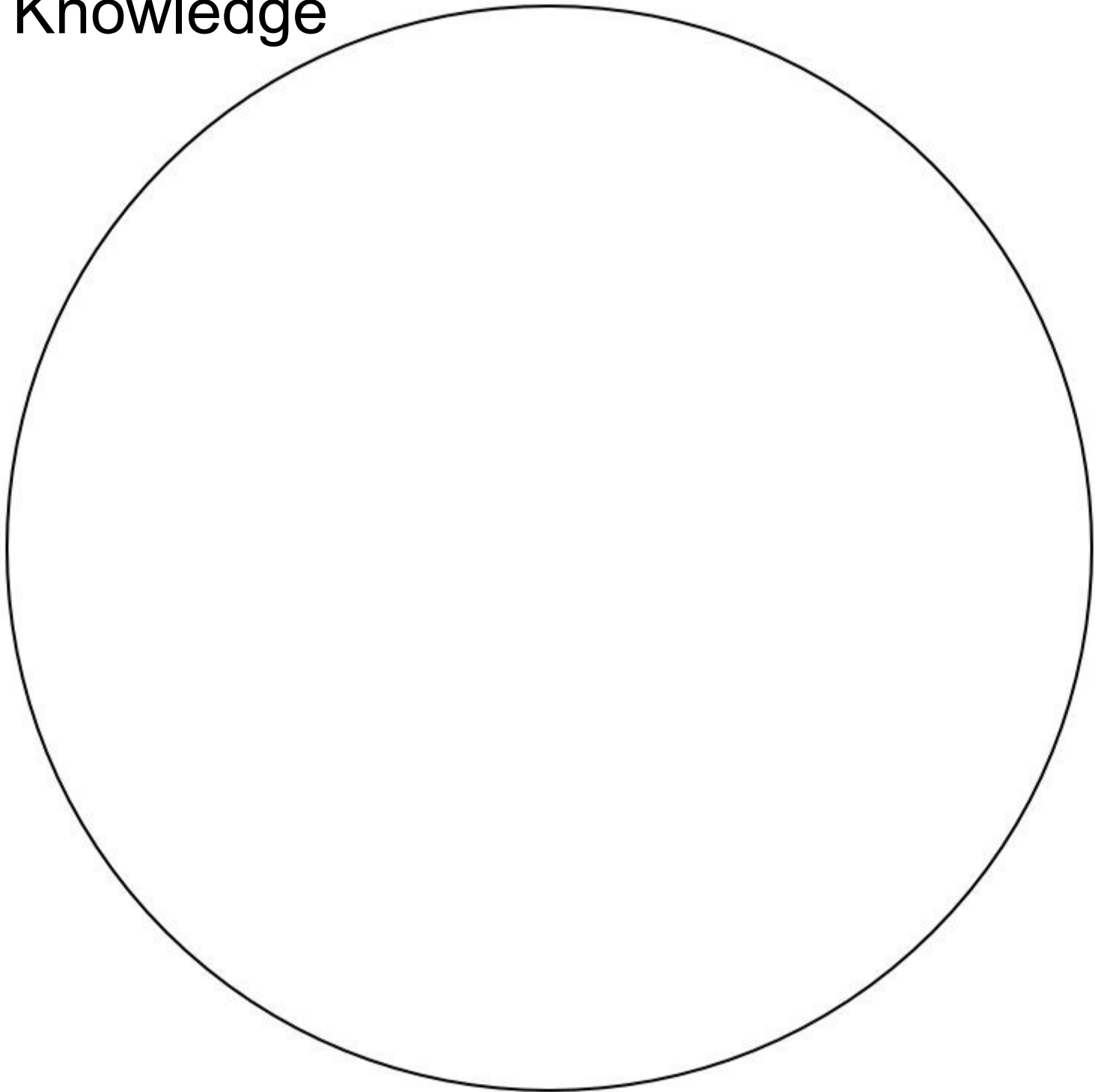
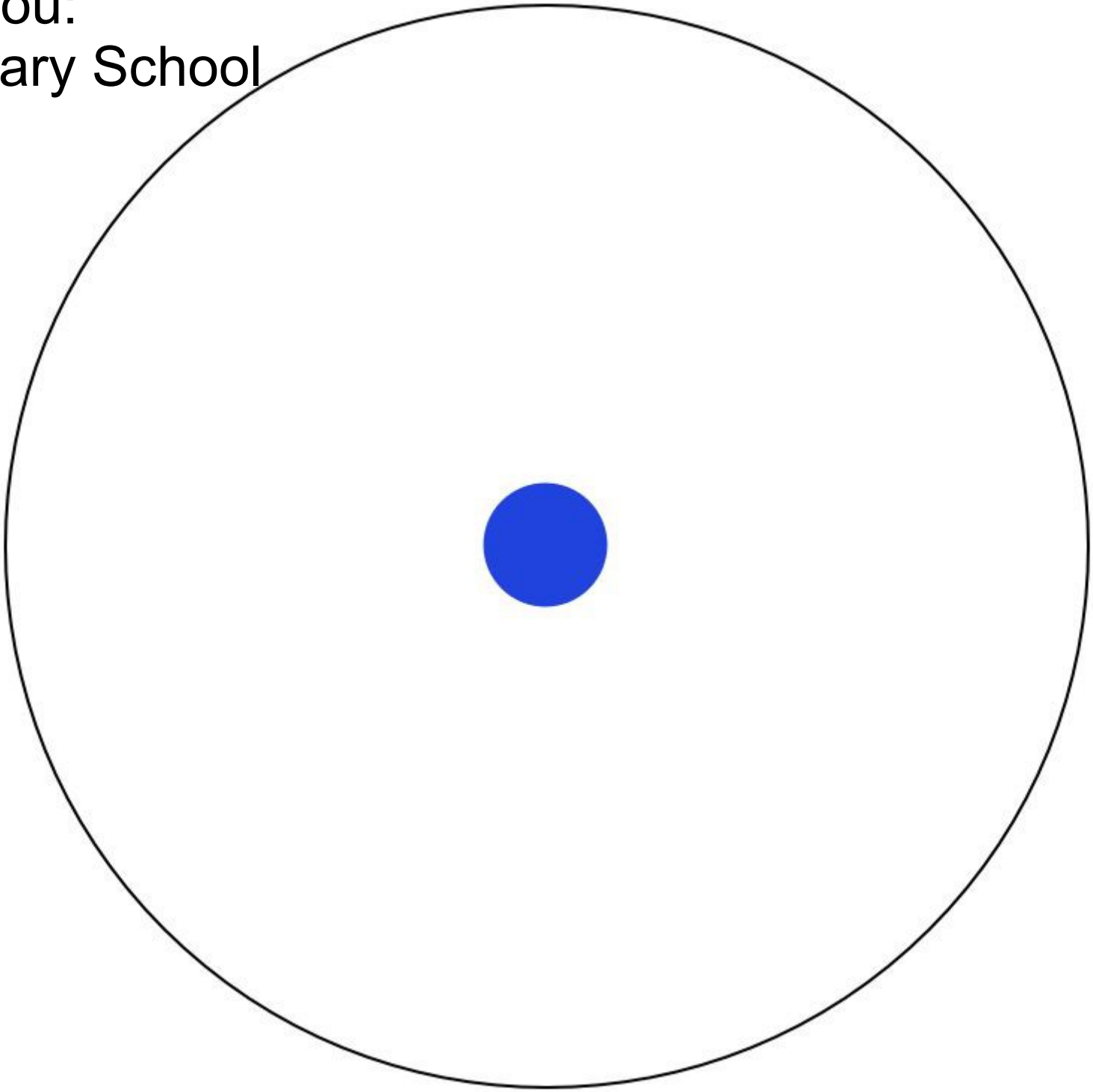


Why you sit here?

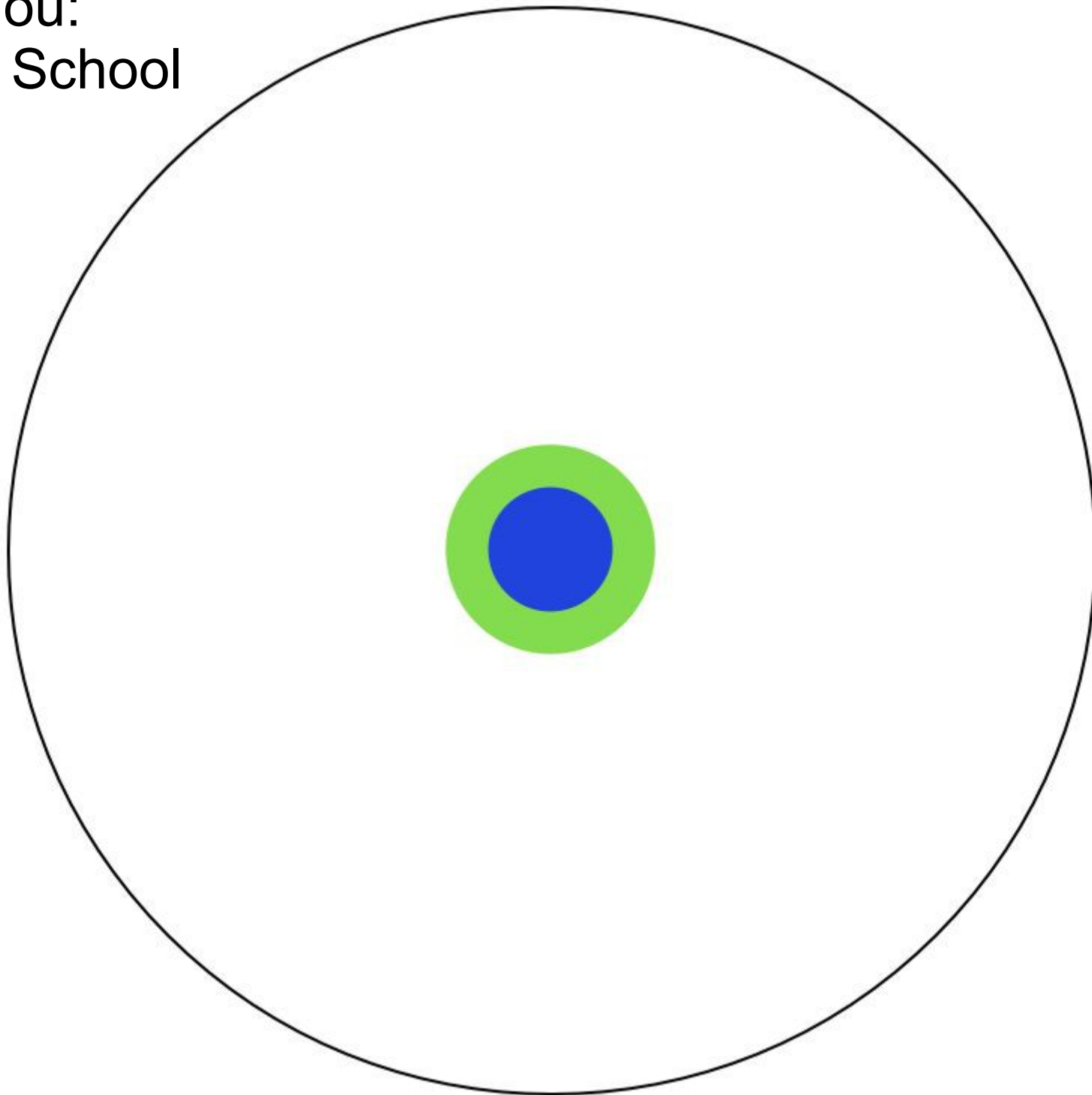
Human Knowledge



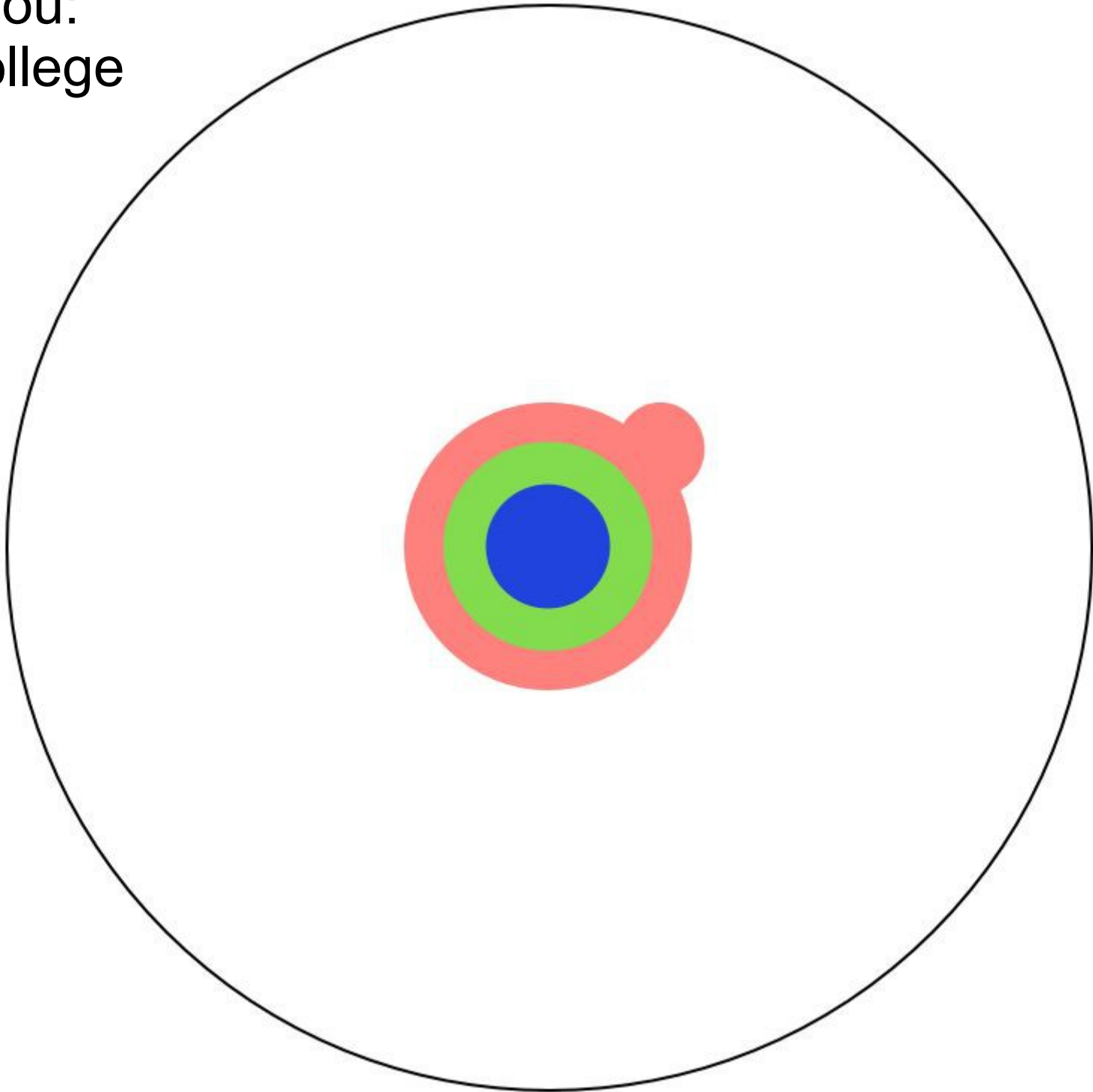
You:
Elementary School



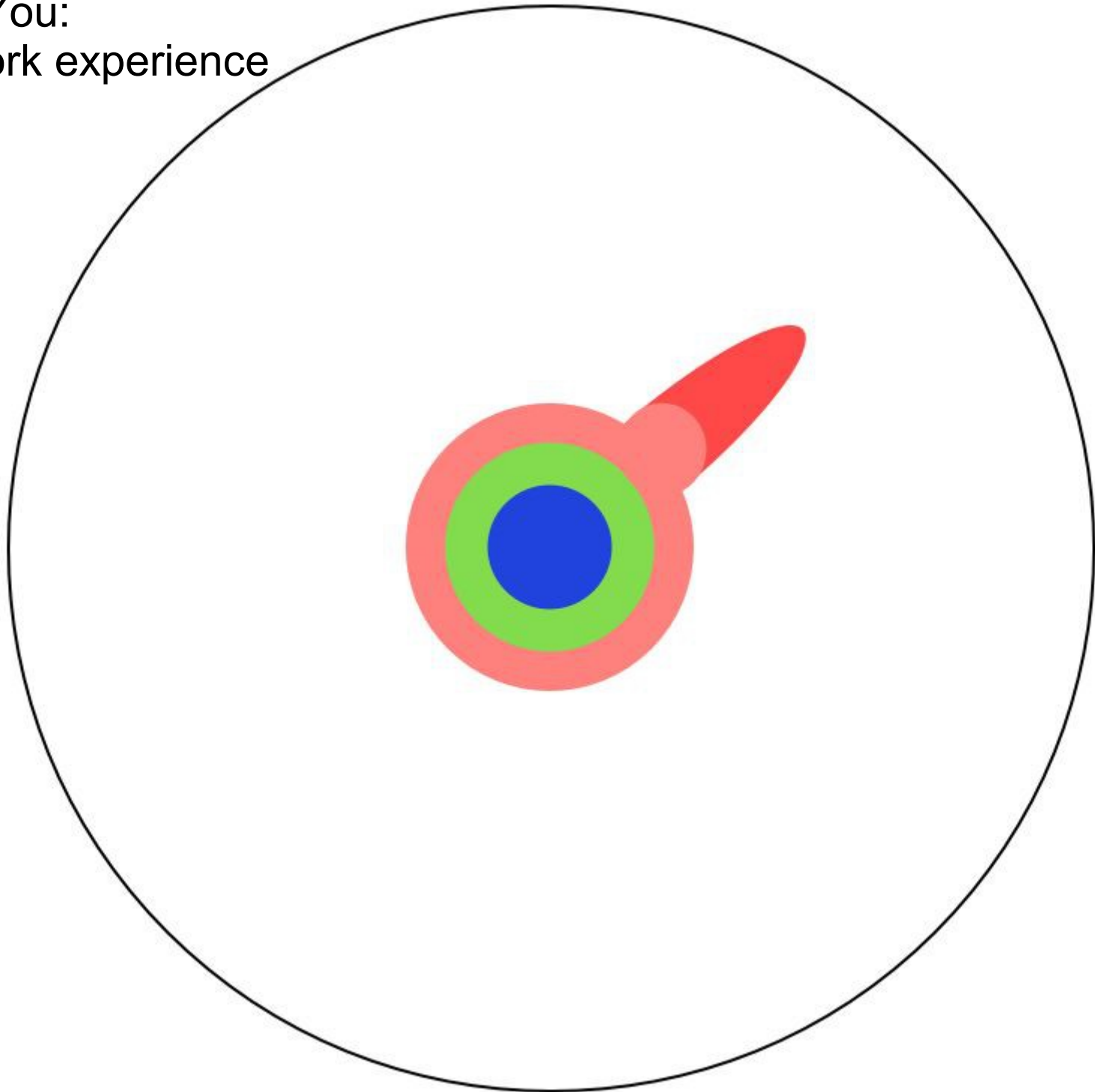
You:
High School



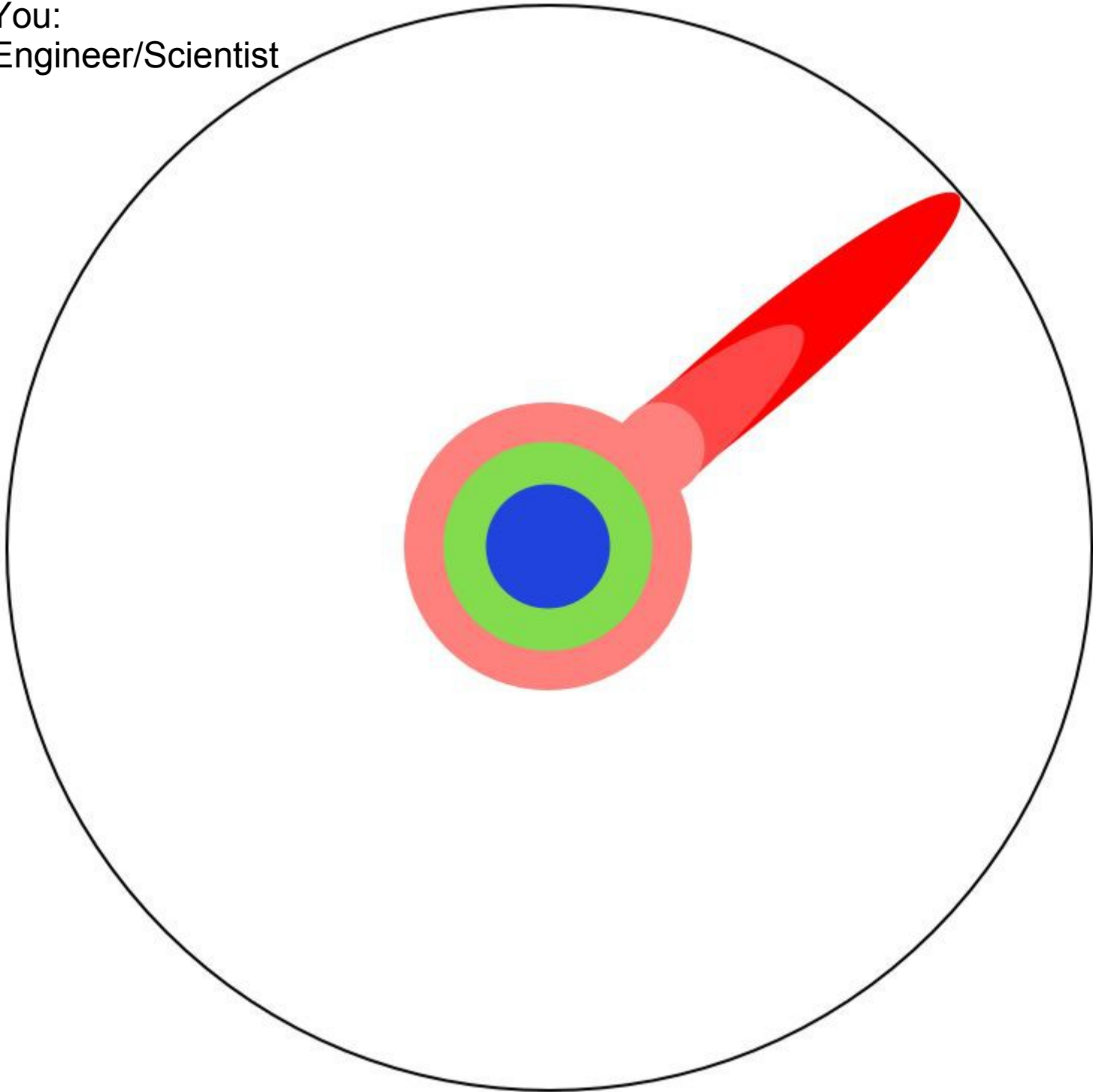
You:
College



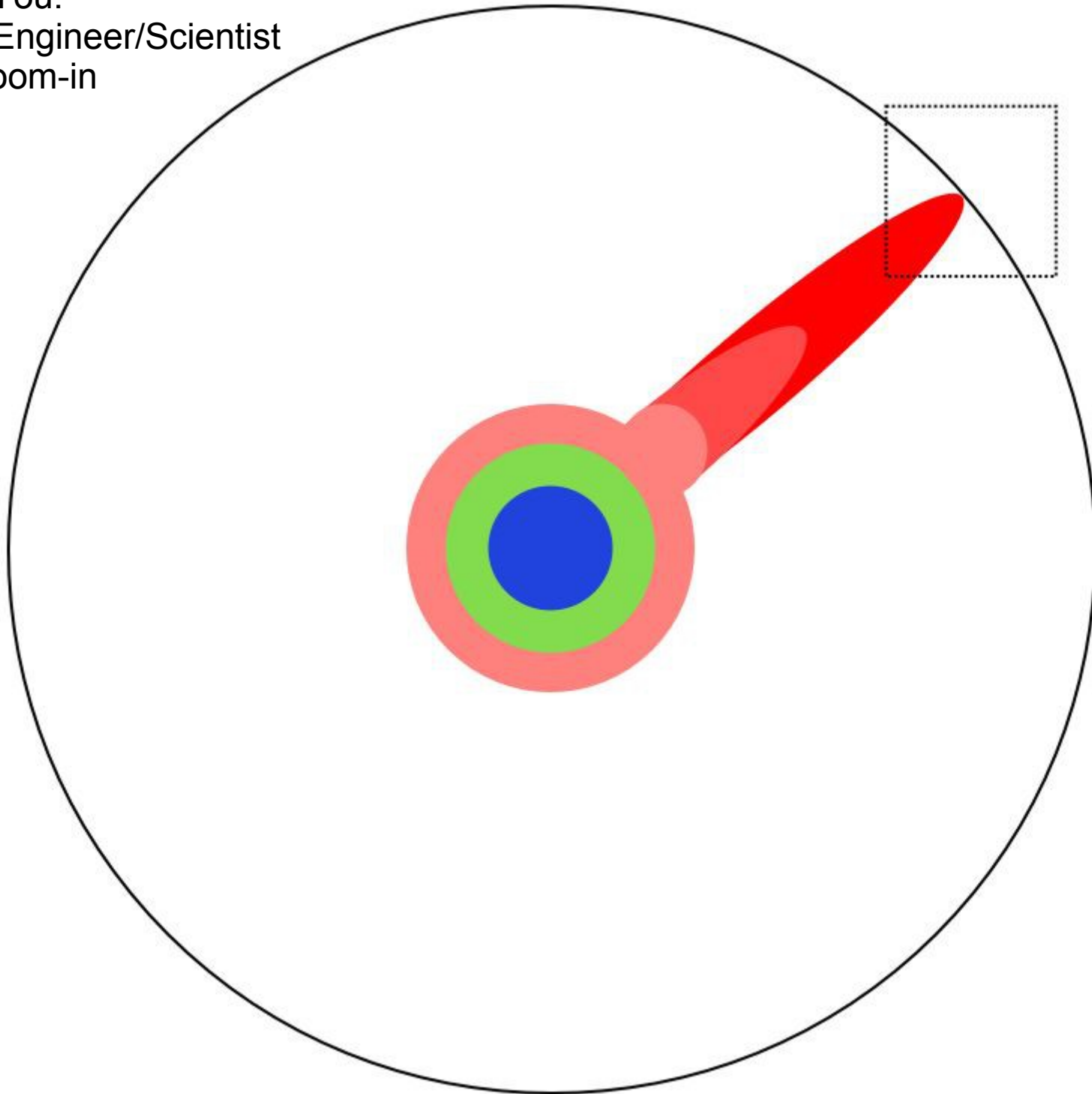
You:
Master/Work experience



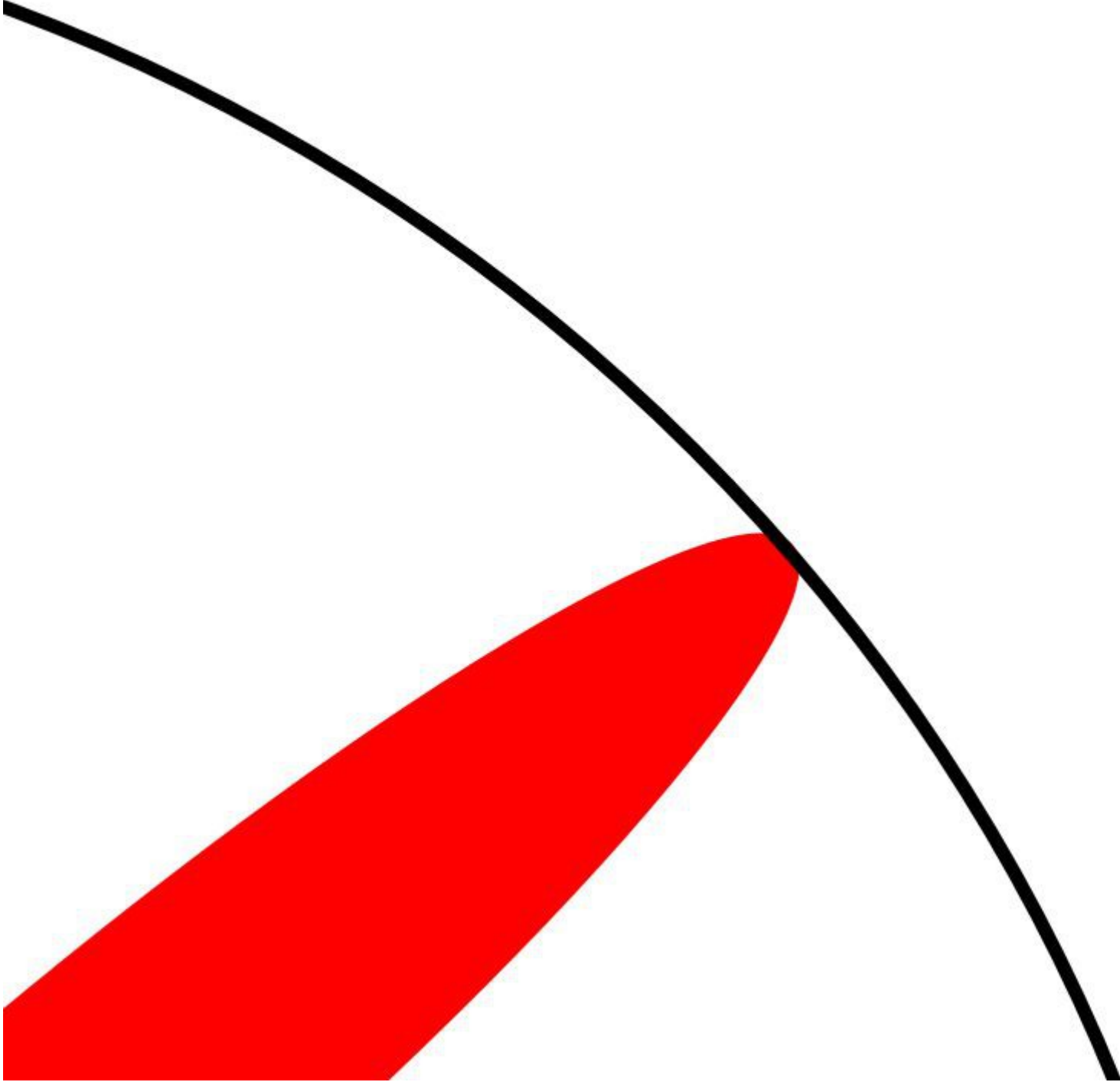
You:
Experienced Engineer/Scientist



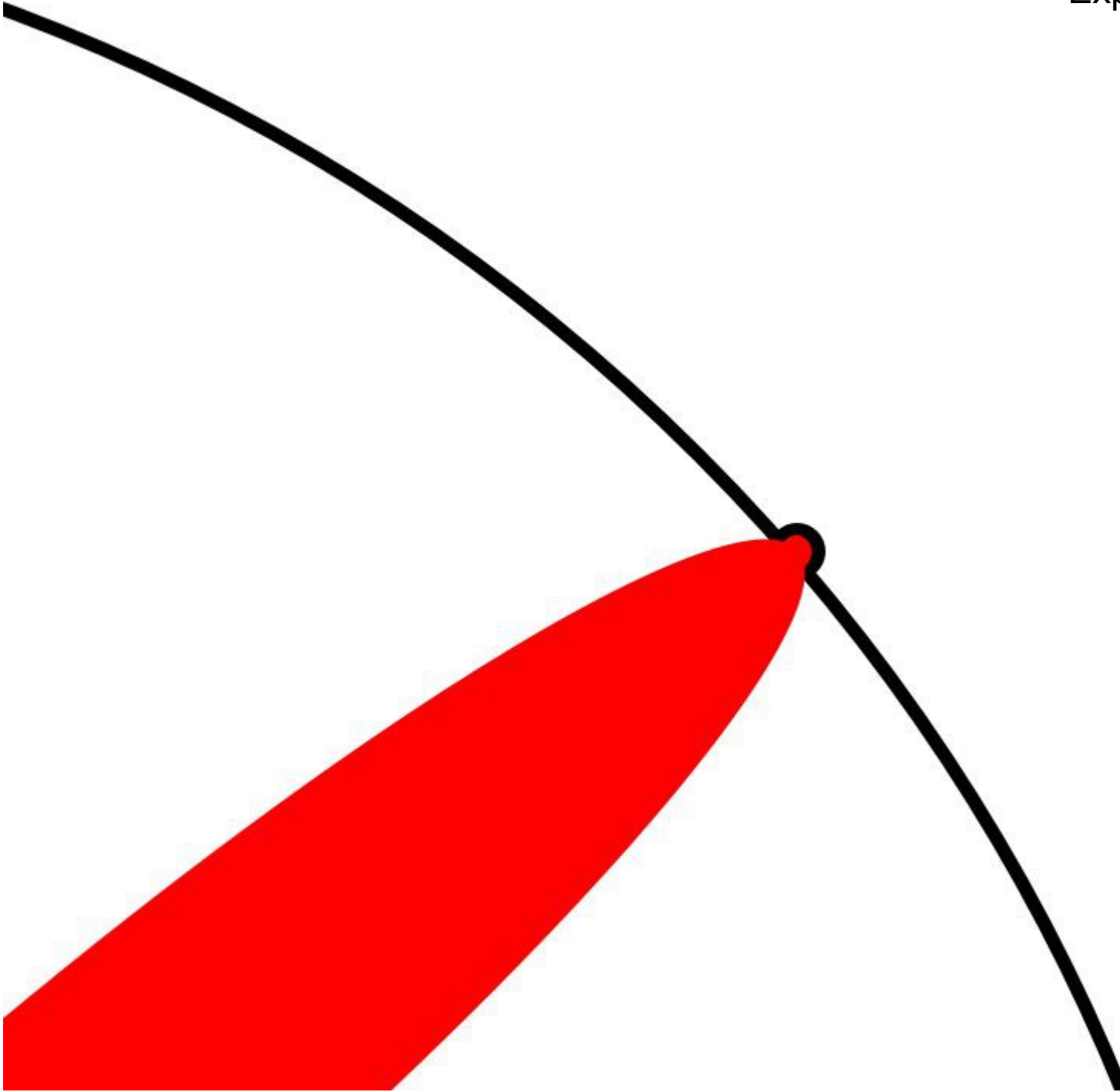
You:
Experienced Engineer/Scientist
Zoom-in



You:
Experienced Engineer/Scientist
Zoom-in view

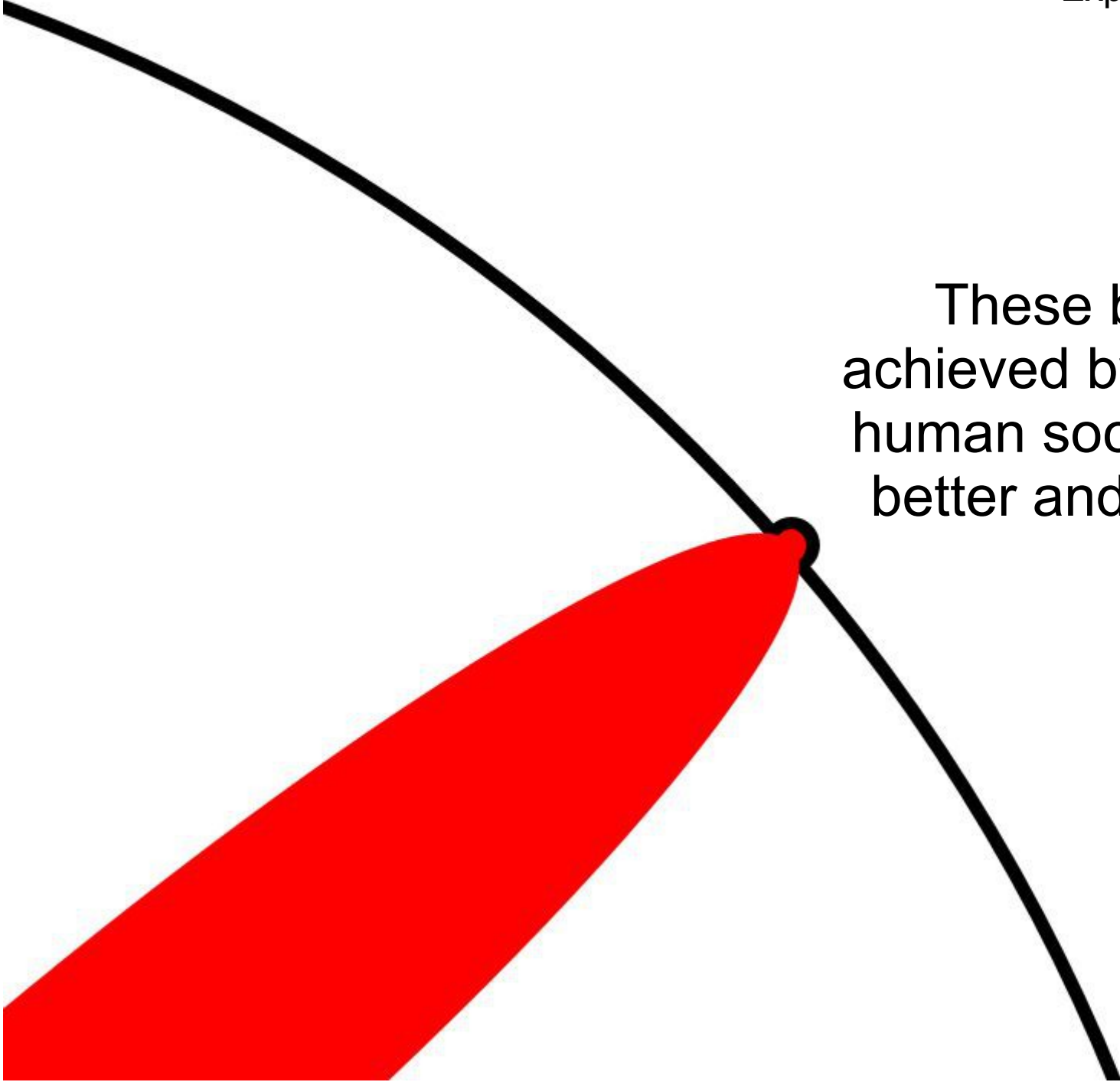


You:
Experienced Engineer/Scientist
Breakthrough!



You:
Experienced Engineer/Scientist
Breakthrough!

These breakthroughs
achieved by each of us push
human society forward for a
better and sustainable life.



Crisis in this era

- Climate Change
 - → Green Energy
- Energy Depletion
 - → Renewable Energy

Crisis in this era

- Climate Change
 - → Green Energy
- Energy Depletion
 - → Renewable Energy

These concerns were not mentioned when I was a college student.

→ The key of human success is that each of you learned the basic science and push the human knowledge boundaries to meet the human society's needs when it's needed.

Goal of this course

- Each of you learn the materials in the text book, both conceptually and mathematically.
- Establish interests on scientific development – “Scientific News Reading”

Goal of this course – possibly your version

- Get necessary credit hours (with high grade) to get your Bachelor degree.

Rules

Online Syllabus

<http://physics.uwyo.edu/~teyu/class/Fall2014PHYS1220.html>

Grading

Exams: 60% (3 exams, 20% each on heat, electricity, and magnetism)

Homework: 15%

Labs: 15%

Quizzes: 5%

Attendance: 5%

Total: 100%

Scale: A: (> 90%); A-: (86.66-89.99%); B+: (83.33-86.66%); B: (80-83.33%); B-: (76.66-79.99%); C+: (73.33-76.66%); C: (70-73.33%); C-: (66.66-69.99%); D+: (63.33-66.66%); D: (60-63.33%); F: (< 60%)

Exams dates and times:

	Time	Covered Chapters
Exam 1	10/02 (Thur), AG 1030; AG 1032, 5:00 pm - 7:00 pm	Chapters 17, 18, 19, 20
Exam 2	10/30 (Thur), CR 129, 5:00 pm - 7:00 pm	Chapters 21, 22, 23, 24, 25, 26
Exam 3 (Final Exam)	12/17 (Wed), CR 314, 10:15 am – 12:15 am	Cumulative

Homework: Online homework system: Mastering Physics, be sure you have access code.

12 HW plus 3 Bonus HW

Labs: If you have to miss a lab, it is your responsibility to contact your lab instructor so that you may attend another lab section the same week or make-up for the missed lab in the make-up lab weeks. There will be only one make-up week during the semester. It is your responsibility to make sure that you have finished all your labs. In order to pass the course, you have to participate in ALL laboratory sections. No lab grade will be dropped.

No lab in Exam Weeks, Thanksgiving Week (Makeup week) and the week before final.

Discussion Sections: Whereas the lectures will focus more on general concepts, the discussion sections will provide opportunities to review specific problems and interactive environment to exchange ideas with your peers. Students will work in groups, and problems will be worked out in discussion sections with the assistance of your TA. You will also see a lot of practical problems and their solutions with actual numbers. Discussion attendance is mandatory and in your best interest: discussion section problems and questions may be used on exams.

No Discussion the week after Thanksgiving

Poll Everywhere for Quiz, Think About It and Attendance

We will use cell phones or laptops for Q/A and other in-class interactions/practices. Register your cell phone or laptop. We will interactively discuss conceptual topics, and you will be able to vote on the answers to questions using your cell phones (or laptops).

Scientific News

- Arizona solar plant achieves six hours after sun goes down
- Magnetic nanoparticles could aid heat dissipation
- Capturing wasted electricity with triboelectric generators
- (1) New capacitors to improve electric vehicles; (2) HITECA: High temperature capacitor
- Plugless Power soon to arrive for electric and hybrid vehicles

Bonus Point: Write a report on scientific story and how it is related to which topic in this course.

NOTE: This worth 2% of total grade. Due date is the last day of class: 12/12/2014.

MasteringPhysics.com advice and information:

- The procedures for self-registration are explained at www.masteringphysics.com (this is also the login site). Your access code is inside the student access kit that comes with the text book (you will have to purchase one if you do not have the kit). The course ID is **EPCHIEN09080**. You may choose your own login id and password.

Register your cell phone number at <http://www.polleverywhere.com>

- Go to <http://www.polleverywhere.com>
- Create an account. I need to be able to determine who you are, so use your uwyo email address to register, and your FULL name
- De-select "I am an educator"
- Select "United States" (not "United States – Education")
- Once your account has been created, register your cell phone number (ignore this if you will use a laptop).
- Go under "Settings" to add the number (with your area code). Follow instructions to certify your cell number.
- Please allow me to see your name: Under "Settings" choose "Voter Registration". Select "Register as a voter". On the next page you should enter my email ("tchien@uwyo.edu").
- Go to <http://www.polleverywhere.com/teyu>

Topics of this semester

- Thermal physics
 - What is energy, heat, and temperature?
 - How do you know what processes could happen in nature? Can you reverse the process? What price you need to pay to reverse, if possible?
- Electricity and circuitry
 - What is charge?
 - How does charge do to the surrounding area and materials?
 - How do we utilize the charge?
- Magnetism and Electromagnetism
 - What is magnetic field? What is magnets?
 - How the charged particle interacts with magnetic field?