

# 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

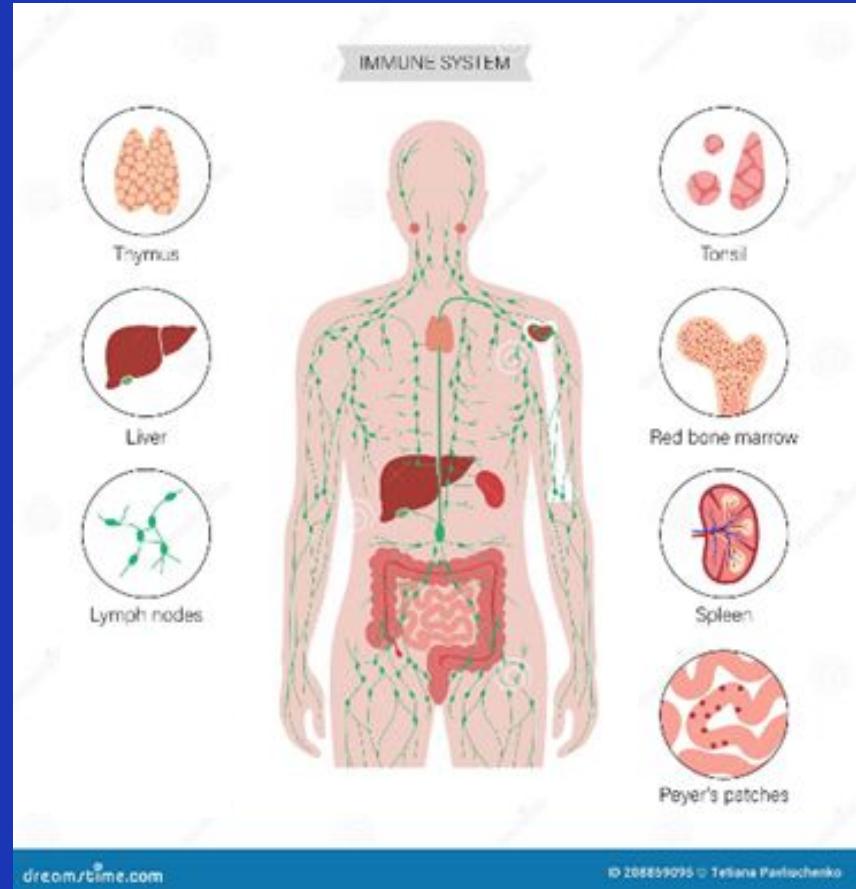


WESO

# The Human Machine 2026

## The Immune System

**Event Supervisors:**  
Laoma Beck, MD  
Hoa Truong  
Rahul Mannan, MD



# 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



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

Hoa Truong

# Meet the Team



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

**Rahul Mannan, MD**



# Goals for this event

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



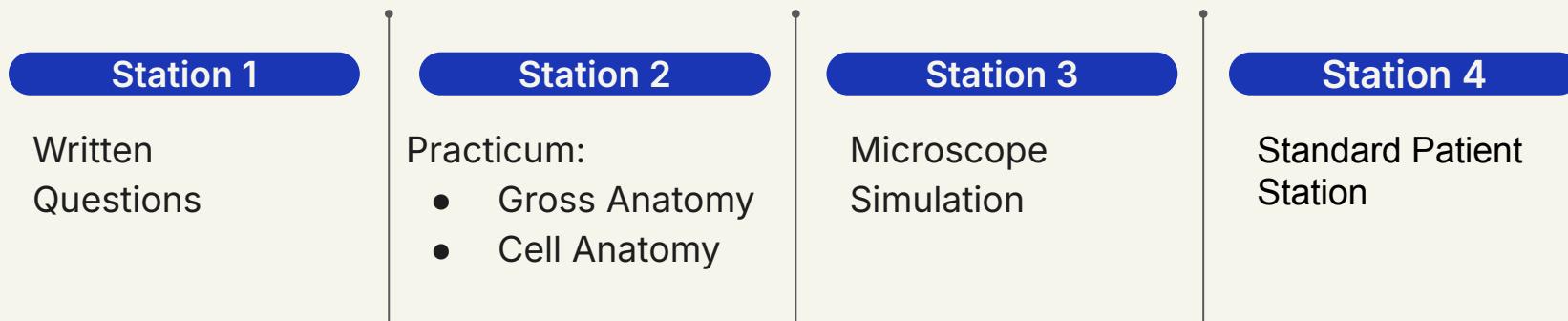
# Event Details

**GRADES:** ALL (2nd-5th)

**TEAM SIZE:** 1 to 2 participants (per grade)

**DURATION:** 30 minutes

**FORMAT:** Four (4) stations, 7 minutes each



# Event Concepts– General and Cell Anatomy

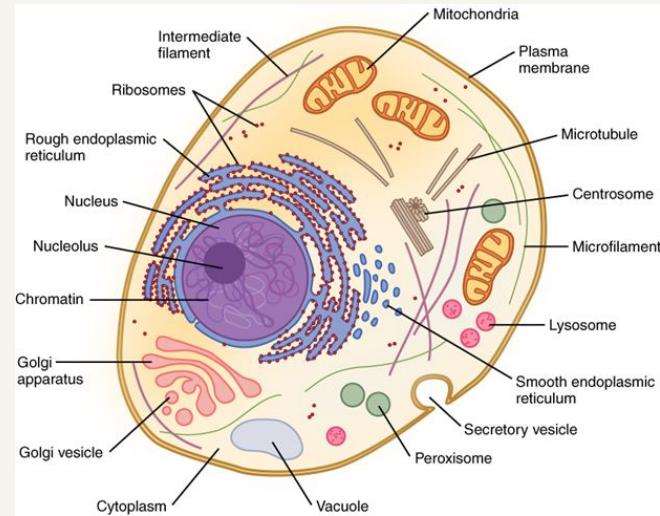
## I. Body Basics

- 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

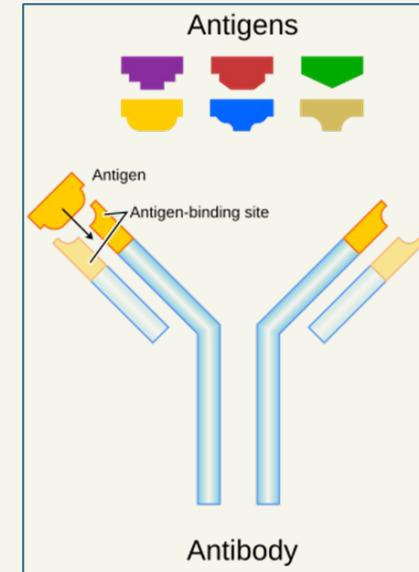
## IV. Blood–Components, Types of WBC

## 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

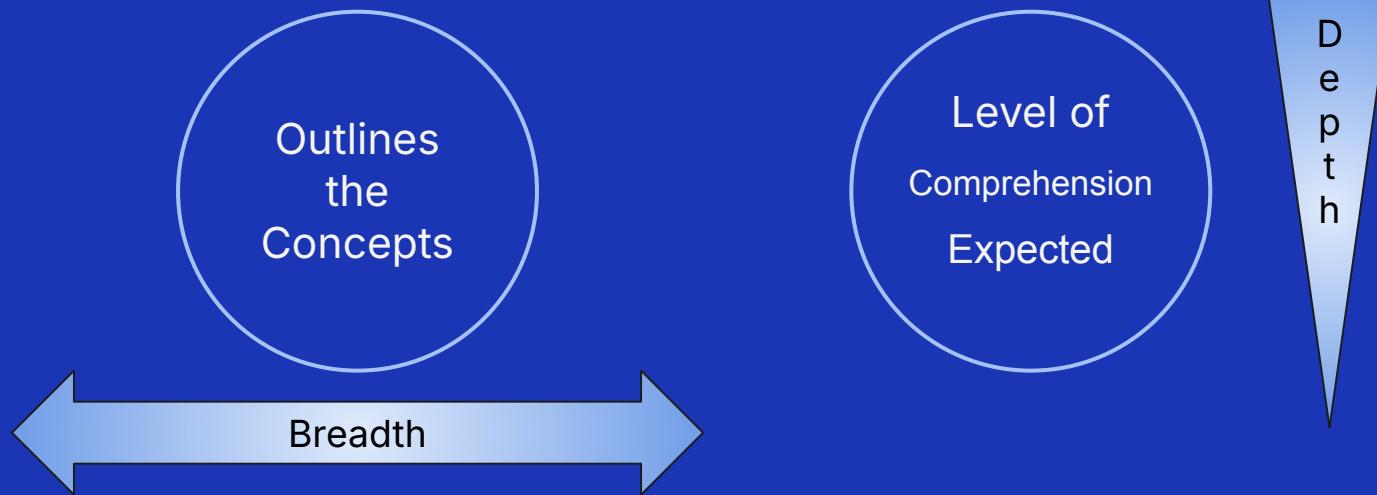
- I. Greeting
- II. History and Physical (H&P)
- III. Differential Diagnosis
- IV. Choosing a Test (4th/5th only)
- V. Diagnosis (4th/5th only)
- VI. Treatment (4th/5th only)



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# 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.

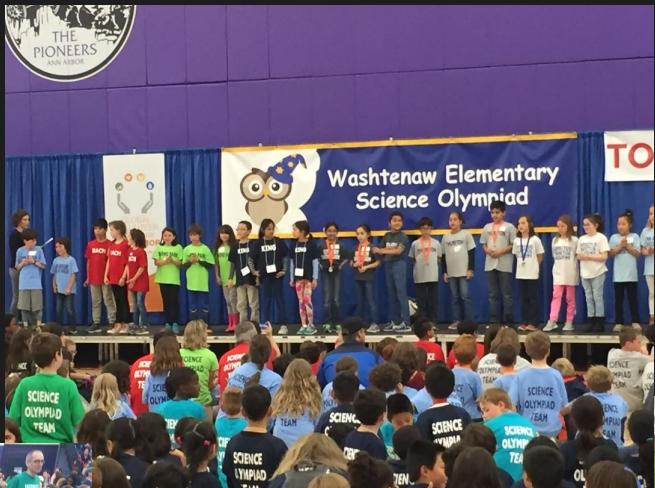
# Event Day-FAQ #2

- **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.**

# — 17 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:

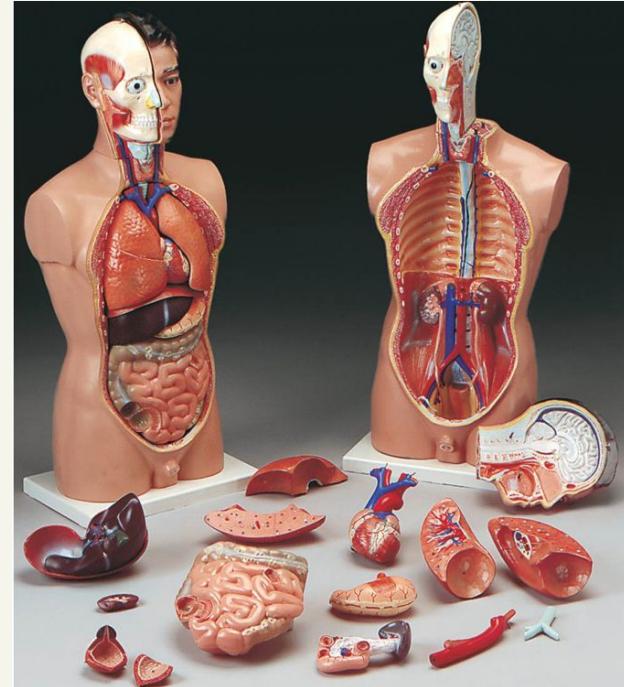
- **Infrared Thermometer**
- **Non-latex Gloves**

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

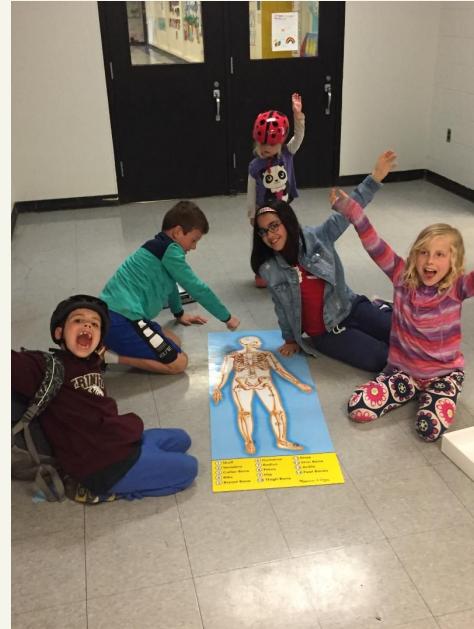


ART & SCIENCE  
GO TOGETHER

# Think beyond the lecture



BUILD THE TEAM



PUZZLES & GAMES



INVOLVE THE PARENTS!

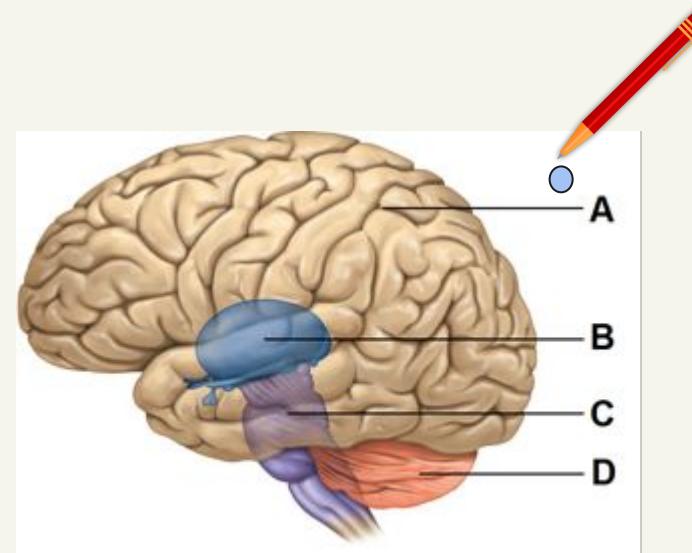
# Creative Flashcards



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



# 28 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/](https://wesoscience.org/events/) for details on how to join the WESO server  
and guidelines for its use**