjoy using art to learn about math?

IV.   EVALUATION: critical analysis of observed results
A.   Student – Evaluation based on ability to follow directions and pay attention. Assessment also based on how accurately they completed the gridding of their photos and white paper, as well as how they use their grids to complete drawing their portraits. The instructor will also assess their retention of the math skills and concepts, as well as the knowledge they have gained about Chuck Close (*American, b. 1940).*

B.   Teacher – Evaluation based on ability to hold students' attention. Assessment also based on how well the students grasp concepts of gridding and how Chuck Close used math in his artwork. Assessment also based on how well students comprehend explanations of how to draw, especially using the grid.

Supplies Needed for Math Connections:

(To be brought to the video conference)

Lesson 1:
ALL STUDENTS WILL NEED – Pencils or pens, rulers, erasers, a blank piece of paper (8.5 x 11 Xerox or newsprint paper is fine – will use for practice gridding)

Lessons 2 and 3:
ALL STUDENTS WILL NEED – Pencils, erasers, rulers, an 8 x 10 photograph of his/her **face***, a black and white Xerox copy of that photo (or 2 copies, if possible), a large sheet of white drawing paper (12 x 18 size, which we will crop during the lesson), paper clips

Lesson 4:
ALL STUDENTS WILL NEED – Their finished self-portraits

* Please see the illustrations and explanation regarding the students' photographs in Lesson Plan – Part Two. The photos should all be the same size, and should be a large shot of the student's face.

MATH CONNECTIONS – WORKSHEET

CMA Distance Learning   Name:_____

Lesson Plan

1. What is the name of the artist we are learning about?

2. What is the title of the painting done by this artist, that is The Cleveland Museum of Art?

3. What math skills did Chuck Close use in his art?

4. What is the **length** of your photograph?   What is the **width?**

5. Perimeter (P) = 2 x Length   +   2 x Width   - *OR*-   P = 2L + 2W

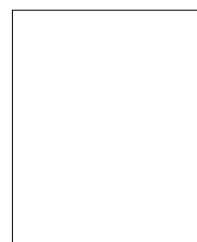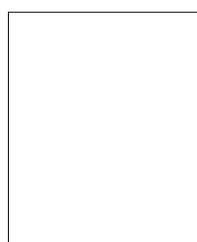   What is the perimeter of your photograph?   (*Please show your work.*)
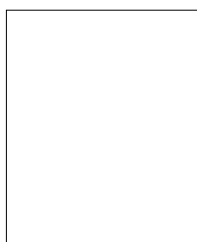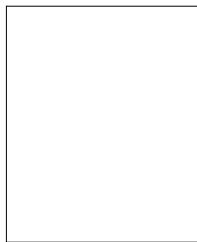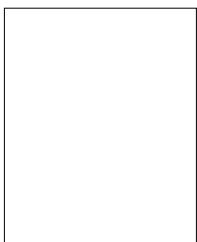

6. Area (A) = Length x Width   -*OR*-   A = L x W

    What is the area of your photograph?   (*Please show your work.*)

7.   Enlarge your photo by 50%, and show how you determined this:

8. Enlarge your photo by 100%, and show how you determined this:

9. Please show how to grid this rectangle, step by step:

MATH CONNECTIONS – WORKSHEET: ANSWER KEY

CMA Distance Learning
Lesson Plan

1. What is the name of the artist we are learning about?
    Chuck Close

2. What is the title of the painting done by this artist, that is The Cleveland Museum of Art?
    Paul III, 1996

3. What math skills did Chuck Close use in his art?

    Gridding, area, enlargement, addition, subtraction, multiplication, division, etc.

4. What is the **length** of your photograph? *(8 inches)*_ What is the **width?** *(10 inches)*

5. Perimeter (P) = 2 x Length   +   2 x Width   - *OR*-   P = 2L + 2W

    What is the perimeter of your photograph?   (*Please show your work.*)

    P = (2 x 10) + (2 x 8)   P = 20 + 16   P = 36 inches

6. Area (A) = Length x Width   -*OR*-   A = L x W

    What is the area of your photograph?   (*Please show your work.*)

    A = 10 x 8   A = 80 inches²

7. Enlarge your photo by 50%, and show how you determined this:

    50% = 1   8 x 1 = 8 = 4   10 x 1 = 10 = 5   8 + 4 (50%) = 12   50% enlargement = 12 x 15
    2   1   2   2   1   2   2   10 + 5 (50%) = 15

8. Enlarge your photo by 100%, and show how you determined this:

    100% = 1   8 x 1 = 8 = 8   10 x 1 = 10 = 10   8 + 8 (100%) = 16   100% enlargement = 16 x 20
    1   1   1   1   1   1   1   10 + 10 (100%) = 20

9. Please show how to grid this rectangle, step by step:
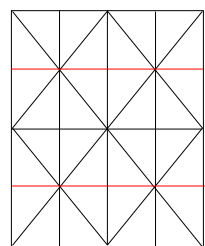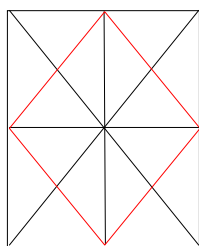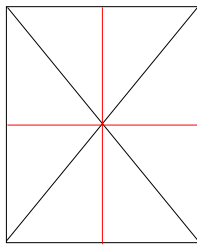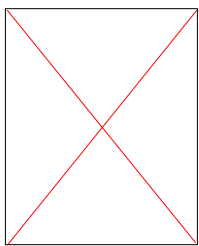
GRID PROCEDURE:

(8 x 10)

1.) Draw diagonals from corner to corner of rectangle (or square), creating an X. The intersection point of the diagonals will locate the center.

2.) Measure to determine where the center of the length of the rectangle is, and mark on each side.
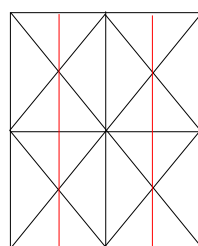
3.) Draw a horizontal line connecting these 2 marks – it should intersect with the center point.

4.) Measure to determine where the center of the width of the rectangle is, and mark on each side.

5.) Draw a vertical line connecting the marks – it should also intersect the center point.

6.) Draw a diagonal in each of the four rectangles, creating an X in each box (and a large diamond around the page.)

7.) Draw vertical lines through the intersection of the X's.

8.) Draw horizontal lines through the intersection of the X's.

(For a square grid) ⟶

The Cleveland Museum of Art Distance Learning Evaluation Form

Your Name_____

Your School_____

School Address (with zip code) _____

E-mail Address _____

Grade/Class of students (e.g. 10th grade French) _____

Program Title _____

Program Date _____

Thank you so much for your participation in our distance learning program. We would appreciate your response to these questions by circling the appropriate answer and returning the survey. Please Mail or Fax to Dale Hilton at 216-707-6679

5= Strongly Agree   4= Agree   3= Neither Agree nor Disagree
2= Disagree   1= Strongly Disagree

1. The teacher information packet was helpful for preparing my class and me for the distance learning lesson.

        5   4   3   2   1

2. The teaching style of the on-camera instructor was interesting, engaging and fostered interaction.

        5   4   3   2   1

3. The Teacher Information Packet was helpful in providing interdisciplinary extension activities that I did use or plan to use.

        5   4   3   2   1

4. The distance learning lesson successfully taught its objectives.

        5   4   3   2   1

5. The distance learning lesson was not interrupted by technical difficulties.

        5   4   3   2   1

6. The pre-requisites the distance learning lesson and extensions are aligned with The National Education standards.

        5   4   3   2   1

7. I plan to register for another distance learning lesson.
    (*circle one*)

                Yes   No

    *If no, why?*_____

8. I would like more information about The Cleveland Museum of Art's Teacher Resource Center.
   (*circle one*)

                                 Yes   No

9. Why did you choose The Cleveland Museum of Art Distance Learning?
   (*circle one*)

   a.) Price Point
   b.) Quality of lessons
   c.) Selection of lessons
   d.) Ease of working with CMA
   e.) Other

10. How did you hear about The Cleveland Museum of Art Distance Learning program?
    (*circle all that apply*)

    a.) CMA inservice
    b.) CILC
    c.) TWICE
    d.) Conference
    e.) Brochure
    f.) The Cleveland Museum of Art website
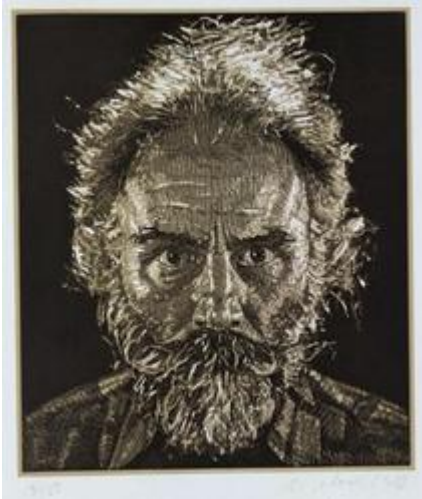   g.) The Teacher Resource Center
    h.) Other

11. Do you have any additional comments about the distance learning lesson?

_____

_____

_____

_____

Please return the completed teacher evaluation form to:

                    Dale Hilton/Distance Learning
                    The Cleveland Museum of Art
                    11150 East Boulevard
                    Cleveland, OH 44106

Or fax to Dale Hilton at 216-707-6679

Images for Math Connections in Art

Lucas
Chuck Close (American, 1940)
1988
1994.111

Georgia II
Chuck Close (American, 1940)
1985
1988.82

Phil Spitbite
Chuck Close (American, 1940)
1995
1996.15

Paul III
Chuck Close (American, 1940)
1996
1997.59