

Welcome



We want to know who is here! Please introduce yourself in the chat: Name, School



Please **mute** your microphone to reduce background noise.

We will leave time for **Q & A**. Please submit your questions via the Google form that will be shared in the chat.

This presentation, along with the questions and answers, will be **posted** on the WESO website



WESO

The Human Machine 2026

The Immune System

Event Supervisors:

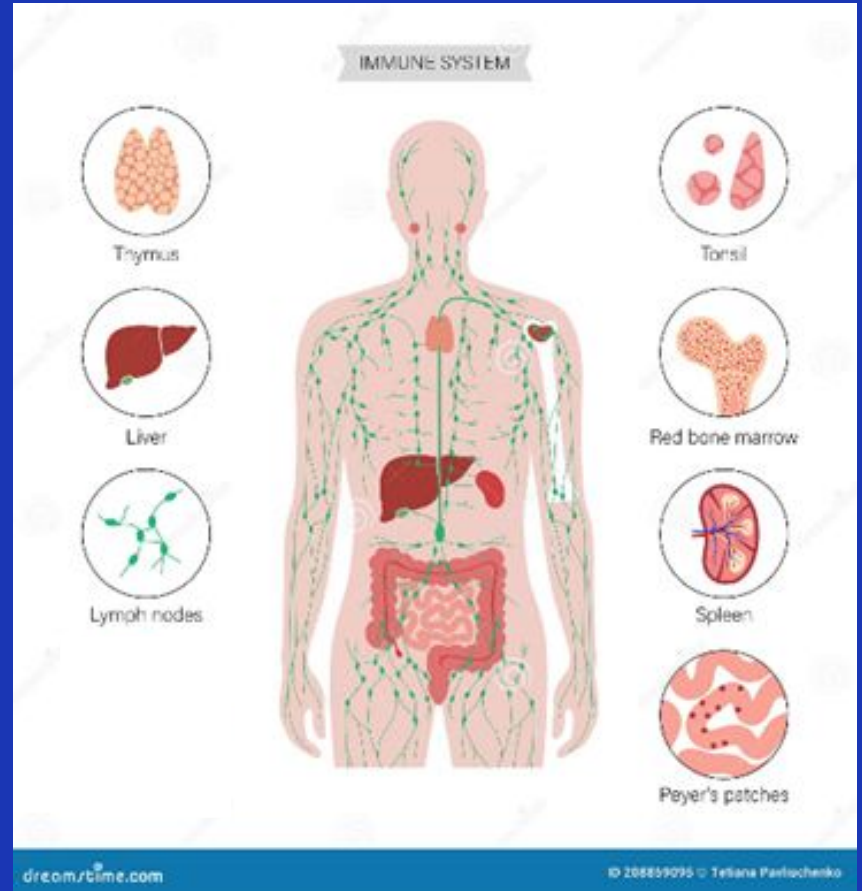
Laoma Beck, MD

Hoa Truong

Rahul Mannan, MD

Confidential

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Meet the Team



Laoma Beck, MD, MPH

- Works in Global Health at Henry Ford Health
- Taught Elementary School for 3 year (TFA)
- Taught High School - Physics, Pre-Calc, & Photography
- WESO Volunteer Bach- 10 years: Coached Potions (x3), No Bones About it (x2), Mystery Architecture, Map Reading
- Co-Head Coach at Bach Elementary (x3)
- Also coaches MathCounts

Meet the Team



Hoa Truong

- Co-Event Coordinator, 3rd year
- Awesome Volunteer
- Loves Science!!

Meet the Team



Rahul Mannan, MD

- Co-Event Coordinator, first year
- Pathologist at U of M
- Former Human Machine Coach at King



Goals for this event

- Love of science
- Teamwork
- Curiosity about the amazing human body!



Event Details

GRADES: ALL (2nd-5th)
TEAM SIZE: 1 to 2 participants (per grade)
DURATION: 30 minutes
FORMAT: Four (4) stations, 7 minutes each

Station 1

Written
Questions

Station 2

Practicum:

- Gross Anatomy
- Cell Anatomy

Station 3

Microscope
Simulation

Station 4

Standard Patient
Station

Event Concepts– General and Cell Anatomy

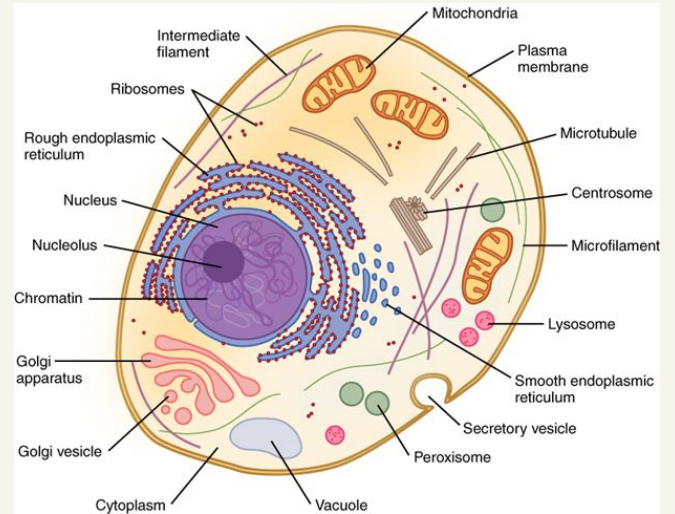
I. Body Basics

- Fluids
- Cells
- Tissues
 - Connective,
 - Epithelial,
 - Muscle,
 - nervous
- Organs Systems
 - Function
 - Major components

SIMPLIFIED

II. Cell Anatomy

- **Structure of a cell**
- **Organelles and their functions**
- **Cell membrane**



Event Concepts– Immune System

III. Form and Function– Castle Analogy

- A. Gross Anatomy of Immune System**
- B. Organ and Glands**

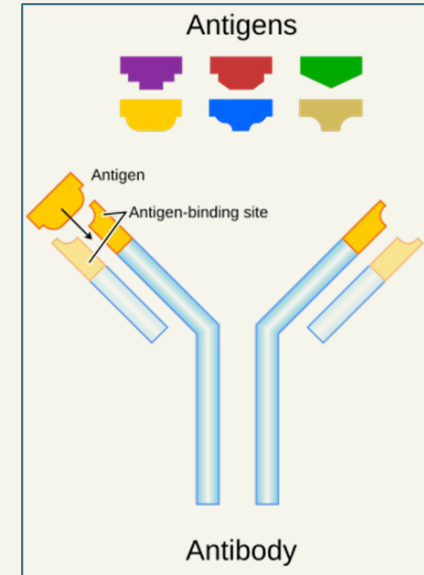
IV. Blood–Components, Types of WBC

V. Antibodies and Immunity

VI. Inflammation - Immune System at work

VII. Immune System in Patients

- A. Microscopes and Slides**
- B. Blood Smear**
- C. Case Studies – Bacteria, Viral, Fungal, Cancer, Allergies**



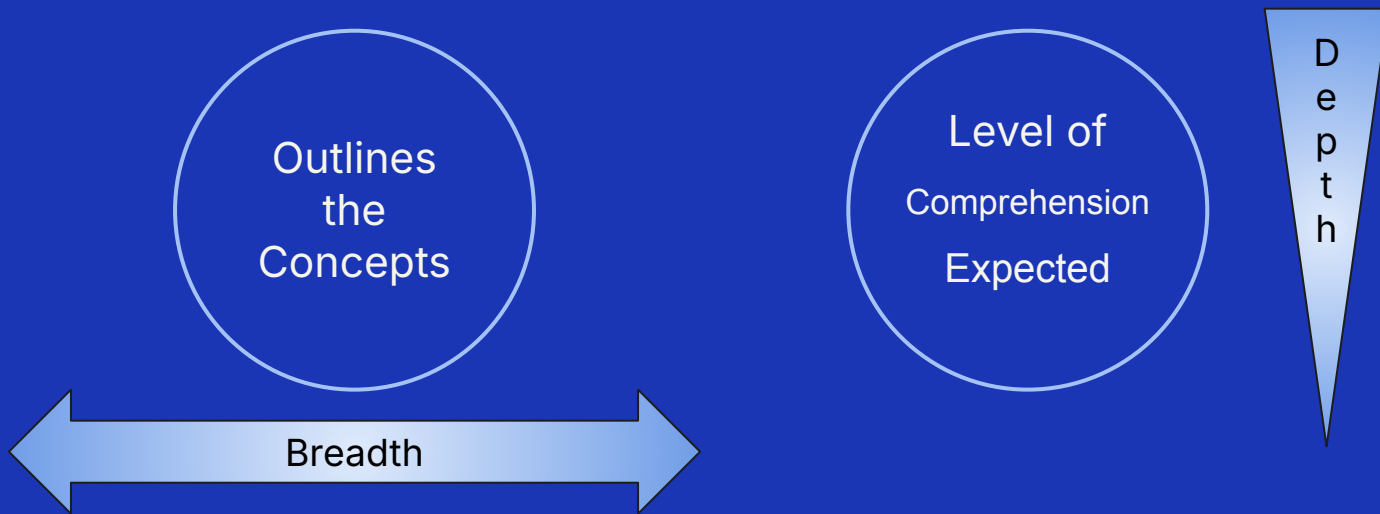
VIII. Standardize Patient

- I. Greeting**
- II. History and Physical (H&P)**
- III. Differential Diagnosis**
- IV. Choosing a Test (4th/5th only)**
- V. Diagnosis (4th/5th only)**
- VI. Treatment (4th/5th only)**



The Study Guide

Available on the WESO website under Events



The Study Guide

One Study Guide

- 8 Sections
- 4/5th grade Marked



Contain Sample Questions

- These will NOT be used in the event.
- Examples of question type

The Study Guide

STUDY GUIDES ARE MEANT FOR COACHES–NOT STUDENTS !

This is not the classroom. This is a competition.

Not every child will master all the material.



Event Day

- Students will be assigned a competition time before the event day
- Students will check in with their Head Coach at least 30 minutes before
- Teams will check in with Event Monitors 10 minutes before
- Volunteers will walk teams to Event room.
- Event Supervisor and volunteers will orient kids and start event.
- Grade Level School Procession and Award Ceremony

Reminders:

- Use the restrooms BEFORE checking in for the Event
- Make sure students know where to meet coaches/parents after event



Event Day–FAQ #1

- All teams will be given exactly the same amount of time to complete each station.
- Teams can work on any part of the test at any time, however, they will not be allowed to go back to the practical station once their 7 minutes is over.
- They may be asked to do the stations in any order
- Teammates may quietly discuss the questions, but each team must come up with only one answer to each question.

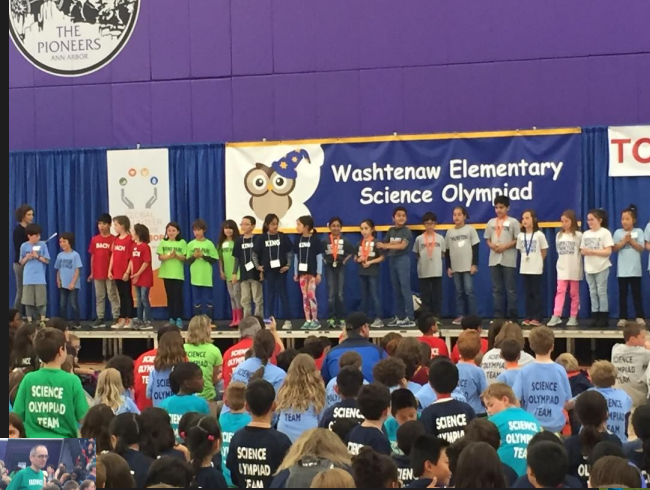
Event Day–FAQ #2

- **Correct spelling and capitalization is not required as long as words are phonetically recognizable.**
- **Teams should use the correct names of the organs as described in the study guide (tummy and guts won't count).**
- **The questions will be phrased in grade appropriate language but the will still be required to know the vocabulary outlined in the study guides.**
- **They may be asked to identify organs in the context of the larger system or individually.**

Scoring

- Each test question will be assigned a point value to be earned by teams answering correctly.
- Relatively even point distribution between 4 station.
- The highest number of points will determine the winner.
- Spelling and completion time will not be considered in scoring.
- **Tie Break Criteria:** There will be several marked tiebreaker questions. The tie breaker questions will only be graded in case of a tie.

Award Ceremony



Event Materials distributed by WESO 2026:

- Infrared Thermometer
- Non-latex Gloves

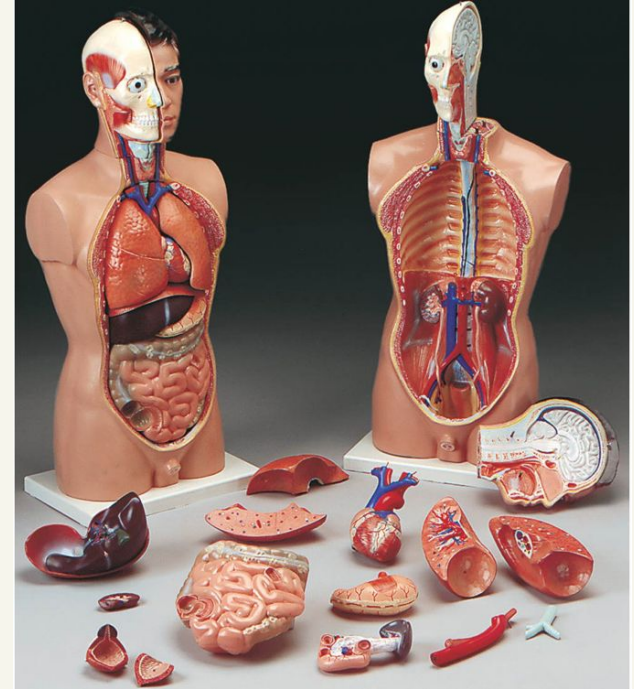
Ask your Head Coach for these items!



Event Materials distributed by WESO in previous years:

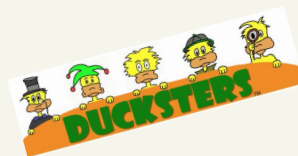
- **Body Book**
- **Body Model**

Ask your Head Coach for these items!



Additional Resources

- It is recommended and expected that additional materials, websites, and activities will be used to help prepare the teams for this event.
- Some useful websites:
 - <https://kidsboostimmunity.com/what-immune-system-4-6>
 - <https://kidshealth.org/en/parents/immune.html>



Coaching Advice





EVERYONE LOVES
COOKIES



BRING IN
OTHER PEOPLE

Try a Different Angle

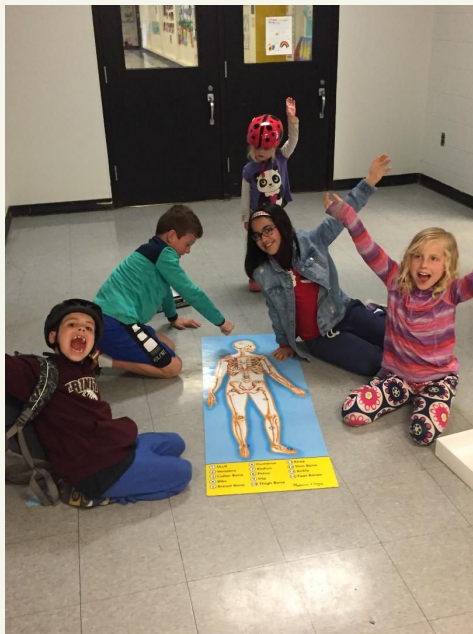


ART & SCIENCE
GO TOGETHER

Think beyond the lecture



**BUILD THE
TEAM**



**PUZZLES &
GAMES**



**INVOLVE THE
PARENTS!**

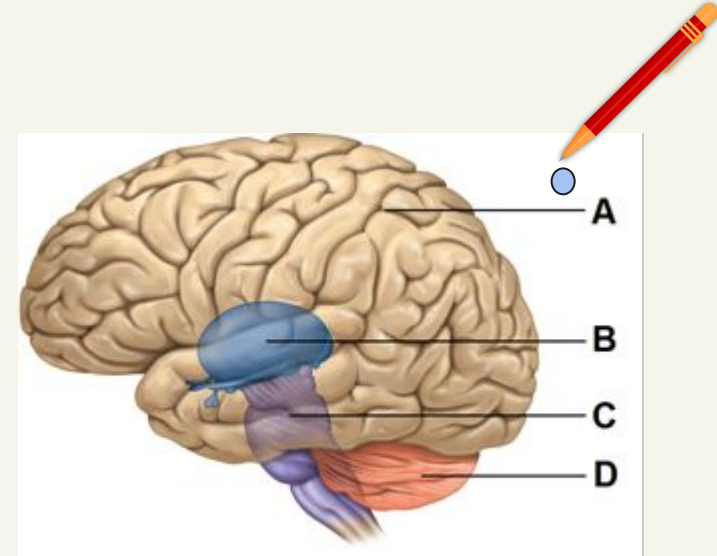
Creative Flashcards



Flashcard Pack
as PRIZE!!!!



KIDS TEACH THE PARENTS



MARK THE CHALLENGING ONES
&
PRACTICE THEM MORE

Creative Flashcards



**WORK with
FRIENDS**



**SORT
&
Re-SORT**



Awesome Additional Resource

Anatomage Table

@ Taubman Health
Science Library



Other Coaching Questions

- When do I start having practices?
- Where do I practice?
- How often do I practice?
- What do I do if I have more kids than can compete at the event?

The answer to all of the above questions depends on you, your head coach and your individual school. WESO does not control how individual schools form their teams or conduct practices.

Questions after tonight?



WESO Discord Server

Every WESO event will have its own channel

Join the WESO server to submit your questions in the event chat

Event supervisors or WESO board members will monitor the discussion
and answer questions

Event coaches can use the chat to exchange coaching ideas

Go to wesoscience.org/events/ for details on how to join the WESO server
and guidelines for its use