

Lesson Title: Hypatia – Mathematician, Philosopher, Pioneer

Grade: 8th

Duration: 45 minutes

Topic: History of Science & Mathematics

Objective:

By the end of the lesson, students will:

- Learn about the life and contributions of **Hypatia of Alexandria**.
 - Understand the historical context of her work in philosophy, astronomy, and mathematics.
 - Reflect on the role of women in science—then and now.
 - Engage in a simple math or astronomy-related activity inspired by her work.
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Materials Needed:

- Short biography handout of Hypatia
 - Images of Alexandria and ancient scrolls/maps
 - Compass and ruler (for geometry activity)
 - Timeline cards of ancient scholars (optional)
 - Worksheet for activity and reflection
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Lesson Breakdown:

1. Introduction (5 minutes)

- Ask: “Have you ever heard of a woman scientist from ancient times?”
- Briefly introduce **Hypatia**:

Hypatia was a brilliant mathematician, astronomer, and philosopher in Alexandria (Egypt), around 350–415 CE. She was the **first well-documented female mathematician** and taught in a time when women rarely held scholarly roles.

2. Story & Historical Context (10 minutes)

- Present a short narrative about Hypatia's life, her role in the Library of Alexandria, and her teachings.
 - Discuss the challenges she faced as a woman and philosopher in a changing, often hostile society.
 - Show a timeline of other ancient scholars and situate Hypatia in context.
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3. Interactive Activity (15 minutes)

Option A – Geometry Workshop

- Inspired by her commentaries on Euclid, students use compass and ruler to:
 1. Construct geometric figures (like an equilateral triangle or a circle inside a triangle).
 2. Discuss what these shapes reveal mathematically.

Option B – Astronomy & Philosophy Discussion

- Present Hypatia's interest in celestial bodies.
 - Ask: "How did people in ancient times study the stars without telescopes?"
 - Let students draw their own constellation and name it, discussing the blend of science and myth.
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4. Real-World Connections (5 minutes)

- Talk about **women in STEM today**.
 - Share a few names of modern women scientists.
 - Ask students to reflect: "Why is it important to know about pioneers like Hypatia?"
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5. Wrap-Up Quiz or Reflection (10 minutes)

- Give a worksheet with:
 - 3–4 multiple choice or short-answer questions about Hypatia.
 - A reflection prompt: *What would you ask Hypatia if you met her?*
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Assessment:

- Participation in activity and discussion
- Creativity and accuracy in geometry/astronomy task
- Thoughtfulness in reflection or quiz