

# Wassily Kandinsky, Abstract Art and Linear Functions

THEME	CONTENT	ART
When are We?	CCSS.Math.Content.8.FA.3	VA:Cr1.2.8a

## KEY VOCABULARY

- Function
- Linear Function
- Nonlinear Function

**PACING:** 1-2 DAYS

## ASSESSMENT (Formative):

Abstract Art and Linear Functions

## ELEMENTS OF ART/MUSIC, ETC:

Line  
Form  
Color

## MATERIALS LIST

- video, *Music and Art, Interpreting Kandinsky lesson* found at <https://www.youtube.com/watch?v=MVzUfiVlfr0>
- video from *The Calvert Journal* found at <https://www.calvertjournal.com/news/show/9836/this-video-lets-you-step-inside-kandinskys-abstract-masterpieces>
- Video of Kandinsky painting found at <http://www.openculture.com/2018/05/9-iconic-artists-at-work.html>
- 12x18 white paper
- Watercolor paints, brushes, water

## LESSON OBJECTIVE

Using an aspect of present day life student will collaboratively create functions that are not linear even if they follow the form for a linear function and graph them to create a work of art using the work of Kandinsky as inspiration.

## ESSENTIAL QUESTION

How can we collaboratively demonstrate aspects of present day life using functions and a contemporary practice of art and design.

## 21st CENTURY SKILLS:

- 🔍 Critical Thinking
- 🔍 Creative Thinking
- 🔍 Collaborating
- 🔍 Initiative
- 🔍 Communicating
- 🔍 Media Literacy
- 🔍 Informational Literacy
- 🔍 Tech Literacy
- 🔍 Flexibility
- 🔍 Social Skills
- 🔍 Leadership
- 🔍 Productivity

## CONTENT STANDARDS:

CCSS.Math.Content.8.FA.3

Interpret the equation  $y=mx+b$  as defining a linear function, whose graph is a straight line: Give examples of functions that are not linear. For example, the function  $A=s^2$  giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1), (2,4) and (3,9) which are not a straight line.

## ARTS STANDARDS:

VA:Cr1.2.8a

Collaboratively shape an artistic investigation of an aspect of present day life using a contemporary practice of art and design.

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## WARM-UP OPTIONS (10 MIN)

- |   |   |   |
|---|---|---|
| <ul style="list-style-type: none"><li>• 33- Crazy 8s</li><li>• 34- Finding Our Voices</li><li>• 35- Guided Improv</li></ul> | <ul style="list-style-type: none"><li>• 36- I'm a Bird</li><li>• 37- Memory</li><li>• 38- Mrs. Mumble</li></ul> | <ul style="list-style-type: none"><li>• 39- Pedestrians</li><li>• 40- Pepperoni</li></ul> |
|---|---|---|

## LESSON OVERVIEW

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Artists receive inspiration from life. Sometimes this can be in the grand scheme of things and sometimes is the mundaneness of everyday life. Wassily Kandinsky was inspired by his ability to see sound and wanted to create art that expressed this. Color and form were the important parts of the artistic process to him. Using these elements his artwork abstractly communicated sights, sounds and emotions of the time. Functions relate an input to an output.  $f(x)$  represents a function where  $f$  represents the functions name and  $x$  is the input. When a function forms a line, that function is linear. Students should already be familiar with the equation that represents this.  $y=mx+b$  As long as  $x$  stays with a power of 1 the function will be linear. Some points will go forever in a straight line. But others will take a winding path. These represent functions that are not linear. Students will need to recognize these functions. Students will use these functions (that they will create base on some aspect of present day life) to create an artwork in the style of Kandinsky.

## ENGAGEMENT

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### Seeing Sound

Wassily Kandinsky could “see” sounds. This is called synesthesia. Have this word posted at the front of the room. Ask students what it means. After everyone who wants to share an idea has had a turn tell them what it means. Seeing sounds. Wassily Kandinsky, the “father of abstract painting could do this.” Tell them that they are going to try an experiment. Be sure everyone has a piece of paper and they should fold it in thirds so they have three sections. Hand out the watercolor paints and brushes. (A piece of newspaper underneath their paper will cut down on any mess). Instruct students that they will paint on their paper three times for three different types of music. They should paint what they “feel” when they listen to the music. Play the video, *Music and Art, Interpreting Kandinsky lesson* found at <https://www.youtube.com/watch?v=MVzUfiVlfr0> . If possible, do not let the students see the video while they are painting. Let them just hear the music. Play each section pausing in between so that they can get ready for the next painting. Once all three songs have played invite students to share their paintings and notice any similarities or differences. Play the video again so students can see Kandinsky’s work.

## STEP 1

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### Wassily Kandinsky

Discuss Wassily Kandinsky with the students. He was a Russian artist and is considered to be the father of abstract painting. He was part of the early 20th century expressionist movement where artists were inspired by color and emotions. Kandinsky simplified his work in later years. Some say he went to the extreme. His work became about pure form and color, two of the elements of art. He used these forms to bring out emotional responses in viewers. Show students this video from *The Calvert Journal* found at

<https://www.calvertjournal.com/news/show/9836/this-video-lets-you-step-inside-kandinskys-abstract-masterpieces>. It takes viewers on a journey through selections of Kandinsky's abstract work. This will give them more of a sense of what his paintings were like. . Another interesting video shows rare footage of Kandinsky painting. That video can be found here <http://www.openculture.com/2018/05/9-iconic-artists-at-work.html>.

### ARTFUL THINKING ROUTINE

**I See, I Think, I Wonder Routine.** Have students analyze the painting *Stables* by Franz Marc, 1913, oil on canvas image source [https://www.1000museums.com/art\\_works/franz-marc-stables-stallungen](https://www.1000museums.com/art_works/franz-marc-stables-stallungen)

- Brainstorm a list of three questions you have about the artwork. Use these question starts to help you think of interesting questions:
- Why...? What are the reasons...? What if...? What is the purpose of...?
- Reflect: What new ideas do you have about the artwork?

Artful Thinking by Project Zero is licensed under a Creative Commons AttributionNonCommercial 4.0 International License. Routine found here: <http://pzartfulthinking.org/>

## STEP 2

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### Linear Function Review

Functions relate an input to an output.  $f(x)$  represents a function where  $f$  represents the functions name and  $x$  is the input. Linear functions are those functions whose graph is a straight line. It follows the form  $y=f(x)=a+bx$ . There is one independent variable( $x$ ) and one dependent variable( $y$ ).  $a$  is the constant or  $y$  intercept while  $b$  is the coefficient of the independent variable or slope(rate of change of the dependent variable). To graph a linear function you find two points that satisfy the equation, plot them and connect with a straight line. To tell if a function is linear, look at the equation and see if it fits into the form  $y=mx+b$ . (Sometimes

### Teacher-to-Teacher

You can talk with your Arts Teacher to see if you can borrow some watercolor paints for the students to use. If paints are not available, simply have students draw with their pencils or colored pencils to the music. Any aft media will work.

This lesson can be extended by having students research Kandinsky and select an individual work to use as inspiration.

you will need to rearrange the parts). Equations and graphs are not always functions. Students can use the vertical line test. If a vertical line can be drawn anywhere on the graph without hitting the line or curve more than once, the graph is a function. If not, it is just a point with no direction. Review all of this information with students. Have students now complete the worksheet on recognizing linear functions to check for understanding of what is a linear function and what is not.

## MAIN ACTIVITY/PROJECT

Wassily Kandinsky is quoted as saying, "Everything starts with a dot." ([https://www.brainyquote.com/search\\_results?q=kandinsky+dot](https://www.brainyquote.com/search_results?q=kandinsky+dot)) Students will work collaboratively in pairs. Students will decide on an aspects of life today to illustrate by creating functions for them. They will then graph these functions. Students should be sure to create both functions that are linear and some that are not and be able to recognize the difference. Students will then transform this graph into an artwork using color and form in the abstract style of Wassily Kandinsky.

**ESTIMATED TIME: 1 hour**

## CLOSURE

### Artist Statement

Students will complete an artist statement describing how they created their functions, why certain functions are linear or not linear. This statement will also need to include a statement about how they used the art of Kandinsky as motivation.

# ASSESSMENT FOR TEACHER

THEME	CONTENT	ART
When are We?	CCSS.Math.Content.8.FA.3	VA:Cr1.2.8a

	3	2	1	0
Linear and nonlinear function representation	There are more than six linear and nonlinear functions clearly represented in the work providing a variety of lines and shapes filling the graph.	There are between four and six linear and nonlinear functions clearly represented in the work.	There are between two and three linear and nonlinear functions represented in the work.	There is only one function represented on the graph so graph does not represent both linear and nonlinear functions or no work was completed.
Artistic investigation of everyday life reflecting the art of Kandinsky	Students demonstrated an advanced use color and form to create a feeling or emotion reflecting all the aspects of present day life reflected in the functions.	Students used color and form to create a feeling or emotion reflecting many of the aspects of present day life reflected in the functions.	Students used color and form to create a feeling or emotion reflecting some of the aspects of present day life reflected in the functions.	Students used color and form to create a feeling or emotion reflecting only one of the aspects of present day life reflected in the functions or no work was completed.
Artist Statement	Artist statement includes a detailed description of the functions and their sets, explicit reasons why functions are linear or not, and a detailed statement that tells how they used Kandinsky's art as motivation.	Artist statement includes a brief description of the functions and their sets, reasons why functions are linear or not, and a statement that tells how they used Kandinsky's art as motivation.	Artist statement includes only one of the following; a description of the functions and their sets, a reason why functions are linear or not, or a statement that tells how they used Kandinsky's art as motivation. Or the explanations are unclear.	Artist statement is vague, incomplete and does not attempt to answer any of the questions or no work was completed.

## GRADE: 8

# Abstract Art and Linear Function

STUDENT NAME: \_\_\_\_\_

DATE: \_\_\_\_\_

Choose aspects of present day life that can be represented as a functions. Create the functions and their sets. Determine which functions are linear and not linear. Graph the functions together on one graph. When this is complete, investigate the forms and colors that Wassily Kandinsky used when he painted. Add color to your graph using watercolor paint as inspired by Kandinsky. Be sure to include in your artist statement a description of your functions, whether they are linear or not and why, and how you used Wassily Kandinsky's art as motivation.

	3	2	1	0
Linear and nonlinear function representation	There are more than six linear and nonlinear functions clearly represented in the work providing a variety of lines and shapes filling the graph.	There are between four and six linear and nonlinear functions clearly represented in the work.	There are between two and three linear and nonlinear functions represented in the work.	There is only one function represented on the graph so graph does not represent both linear and nonlinear functions or no work was completed.
Artistic investigation of everyday life reflecting the art of Kandinsky	Students demonstrated an advanced use color and form to create a feeling or emotion reflecting all the aspects of present day life reflected in the functions.	Students used color and form to create a feeling or emotion reflecting many of the aspects of present day life reflected in the functions.	Students used color and form to create a feeling or emotion reflecting some of the aspects of present day life reflected in the functions.	Students used color and form to create a feeling or emotion reflecting only one of the aspects of present day life reflected in the functions or no work was completed.
Artist Statement	Artist statement includes a detailed description of the functions and their sets, explicit reasons why functions are linear or not, and a detailed statement that tells how they used Kandinsky's art as motivation.	Artist statement includes a brief description of the functions and their sets, reasons why functions are linear or not, and a statement that tells how they used Kandinsky's art as motivation.	Artist statement includes only one of the following: a description of the functions and their sets, a reason why functions are linear or not, or a statement that tells how they used Kandinsky's art as motivation. Or the explanations are unclear.	Artist statement is vague, incomplete and does not attempt to answer any of the questions or no work was completed.

# Vocabulary

## Lesson Title Wassily Kandinsky: Abstract Art and Linear Function

Grade: 8

Name:

Date:

Period Number:

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Function - a relation with no repeating x values so there is exactly one output for each input.

Linear Function - any function that graphs a straight line

Nonlinear function - functions that are not linear and does not graph a straight line.

# Samples of Kandinsky's Artwork

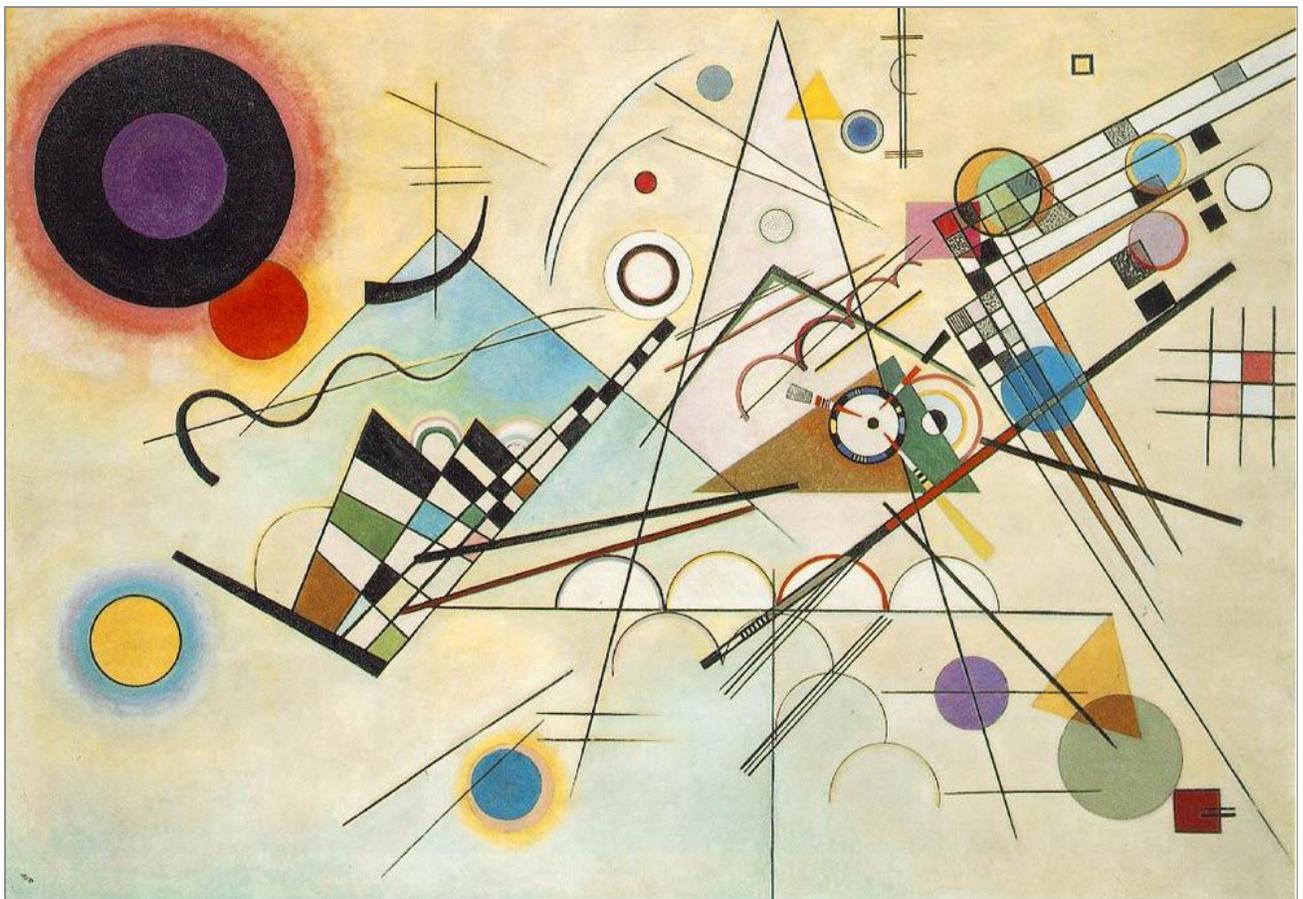
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Wassily Kandinsky, Composition VIII, 1923, oil on canvas

Image source <https://www.wassilykandinsky.net/work-50.php>

# Samples of Kandinsky's Artwork

## Lesson Title Wassily Kandinsky: Abstract Art and Linear Function

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Wassily Kandinsky, Composition VII, 1931, oil on canvas

# Samples of Kandinsky's Artwork

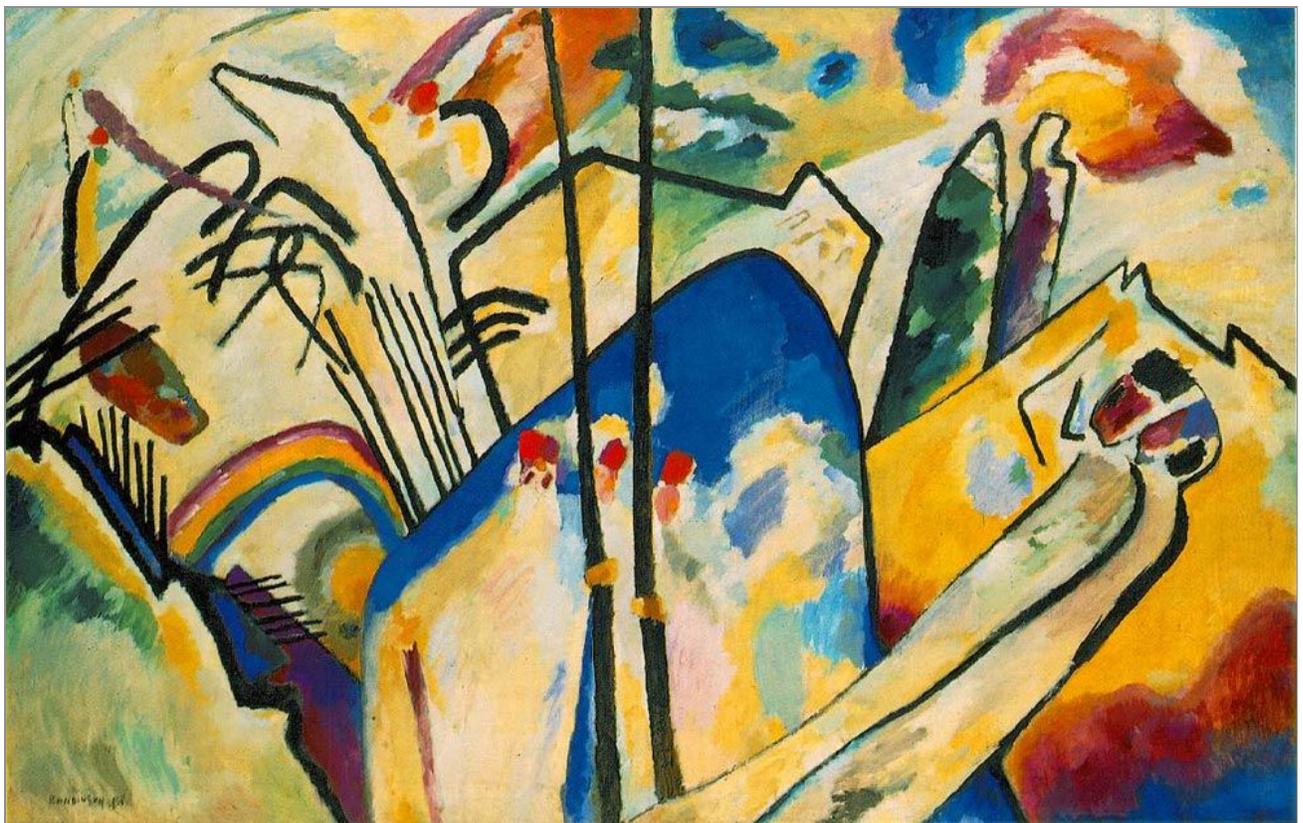
## Lesson Title Wassily Kandinsky: Abstract Art and Linear Function

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Wassily Kandinsky, Composition IV, 1911, oil on canvas

# Artful Thinking Image

## Lesson Title Wassily Kandinsky: Abstract Art and Linear Function

Grade: 8

Name:

Date:

Period Number:

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Franz Marc, Stables, 1913, oil on canvas

Image source [https://www.1000museums.com/art\\_works/franz-marc-stables-stallungen](https://www.1000museums.com/art_works/franz-marc-stables-stallungen)

# Linear Functions Worksheet

## Lesson Title Wassily Kandinsky: Abstract Art and Linear Function

### Grade: 8

Name:

Date:

Period Number:

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Commoncoresheets.com has free worksheets that you can download and print to use for review with your students. They have worksheets for identifying linear equations through equations, graphs, and tables.

Follow this link and choose the worksheets that work for you.

<http://www.commoncoresheets.com/SortedByGrade.php?Sorted=8f3>

# Artist Statement

## Lesson Title Wassily Kandinsky: Abstract Art and Linear Function

### Grade: 8

Name:

Date:

Period Number:

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Create an artist statement for your work. Here are some guidelines.

**Describe** your work.

- What does it look like?
- What is the subject matter?
- Title?
- What elements did you use?

**How** did you create your artwork?

- What media did you use?
- What tools, techniques, or processes?

What is the **Big Idea(s)**?

- Who/what inspired you?
- Does it express any personal/social issues?
- What emotions are you trying to show?

Final **Thoughts**

- Did you learn anything?
- Did it turn out the way you planned? Why/why not?
- Is there anything you would change?