



Lesson Plans

Inspire others! Send or email copies of your art or stories to NaturalGeniusBooks.com and will publish them in the Student Gallery on our website.

Creative geniuses trust themselves. They question things. They follow their passions and look for new possibilities.

Project: Geniuses such as Einstein keep journals. They describe things they are curious about and document their ideas. People often use both drawings and words in their journals. Start a journal and write down your ideas. Lists things that interest you and periodically update your list.

Henri Rousseau created paintings that combined fantasies and dreams with images from the physical world.

Project: Create art and combine images from things you see in your imagination and dreams with actual physical things.

At a microscopic level, we are all composed of cells. You have about 10 trillion cells divided into about 200 different types.

Project: Write a short story from the perspective of one of your cells.

Links

www.cellsalive.com

science.howstuffworks.com

Michael Faraday was inspired by how iron ore forms around a bar magnet. He imagined energy as lines of force spreading through space like a long vine growing from a plant. He called these lines and the space in between a "field."

Project: Scientists believe the earth is one giant magnet. Imagine the magnetic force field traveling through the planet and create a drawing or painting of how you image this force. Faraday associated the image of a growing plant. What do you imagine?

Albert Einstein helped people understand the nature of energy. He established that everything is energy. It is difficult to measure exactly how much energy is in matter, however, we know that even a small amount of mass contains a huge amount of energy.

Project: As Einstein explained, everything is energy even music. Play different kinds of music and as it plays draw, color or paint your interpretation of how it appears as energy.

Creative Genius
Page 3

Henri Rousseau
Page 4

Cells
Page 6

Michael Faraday
Page 10

Albert Einstein
Page 16

"To draw you must close your eyes and sing."

Pablo Picasso

Modern artists were also fascinated with energy and believed light was the most important subject in a painting. Claude Monet created many paintings of the same location to explore how light changes at different times of the day and season.

Project: Take a walk out-doors and find a location that you like. Observe the location at different times of the day and note how the lighting will change as the sun rotates across the sky. Draw or paint pictures of the location in the morning, afternoon and evening. Notice how colors and the shape of shadows change over time.

Edouard Manet created art of situations that happened at different times and put them in the same painting.

Project: Take some time and notice different situations that occur in your day. For example, one minute your dog approaches you and you reach down and pet him. Later the dog is on his favorite rug taking a nap. Create a drawing or painting of two different situations that happened at different times and put them in the same picture.

Paul Cezanne created art that explores how we see.

Project: Set up your own still-life arrangement. Fruit, pitchers, bowls or any of your favorite objects will work. Walk around them and notice how things appear from different angles. Draw some of the items from one position, then change locations and draw other items.

Both modern artists and scientists explored how things are experienced over time. Einstein established that time and space are connected and that both can stretch and shrink.

Project: Imagine you have been traveling in outer space at speeds near the speed of light for one year and you just returned back to earth. Write a story about what that was like to travel in outer space and how you experience your family and friends when you returned.

Pablo Picasso believed our perception of an object is formed by the visual memories of all possible views: top, sides, front and back.

Project: Using the Cubist style, create art that explores your personal goals. Cubism explores situations over time. Using collage and drawings, illustrate your goals and how they will appear and be experienced from different perspectives over time.

Leonardo da Vince was both scientist and artist. He combined scientific study with creativity and imagination.

Project: Take a walk and find a wild plant that you find interesting. Draw a picture of the plant from the perspective of a scientist. Make notes regarding what you observe. Notice how the plant is similar to other plants and try to determine the type of plant it is. It may be helpful to look in books on plants or on the internet.

Renaissance artists perfected the science of drawing. They mastered the ability of creating depth.

Project: Using the technique explained on page 36, create a drawing and explore how planes recede to a single horizon line. It may be helpful to go outdoors and draw a building. Rulers can be helpful to accurately draw the line to recede to the horizon line.

Impressionists

Page 18

"I know that to paint the sea really well, you need to look at it every hour of every day in the same place so that you can understand its way in that particular spot; and that is why I am working on the same motifs over and over again, four or six times even."

Claude Monet

Edouard Manet

Page 23

"There are no lines in nature, only areas of colour, one against another."

Edouard Manet

Paul Cezanne

Page 26

"There are two things in the painter, the eye and the mind; each of them should aid the other."

Paul Cezanne

Theory of Relativity

Page 28

"Imagination is more important than knowledge."

Albert Einstein

Pablo Picasso

Page 30

"Painting is just another way of keeping a diary."

Pablo Picasso

Leonardo da Vince

Page 34

Perspective

Page 36

Asian artists consider art from various views. The view could be from a spectator standing along side the painter. Sometimes images reflected a view from inside the landscape, sometimes multiple viewpoints were represented in the same picture.

Project: Explore Asian art in books or on the internet. Notice how images are simplified. Modern artists were influenced by how they flatten space (minimize depth), use bright colors and treat empty space as alive and evolving. Create a picture from nature in the Asian style. Notice the space around objects, such as trees and flowers. Asian art treats the space around things with equal importance.

Modern artists were influenced by Hermann von Helmholtz's theories about perception.

Project: Review the information about Helmholtz on page 43. Conduct your own experiment. Go to different locations and look at things by bending over and looking from between you legs or from under your arm. Do colors appear brighter? Create your own drawing or painting and emphasize the outline form of things and use bright colors.

Einstein believed that everyone's view is unique.

Project: Write a short story about an experience you had such as a baseball game, a party you attended or a special outing. First write the story of how events occurred from your perspective. After you have completed that, write the same story a second time from the perspective of another person that attended the same event.

Rene Magritte was inspired by the magical paintings style of Henri Rousseau. In "The Glasshouse" he uses the surrealist style of painting and recreates how someone appears when viewed at speeds towards the speed of light.

Project: In his youth, Einstein once wondered what it would be like to ride along side a light wave. Draw a picture of your home, room or other scene as it would appear if you were traveling at near light speed.

Albert Einstein explained in his "General Theory of Relativity" that gravity is created by time and space bending around matter.

Project: Explore pictures of the solar system from books and other sources. Create a drawing or painting that, like Asian art, considers the space around objects as full of life. The area around planets is the flow of space time bending around the formation of the planet. How does the force of gravity around planets appear in your art?

Geniuses process information in both hemispheres of the brain. They alternate between the whole picture and its individual parts, constantly moving between the creative and analytical function of the brain.

Project: Explore the parts of the eyes. Make a list of the parts such as the retina, lens, optic nerve, etc. Create a drawing or painting of the parts. Create a second drawing of how things would appear if you had been blind and were seeing them for the first time.

Paul Cezanne created art that appeared to illuminate from within. Instead of a horizon line to show depth, he used color. Cool colors appear to recede into the background, while warm colors such as yellow and orange give the appearance of coming forward.

Project: Create a landscape drawing and experiment with how color can be used to convey depth. How can colors be used to suggest that the light is coming from within the landscape?

Asian Art
Page 38

Hermann von Helmholtz
Page 42

Everyone's view is unique
Page 44

Rene Magritte
Page 48

*"Art evokes the mystery
without which the world
would not exist."
Rene Magritte*

Gravity
Page 50

Vision, Right and
Left Brain Hemispheres
Page 58

Paul Cezanne
Page 60

*"It's so fine and yet so
terrible to stand in front of
a blank canvas."
Paul Cezanne*

Werner Heisenberg discovered that the process of observing electrons affected their behavior. When viewed, the electron transforms from a wave to a particle.

Project: Create a drawing of an electron transforming from a wave to a particle.

Many cultures throughout history believed that currents of energy flow through space and matter.

Project: Create a drawing or painting in the style of van Gogh and emphasize the infinite flow of currents of energy in the natural world.

Wassily Kandinsky was impressed with Einstein's "Theory of Relativity" and Planck's discoveries that the universe is in a state of flux between energy and matter.

Project: Energy exists as both a wave and a particle. Heat is absorbed as particles and released as a wave. Create abstract art to suggest this activity.

Jackson Pollock created art that suggests fields of energy.

Project: You can create your own "field" painting. Place paper, canvas, wood or other surface on the ground and drip, splash, toss and stroke paint onto the surface. Pollock constantly walked around the picture as he painted, working on all four sides.

Atoms
Page 62

Vincent van Gogh
Page 66

Wassily Kandinsky
Page 68

Jackson Pollock
Page 76

*"A canvas is an arena
in which to act."
Jackson Pollock*

*"As practice makes
perfect, I cannot but
make progress; each
drawing one makes,
each study one paints,
is a step forward."*

Vincent van Gogh



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