If you only have 30 minutes …

M. C. Escher's artwork endures through its perfect blend of mathematics and imagination. His interlocking patterns, impossible structures and optical illusions continue to fascinate viewers across generations.

Analyze how Escher's techniques create timeless illusions through close reading and art analysis.

Text Mining (8 minutes)

Task 1: Technique Identification

Skim the reading to find the following, jotting down key sentences that explain each:

1. One mathematical concept.[1]

2. One perceptual trick.[2]

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Task 2: Passage Connection

Choose one artwork from the options below.

1. “Angels and Demons”.
2. “Day and Night”.
3. “Circle Limit III”.

Artwork Analysis (18 minutes)

Complete the table for your chosen artwork, by finding the quote in the reading.

Analysis Focus	Guiding Questions	Text Evidence (quote from reading)
Technical Mastery	How does your chosen artwork exemplify hyperbolic geometry?[3]	
Viewer Experience	How does the text suggest Escher pushed the boundaries of infinity?[4]	
Modern Legacy	How might this technique influence today’s artists?[5]	

Synthesis (4 minutes)

Write a short paragraph in your own words that summarizes the art piece you sleected using evidence from the artwork analysis you just completed.

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Common Core Standard(s) Met:

CCRA.R.7 Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.

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1 Examples may include combining and twisting parallelogram grids and interlocking polygons; Escher also incorporated the Arab artisans use of contrasting color to enhance the symmetry of their designs.

2 Answers may include a balance within the duality of infinity v. limited space; black and white dichotomies; a symmetry amid rhythmic repetitions and color combinations etc.

3 Answers should include how Escher's works were made on the model of the hyperbolic plane with right triangles with angles of 30 degrees, 45 degrees and 90 degrees. These triangles are only possible in hyperbolic geometry since their angles add up to less than 180 degrees.

4 Answers should include how Escher also added potential for infinity just outside our perception of the physical world. He kept them in balance by using the same proportions of colors. This ensured that one did not overpower another but allowed each to boost the others. By playing with space and time, he suggested the ways reality may surpass our senses.

5 Answers will vary.

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