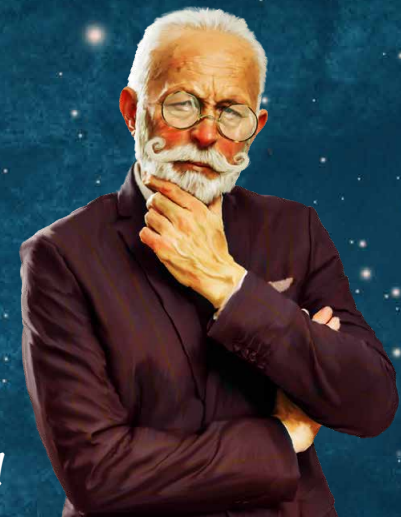# DA VINCI'S TELESCOPE

SOLUTION

READ ONLY IF YOU ARE READY FOR THE SOLUTION!

You have been summoned to help Sam Anoli, collector of Da Vinci's works, to help unravel the secret hidden in the telescope. Within one hour the solar eclipse will be a fact. Did you manage to look through the telescope at the solar eclipse? Or did you overlook something? Read below what you should have done to find Leonardo da Vinci's important secret message.

In between the puzzles you will find extra information about Leonardo da Vinci and his works.

PART 1

OPEN THE LOCK ON THE TELESCOPE

To open the lock, a key must be found in each of the 4 puzzles. In each of the 4 solutions you will find not only the correct key, but also a number for the place of this key in the Chrono Decoder.

Sheet music and painting 'Portrait of a Musician'
The man in the painting 'Portrait of a Musician' has a folded pink piece of sheet music in his hand. The envelope holds the same colour blank strip of paper. Fold the strip over the 3 fold lines in the same way as visible in the painting and bring the 2 ends of the strip together as shown in the adjacent picture. In your mind, do the same with the sheet music the man is holding in his hand. Parts of the stave on the sheet music are now folded against each other so they are no longer visible. Compare the still visible stave of the folded sheet music with the staves on the sheet music, using the mirror. Stave A is the stave the musician is holding in his hand, so this is the key.
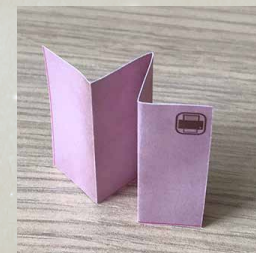
You can find the location of this key in the code at the bottom of the picture frame. You will find a number 1. **Key 1: A**

'The Portrait of a Musician' is an unfinished painting that Italian Renaissance artist Leonardo da Vinci worked on between ca. 1483 and 1487. The folded piece of paper shown is part of sheet music and is held in a strange and delicate way. It has musical notes and letters written on it. Due to the poor condition of the lower part of the painting, the notes and letters are largely illegible. This suggests that this musical composition is not by Leonardo himself, leaving the composer and the meaning of the music unknown.

Cryptex
On the cryptex the ER logo is visible, indicating that you need the Chrono Decoder. Look at the Chrono Decoder and notice that the shape and colour of the number discs on the front match those of the cryptex. On the cryptex there are arrows and numbers. These indicate the direction in which to turn the corresponding disk of the Chrono Decoder in your mind and how many turns have to be made. The number that becomes visible in the second to top row on the Chrono Decoder (the row between the triangles of the cryptex) gives the number of the correct key. Each disk ends up on the number 6.

You find the location of this key in the code by connecting the (mirrored) numbers 1 through 10 on the back of the cryptex. You will then see a number 2 in mirror image.
Key 2: 6
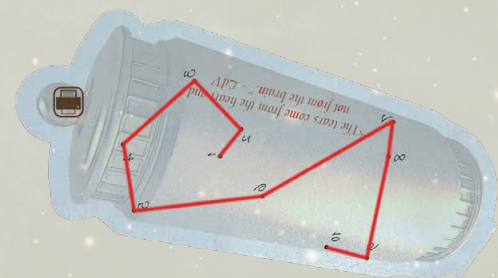
The cryptex was invented by Dan Brown in his book 'The Da Vinci Code'. It is a portable device, used to insert a secret message sealed with a code. The device consists of a hollow cylinder containing a roll of papyrus. On the outside are rotating rings. Inside the cryptex is a glass vial containing vinegar, which in the event of the cryptex breaking open would shatter, thus dissolving the papyrus and destroying the message. The cryptex is said to have been invented by Da Vinci.

Place these words in correct spot and find solution of numbers in colour.

Letter puzzle

Write all the letters of the sentence 'Place these words in correct spot and find solution of numbers in colour' in the table. Start at the letter P already filled in and then follow the line. Then find the correct letter for each coloured digit, shown on the back of the table.

The first digit is a yellow 4. Look at the table and find the letter in the yellow row and the column with digit 4. Here you find a letter D. The yellow 4 represents the letter D. This is how you translate all the coloured numbers into letters: 'down arrow' 'third place'. The key with the downward arrow should be in the third spot in the Chrono Decoder.

Key 3: arrow down

Dodecahedron sketch

You can see the outline of 4 key shapes with zigzag patterns in the sketch. Place the 4 keys with the corresponding zigzag edge on the circle. It creates 2 openings in the centre through which you see a parallelogram shape and the number 4. The key with this parallelogram should be at position 4 in the Chrono Decoder. **Key 4: parallelogram to left**

Leonardo da Vinci was fascinated by the 'golden ratio': a division of line segments into a special ratio. He used the golden ratio in his portraiture to get the ideal proportions. Da Vinci was probably the first to draw various threedimensional figures according to the golden ratio, including this dodecahedron (figure with 12 equal pentagonal faces). The drawings appeared in the mathematics book 'Divina Proportione' (1509) for which, incidentally, he did all the illustrations. The book was written by Luca Pacioli.

For centuries, his drawing of a rhombicuboctahedron was seen as a strong example of drawing, until the Dutch mathematician and artist Rinus Roelofs discovered last in 2010 that this drawing contains an error: 'Da Vinci was undoubtedly a genius, and perhaps the greatest genius of all time. But he was also a human being, who had to think and reason, and who sometimes made a mistake. And that only makes him an even greater genius.'
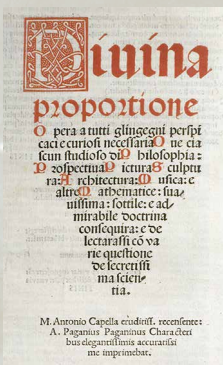

CODE PART 1:
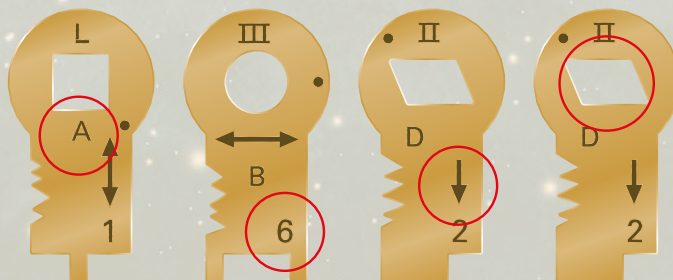
PART 2
ADJUST THE TELESCOPE

With a soft click, the lock on the telescope pops open. You set aside all the parts from Part 1 except for the mirror and the music sheet. You empty the envelope with Sam Anoli's instructions and look at the parts. Now you have to figure out how to adjust the telescope!

Painting 'The Last Supper'
The lines drawn on the painting represent a stave. The print symbol refers to the fact that you may draw on the stave. The tip from Sam Anoli says that Leonardo had a fascination with left hands. In addition, you can see a musical note drawn on the stave, exactly on the left hand of the person in the middle. You need to turn all the left hands into a musical note. Draw the musical notes on the stave and compare this stave with the (mirrored) sheet music from Part 1. The music bar with the letter D corresponds to the drawn musical notes. The correct key has a letter D.
Solution: D
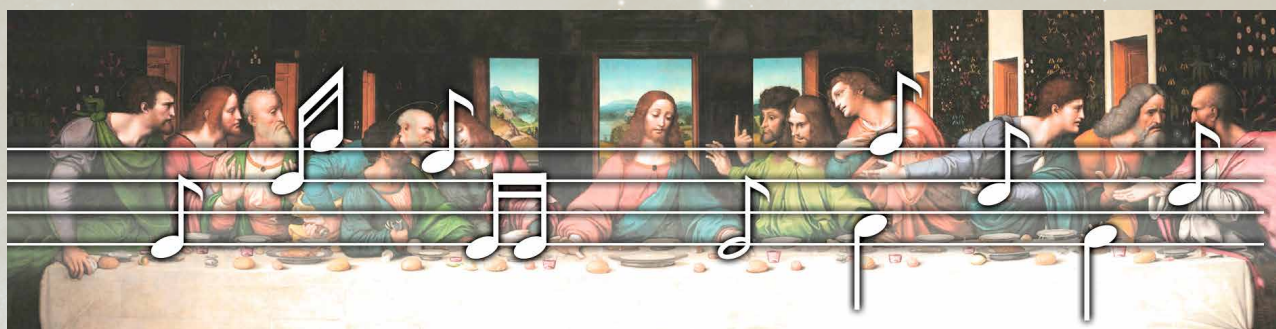
'The Last Supper' is not only an eye-catching composition but also a musical composition. This was discovered by Giovanni Maria Pala. A composition of 40 seconds is hidden in the painting. Pala discovered that if a stave is placed over the work, the pieces of bread and the hands of Jesus and the apostles can represent a musical note. When you combine these 'notes' they sound like a requiem: a hidden hymn to God. In doing so, the notes have a logical musical order if you follow the notes from right to left, which was also Da Vinci's writing style.

Helicopter
On the helicopter it says in mirror image: 'Which way to fold 5 to get the helicopter wings to turn in a clockwise direction?' To answer this question, first fold the helicopter together by folding in order across the numbered dotted lines. First, fold the first 4 folds over the fold line inwards. Then fold the blades (fold lines 5) in 2 different directions. Hold the helicopter as high as possible above your head and release. Look carefully which way the blades turn. Do they turn counterclockwise? Then you have to fold the blades exactly the other way around. Are the wings turning clockwise? Then you will see the solution on the top of the helicopter: 2 parts of a circle. The circle is the shape of the correct key.
Solution: circle

The airscrew is one of the most famous Da Vinci designs. The airscrew is considered the first design for a helicopter. Da Vinci conceived this aircraft around 1490 and called his design 'helix pteron', Greek for spiral wing. The folding puzzle is a free interpretation of this airscrew.
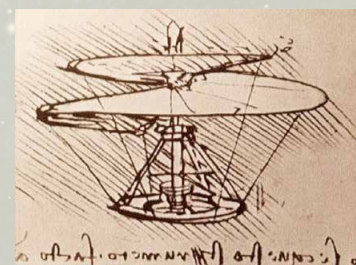
Vitruvian Man and Fibonacci sequence
Place the Vitruvian Man (the man with the ideal body) on the number disc. Then look at the sums on the Fibonacci sequence. The lines you see represent the man's arms and legs. If you add up the numbers to where the arms and legs point, a number will come out. Rotate the man on the number disc until the result of the addition of the arms and legs matches the sum on the note. Then see if there is a small or large triangle near the head. Solve the 4 sums in this way and find the 4 mountains. These 4 mountains are the serrations on the key.
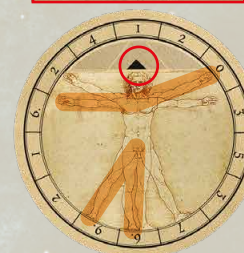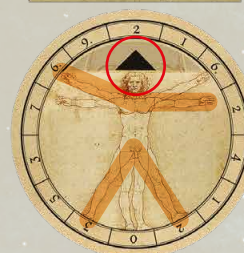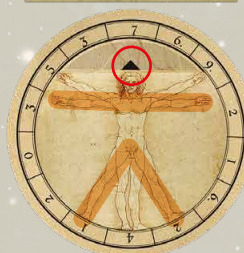**Solution: small, small, big, small**

Fibonacci sequence: the outcomes of the sums in this puzzle are numbers from the Fibonacci series. This sequence approximates the golden ratio and possesses interesting properties and relationships. The sequence begins with 0 and 1 and then each subsequent number is the sum of the 2 preceding numbers: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, 377, 610, 987, 1597, 2584, 4181, 6765, 10946 et cetera. Leonardo da Vinci drew the Vitruvian Man - the ideal human body - based on a pentagon with the ratio 1:1.618 of the golden ratio.
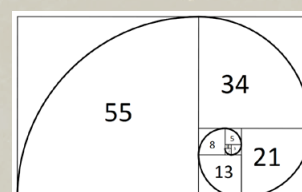
Leonardo da Vinci

In the book there is a sum to solve: MaDonna LItta - IL Grande NIbbIo + age Leonardo - (M + D + L + V + I).
Some letters are underlined; these correspond to Roman numerals. The numerical value of these letters can be found on the clock face (1 to 12) and the yellow note with L, C, D and M. Add the numerical values of the underlined letters of each name: M + D + L + I = 1000 + 500 + 50 + 1= 1551.
Do the same for the second name: L + I + I = 50 + 1 + 1 = 52, as well as for M + D + L + V + I at the end of the sum: 1000 + 500 + 50 + 5 + 1 = 1556. On the cover of the book the year of Da Vinci's birth and death is written: Leonardo's birth was in 1452 and his death in 1519. So he was 1519 - 1452 = 67 years old when he died. Now fill in the whole sum: 1551 - 52 + 67 - 1556 = 10. The Roman numeral for 10 is X.
### Solution: X

Leonardo da Vinci (born April 15, 1452 in Anchiano, Italy) was an architect, inventor, astrologer, engineer, philosopher, physicist, chemist, anatomist, sculptor, writer and painter from the Florentine Republic during the Italian Renaissance. He is considered the prime example of the Renaissance ideal – of the homo universalis - and a genius. Leonardo was the illegitimate child of Piero and Catherina, a peasant girl. This prevented him from pursuing classical studies.

Sequence of the keys

The sequence of the keys can be found on the telescope. The rings each have their own type of symbols: letters, shapes, serrations and Roman numerals. In addition, you see arrows with the numbers 1 to 4. The outcome of the 4 puzzles also each have their own symbol. The outcome of the painting is a letter, the outcome of the helicopter a shape, the Vitruvian Man 4 mountains (serrations) and the book a Roman numeral. Because of this, you know that the outcome of the painting - the letter D - comes first, then the circle from the helicopter, the mountain pattern small, small, large, small from the Vitruvian Man and finally the Roman numeral X from the book.
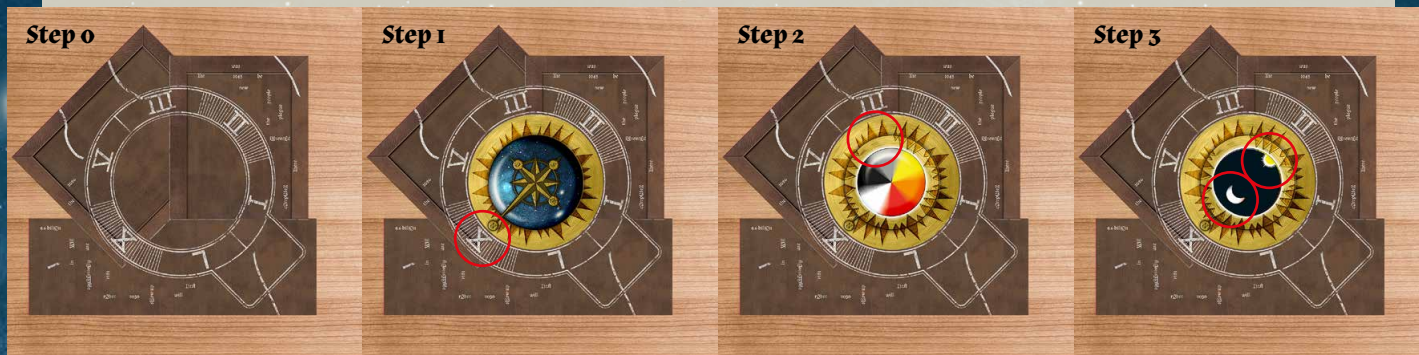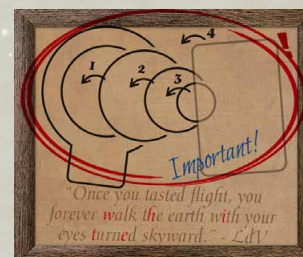
CODE PART 2:
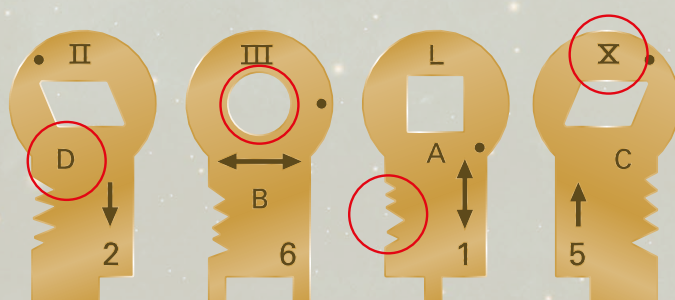
PART 3
LOOK AT THE SOLAR ECLIPSE THROUGH THE TELESCOPE

The telescope is now correctly set up, making it possible to view the total solar eclipse. What would be the important secret of Leonardo da Vinci anyway? What message does he have for you? Slowly, the image of the solar eclipse begins to form...

Build up the image you see through the telescope step by step as the important sketch of the telescope indicates. Da Vinci's secret message will then reveal itself

"Once you tasted flight, you forever walk the earth with your eyes turned skyward." - LdV

Step 0 **Step 1** **Step 2** **Step 3**

Step 0. Puzzle the 3 paintings together to form a telescope
On the back of the painting 'Mona Lisa' you see part of a circle and a number of words. Puzzle these together with the backs of the paintings from Parts 1 and 2 to form a continuous picture. The white lines indicate where the paintings overlap.

Anagrams play a big role in Dan Brown's book 'The Da Vinci Code'. Therefore, we have hidden a number of anagrams in this game as well. The name 'Sam Anoli' is an anagram of the world-famous painting 'Mona Lisa'; the company of Sam, VicDina, is also an anagram of 'Da Vinci'.

Step 1. Place the compass rose on the telescope
Place the compass rose with the 'N' facing north on the 3 paintings you have puzzled together. You can find the north in the illustration of the telescope in the room: here you will find a white arrow with 'north'. Look carefully at which side it is located in relation to the rectangular part at the end of the telescope. You can also see this rectangular end drawn on the backs of the paintings. Place the wind rose with the 'N' on the left side of the rectangular end of the telescope. The 'N' then points to the Roman X. So the first key is the key with the Roman X.
Key 1: X

North
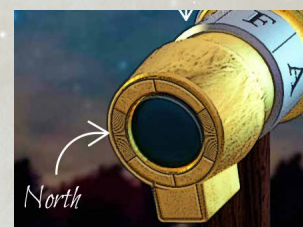
Step 2. Place the disc with colours on the telescope
Place the disk with the colours on top of the wind rose. Turn it so that the large and small mountains on the edge are mirrored by the large and small mountains on the compass rose. In the part of the compass rose that is not mirrored by the coloured disk you will find the solution. Here you see the mountains large, large, small, small. These are the serrations of the key you are looking for.
Key 2: big, big, small, small

Step 3. Place the small disc with the moon on the telescope
Using the 8 quotes, place the smallest disc with the moon on the correct colour. Follow Sam's tip to place Da Vinci's 8 quotes in the correct order and decipher the message. The quotes can be found in Part 1 (pink strip, sheet music, cryptex), Part 2 (book, helicopter, Vitruvian Man and Fibonacci sequence) and Part 3 (sketch telescope). Each separate word from the mysterious phrase in Sam's tip ('Ultimate tears music? Understanding disuse do change earth') comes from one of the 8 quotes. Find these words (marked yellow below) in the quotes and put the quotes in that order. Write down the red letters (see below) in that order:

Pink note: "Simplicity is the ultimate sophistication." - the
Cryptex: "The tears come from the heart and not from the brain." - moon
Musical sheet: "Music cannot be called otherwise than the sister of painting." - shines a
Vitruvian Man: "The noblest pleasure is the joy of understanding." - beauti

Book: "Just as iron rusts from disuse... even so does inaction spoil the intellect." - ful
Fibonacci sequence: "As you cannot do what you want, want what you can do." - shad
Helicopter: "He who is fixed to a star does not change his mind." - eof
Ugly man painting: "Once you tasted flight, you forever walk the earth with your eyes turned skyward." - white

The found sentence is therefore: 'the moon shines a beautiful shade of white'.

So, the colour you have to put the moon opening on is white. Through the small hole of the sun you will then see the colour yellow appear. On the separate note you can find the picture of the sun. Using the colour of the sun and the numbers on the note, you will find the correct key. The colour yellow corresponds to the number 6.
Key 3: 6

Through keen observations of the heavenly bodies, Da Vinci already had an understanding of how the light from the sun (via the earth) fell on the moon. Leonardo da Vinci's most important astronomical contribution can be found in his so-called 'Codex Leicester': a collection of 18 papers folded double, full of notes and sketches. Microsoft founder Bill Gates bought the tome in 1994 for $30.8 million. The telescope had not yet been invented in Da Vinci's time, but to make the story more interesting we made it the star of this Escape Room.
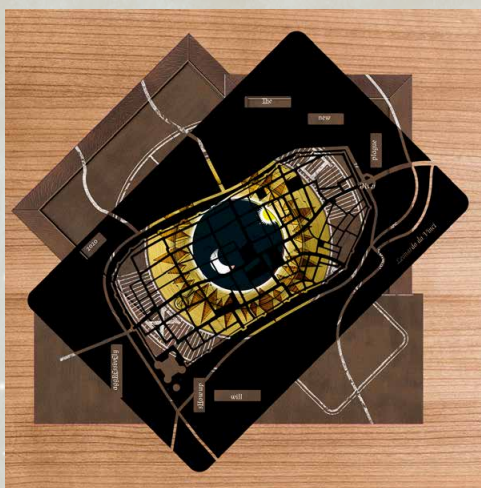
Step 4. Place the city map and discover the secret
Finally, place the partially transparent eclipse sheet over the total solar eclipse by allowing the roads to continue from the edge.

The city map of Imola was drawn by Da Vinci in 1502 at the request of the infamous politician Cesare Borgia, whose troops had captured this city 3 years earlier. Instead of a romanticised picture of the city, Leonardo da Vinci drew the map in great detail. He used a number of surveying instruments that he had developed shortly before: the odometer and the magnetic compass. This city map was one of the first workable maps of the period.

You will see a secret text appear through the 8 rectangular openings:
2020 The new plague will sHow up aggREssivEly.
Some of the letters are underlined: THREE. This is the key you are looking for.
Key 4: 3

When the highly contagious and deadly disease the plague gripped the city of Milan in 1485, Leonardo da Vinci designed 'the ideal city'. In this 'safe' city, it would be impossible to infect each other with the disease. For example, Da Vinci provided his city with many, separate canals for waste and traffic, in which lanes for carriages and pedestrians were also separated by 2 stories of roads. Horses were even banned as a means of transportation.

Leonardo da Vinci's secret message:
Da Vinci predicted that in the year 2020 a new kind of plague would break out, similar to the plague epidemic around 1485 in Milan. He was trying to warn us about this new epidemic. And to enable us to fight the new deadly disease, he gave us his design of the 'ideal' city. With this, Leonardo da Vinci let us know that the new plague will not have a chance if we design cities in a similar way. In doing so, he gives us crucial information to win the fight against COVID-19...

CODE PART 3: