

ANCHORAGE MUSEUM

GRADE 7: ART IN NUMBERS



CHRIS JORDAN
DENALI/DENIAL, 2006
Inkjet Print
Anchorage Museum collection
2018.2.1



ARTIST BIOGRAPHY

Chris Jordan (b. 1963) is a photographer based in Seattle, Washington. His images examine consumer culture and impact of consumerism on the environment. He combines documentary style photography with digitally altered photographs to capture the grand scale of consumption. Other works document the effects of human-made and natural disasters.

ABOUT THE ARTWORK

Denali/Denial is part of a series called *Running the Numbers*, an ongoing project visualizing contemporary American life through statistics. In *Denali/Denial*, 24,000 GMC Yukon Denali logos representing the number of that model of vehicle sold in six weeks combine to form Ansel Adam's photograph *Mt. McKinley, Wonder Lake*. Adam's work, known for its focus on natural landscapes contrasts with the Yukon Denali logos. Half of the logos are retitled "denial" pointing to the environmental costs and outcomes of creating, purchasing, and driving vehicles with low fuel-efficiency.

ARTIST QUOTES

"This project visually examines these vast and bizarre measures of our society, in large intricately detailed prints assembled from thousands of smaller photographs. Employing themes such as the near versus the far, and the one versus the many, I hope to raise some questions about the roles and responsibilities we each play as individuals in a collective that is increasingly enormous, incomprehensible, and overwhelming."

"The pervasiveness of our consumerism holds a seductive kind of mob mentality. Collectively we are committing a vast and unsustainable act of taking, but we each are anonymous and no one is in charge or accountable for the consequences. I fear that in this process we are doing irreparable harm to our planet and to our individual spirits."

"Finding meaning in global mass phenomena can be difficult because the phenomena themselves are invisible, spread across the earth in millions of separate places. There is no Mount Everest of waste that we can make a pilgrimage to and behold the sobering aggregate of our discarded stuff, seeing and feeling it viscerally with our senses.

Instead, we are stuck with trying to comprehend the gravity of these phenomena through the anaesthetizing and emotionally barren language of statistics. Sociologists tell us that the human mind cannot meaningfully grasp numbers higher than a few thousand; yet every day we read of mass phenomena characterized by numbers in the millions, billions, even trillions."

KEY TERMS

<i>Statistic</i>	Information, or a piece of information coming from a study of many data points
<i>Repetition</i>	Something occurring again and again
<i>Mosaic</i>	A composition made of smaller elements; mosaic artworks are frequently made with stone, glass, and tile
<i>Consumerism</i>	Social interest in purchasing goods
<i>Scale</i>	The relative size or extent of something



<i>Waste</i>	Unwanted or unusable material, substances, or by-products
<i>Data</i>	Information collected for reference, study, or analysis

ADDITIONAL INFORMATION

The relationship between mathematics and art dates back centuries, with geometric tessellations being a prominent feature of Byzantine and Islamic art. In tessellations from hundreds of years ago, designs would be drawn using straight edges and compasses and would be replicated continuously to form interlocking patterns.

Over time, the use of repetition through geometric tessellations has played a role in theological and philosophical discussions about symmetry, beauty, and order. Such designs can be found in interior designs and architecture.

Tessellations from Alhambra inspired the Dutch artist M.C. Escher to experiment with the properties of tessellations and later to use other mathematical approaches and including symmetry.

SECONDARY TERMS

<i>Symmetry</i>	The quality of sameness reflected on an axis, such as a mirror image
<i>Translation</i>	Repositioning of something on a surface without rotating it
<i>Congruent</i>	Identical in size and shape
<i>Mean (mathematics)</i>	The result of the sum of values divided by the number of values, an average
<i>Tessellation</i>	A pattern of repeated, perfectly interlocking congruent figures
<i>Angular</i>	A form marked by sharp, precise angles and perfect symmetry, such as a cube
<i>Organic (form)</i>	A form marked by curvy/wavy shapes and a lack of perfect symmetry, such as a tree branch
<i>Erratic</i>	Irregular in pattern or form, such as the rhythm of lightning strikes in a storm
<i>Predictable</i>	Something which is regular and consistent, such as sunrise and sunset

INSTRUCTIONAL SEQUENCE

Begin this art lesson by looking and discussing about the artwork together for 10 to 15 minutes.

CLOSE-LOOKING Invite students to look closely, quietly at the artwork.

OBSERVE Invite students to share observations about the artwork.

ASK

- *What is going on in this artwork?*
- *Describe the parts of the image you see. Is the image one image or many?*
- *What colors does the artist use? How might it affect how you see the artwork?*
- *How does the title affect your understanding of the artwork?*
- *What does it remind you of?*



- *What more do you see?*
- *What more can you find?*

DISCUSS

USE [20 Questions Deck](#) for more group discussion questions about the artwork.

LEARN MORE

- About *Running the Numbers*:
https://www.ted.com/talks/chris_jordan_turning_powerful_stats_into_art
- Artist Website:
<http://www.chrisjordan.com>

TESSELLATIONS

TIME FRAME

45-50 minutes

MATERIALS

Stiff notecards
Pencil
Rulers
Scissors
Scotch or masking tape
White or colored paper (minimum 4" x 5.5")
Coloring utensils

DIRECTIONS

1. [1 min] Tessellations are formed when a polygon is arranged in a repeating pattern which fits tightly together and leaves no gaps. Like the Denali logos in Chris Jordan's *Denali/Denial*, tessellations are composed of repeated patterns that combine to form a larger composition.
2. [1 min] Share the following quote with your students: "Repetition is a form of change" - Peter Schmidt.
3. [5 mins] Students will create a tessellation. Prompt students to cut out a 2" x 2" square from their notecard using a ruler and pencil to measure.
4. [3 mins] Once complete, invite students to draw a single non-looped line from one side of the notecard to the opposite end. This may be as simple or complicated as the student prefers. Introduce different line types (for example: angular vs. organic, erratic vs. predictable, and so on).
5. [1 min] Invite students to cut along the line they previously drew.
6. [5 mins] Share the following definition with your students: "Translations are created when a shape is moved without rotation or resizing." Invite students to translate the piece they cut off their square and connect it back together in a new location using tape.
7. [3 mins] After taping, invite students to draw a second non-looped line perpendicular to the direction of their first.



8. [5 mins] Repeat steps 5-6.
9. [5 mins] On individual sheets of paper, invite students to trace their shapes on the paper provided to make repeating interlocking patterns.
10. [10 mins] Invite students to color their tessellations and reflect on the quote from step 2. Discuss how the quote affects how the students feel about their work.
11. [5-10 mins] Invite students to share and present their tessellations to the class.

CREATE A STATISTICAL ARTWORK: VISUALIZING CONSUMERISM

TIME FRAME 2 class periods
*Time may vary according to student ability.

MATERIALS Scissors
Large sheet of paper (48" x 36" or larger)
Black marker
Coloring utensils
Colored construction paper
Recyclable materials
Glue
Stapler

DIRECTIONS

Day one:

1. [1 min] Share Chris Jordan's quote: "Finding meaning in global mass phenomena can be difficult because the phenomena themselves are invisible, spread across the earth in millions of separate places. There is no Mount Everest of waste that we can make a pilgrimage to and behold the sobering aggregate of our discarded stuff, seeing and feeling it viscerally with our senses. Instead, we are stuck with trying to comprehend the gravity of these phenomena through the anaesthetizing and emotionally barren language of statistics. Sociologists tell us that the human mind cannot meaningfully grasp numbers higher than a few thousand; yet every day we read of mass phenomena characterized by numbers in the millions, billions, even trillions."
2. [5 mins] Revisit and discuss themes of Jordan's work, such as scale, the individual and the collective, and consumerism.
3. [5-10 mins] Share with your students the following statistic from the Alaska



Forest Association: The average American consumes 630 lbs/285 kg of paper each year equivalent to one 100-foot tall tree. Discuss other objects for size comparisons (for example: student height, relative weight of an object) and create collaborative sketches either on the board or on paper to illustrate these comparisons.

4. [10 mins] Invite students to think of something they consume everyday (milk cartons, slices of pizza, sheets of paper and so on) and to write down their ideas.

5. [5 mins] In groups of 3-5, encourage students with similar items to come up with their daily use estimates. Invite students to write down what this might look like in a week, a month, and in a year by multiplying their daily values with appropriate time values (7 for a week, 30 for a month, and 365 for a year).

6. [5-15 mins] Once finished, invite students to calculate the mean of their daily value for their group. Provide the following formula to calculate the mean for their daily values (total daily values divided by the number of students in their given group). Invite students to compute weekly, monthly, and yearly values using the same formula, but substituting daily value sums for weekly ones and so on*.

For example:

Student a uses 1 roll of toilet paper per day, student b uses 3 rolls of toilet paper per day, and student c uses 4 rolls of toilet paper per day.

Add the values: $1 + 3 + 4 = 8$

Divide the result by the number of students: $8/3 = 8/3$ or $2\frac{2}{3}$ or 2.67

Day 2:

7. [25-30 mins] After calculations are finished, invite students to collaborate to create a symbol to represent one of their values (for example: 2 & 2/3rds rolls of toilet paper to represent daily consumption of toilet paper rolls or the number 2.67 as the logo of a brand of toilet paper) and to create a structure or a poster using available materials. Encourage students to sign their pieces after all elements are stable.

8. [10 mins] While waiting for pieces using glue to dry, invite students to present in groups about what they created, the consumable item they chose to represent and the methods they used.

ASSESSMENT

Students will be assessed based on their participation in the discussion, completion of the two projects, and art presentation to class.

For more teaching resources, visit anchagemuseum.org/teachingresources

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