Pearson **Year 7 Term 5** Art

MC Escher's surreal art and tessellations

(17 June 1898 – 27 March 1972) was a Dutch graphic artist who made mathematically inspired woodcuts, lithographs, and mezzotints. Despite wide popular interest, Escher was for most of his life neglected in the art world, even in his native Netherlands. He was 70 before a retrospective exhibition was held. In the late twentieth century, he became more widely appreciated, and in the twenty-first century he has been celebrated in exhibitions around the world.

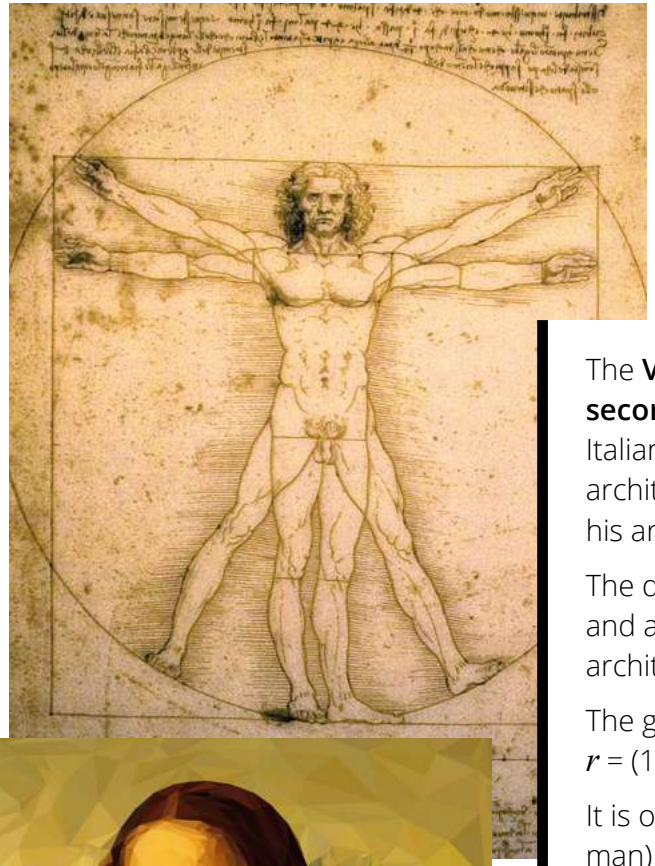
In his early years, Escher sketched landscapes and nature. He also sketched insects such as ants, bees, grasshoppers, and mantises, which appeared frequently in his later work.

His early love of Roman, Italian landscapes and of nature created an interest in tessellation, which he called Regular Division of the Plane; this became the title of his 1958 book, complete with reproductions of a series of woodcuts based on tessellations of the plane, in which he described the systematic buildup of mathematical designs in his artworks. He wrote, "Mathematicians have opened the gate leading to an extensive domain". Although Escher did not have mathematical training — his understanding of mathematics was largely visual and intuitive — his art had a strong mathematical component, and several of the worlds that he drew were built around impossible objects.

Answers:

1. Swans and fish.
2. Tessellate means fit together without any gaps.
3. Squares, rectangles, equilateral triangles, hexagons.
4. Drawing.
5. Its an impossible building—look at the water flowing—is it flowing down?
6. Escher lived in the Netherlands.
7. Holland.
8. 100 years.
9. In 1900 (think about when the first century started).
10. It means that he had an understanding without having been taught it.

Video link: **Escher video link**



Year 8 Term 5 Art

Vitruvian Man by Leonardo da Vinci

The **Vitruvian Man** (Italian: **L'uomo vitruviano**) originally known as **Le proporzioni del corpo umano secondo Vitruvio**. 'The proportions of the human body according to Vitruvius') is a drawing made by the Italian polymath Leonardo da Vinci in about 1490. It is accompanied by notes based on the work of the Roman architect Vitruvius. The drawing, which is in ink on paper, depicts a man in two superimposed positions with his arms and legs apart and inscribed in a circle and square.

The drawing represents Leonardo's concept of the ideal human body proportions. Its inscription in a square and a circle comes from a description by the ancient Roman architect Vitruvius in Book III of his treatise De architectura.

The golden ratio is the proportion given by the numerical value:
$r = (1 + 5^{½}) / 2 = 1.6180\cdots$, or $(1 / r) = (5^{½} - 1) / 2 = 0.6180\cdots$.

It is often assumed that the ratio of the radius of the circle to the side length of the square (= the height of a man) in the "Vitruvian Man", which is said to be drawn by Leonardo da Vinci, is given by the golden ratio.

The ratio was estimated at 0.606 which is significantly smaller than the golden ratio 0.618.

Answers:

1. 532 years ago.
2. It means that the drawing is pleasing to the human eye—it looks 'right'.
3. It means the square root of 5.
4. Mona Lisa.
5. France.
6. Drawing.
7. A polymath is someone with a wide knowledge for learning.
8. The numbers are very close to the golden ratio.
9. Homework.
10. Homework.

Video link: **Da Vinci video link**

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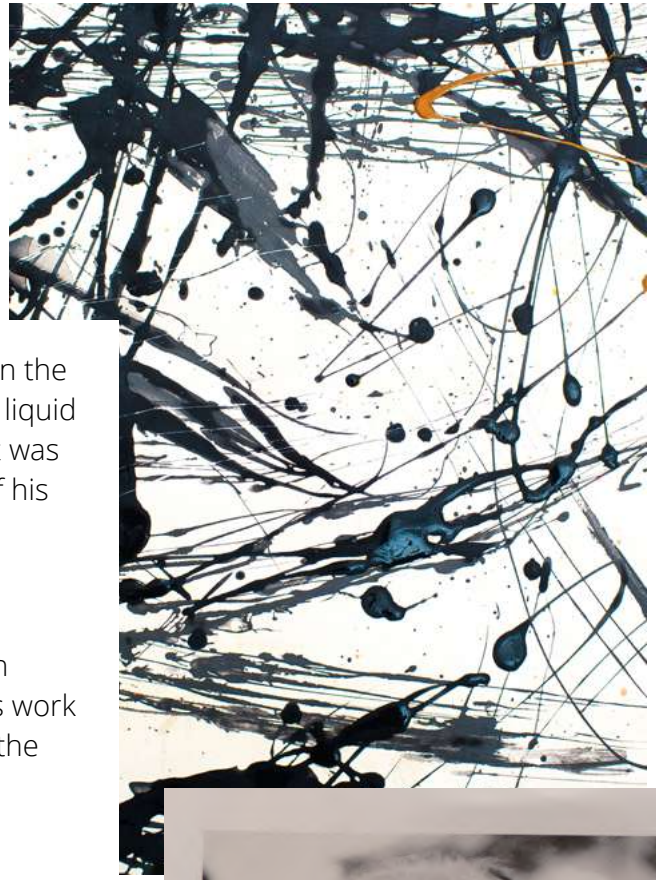
Pearson **Year 9 Term 5** Art

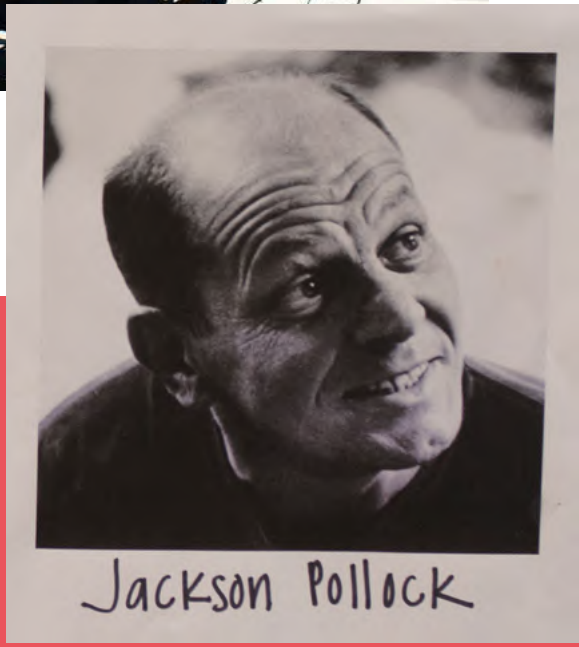
Drip painting by Jackson Pollock



Paul Jackson Pollock (January 28, 1912 – August 11, 1956) was an American painter and a major figure in the abstract expressionist movement. He was widely noticed for his "drip technique" of pouring or splashing liquid household paint onto a horizontal surface, enabling him to view and paint his canvases from all angles. It was also called all-over painting and action painting, since he covered the entire canvas and used the force of his whole body to paint, often in a frenetic dancing style.

Artist and physicist Richard Taylor (of the University of Oregon) invented a machine which he calls "The Pollockizer" which mimics Pollock's eccentric painting style. It's based on a pendulum, but Taylor calls it a "kicked pendulum" because it knocks the string as it is swinging around, creating a type of chaotic motion which he believes to accurately reproduce Pollock's painting style. He also explains how he sees Pollock's work as representing fractals, and the fact that different sections of the work seen at different distances have the same amount of visual complexity.

A fractal, as we've mentioned before, is an infinitely repeating pattern. Some of these patterns exist only in mathematical theory, others can be understood in the physical world. Take a set of matryoshka dolls (sometimes called Russian dolls); each of these dolls fits inside a larger copy of itself, and could continue infinitely repeating that same pattern. This, in simple terms, is a fractal.



Answers:

1. He dripped/splashed the canvas with paint.
2. With a pendulum that had a kicked swing.
3. USA.
4. Drawing.
5. A fractal is an infinitely repeating pattern.
6. Pollock was born 110 years ago.
7. Because the paint covered the entire canvas.
8. Each doll fits inside itself, in the same way a fractal does.
9. Pollock's paintings have the same pattern when you zoom in or out, like a fractal or Russian doll.
10. Because his style of painting was very physical, so would have tired him out.

Video link: **Jackson Pollock**

Year 10 Term 5 Art

Geometry in Art by Salvador Dali

At the beginning of the twentieth century, across Europe, the innovative minds of the avant-garde movement began to delve into mathematical, scientific, and psychoanalytical inquiry to push the bounds of their art; they looked to Freud, notions of Euclidean geometry, representations of the fourth dimension, and Einstein's nascent theory of relativity. The results of these efforts were works that would come to define their generation.

Surrealist painter Salvador Dal (1904 — 1989) was arguably at the vanguard of these influential artists. His obsession with mathematics and science began in early adolescence, and he relied on both disciplines to produce most of his work throughout his life. Like the masters of the Renaissance, such as da Vinci, Dali believed that a great artist could not ignore the intersection of these studies with art.

Dali became acquainted with the work of Matila Ghyka (1881 — 1965), a Romanian mathematician and aristocrat whose writings concerned the divine proportion or golden ratio, in the late 1940s. Embracing classical-realism, Dali believed that Ghyka had solved the problem of geometrical composition and used a transcription of his golden section composition diagram as inspiration for many of his works. One of these is the 1949 Atomic Leda, shown to the right.

Answers:

1. In 1900.
2. Avant-garde means new and experimental.
3. Freud is best known for his work on psychoanalysis.
4. Surreal means a mixture of fact and fantasy.
5. Vanguard means the forefront of an action or movement, Avant-garde is French for vanguard.
6. He had a long, waxed moustache.
7. The golden ratio is about 1.6.
8. 1,1,2,3,5,8,13,21,34,55. Then divide; 1/1= 2/1=, 3/2=, 5/3=, etc.
9. Drawings.
10. Drawings.

Video link: **Dali video**