Name/Title: Invasion of the Microbes (Learning About Immune Systems)

Academic content: Science, Health

Purpose of Event: Students will be able to enact the three lines of defense in our bodies that prevent the spread of microbes.

Prerequisites: Students will have learned in Science or Health class about how our bodies defend against microbes and how our immune systems function.

Suggested Grade Level: 5-8

Materials Needed: A scooter for everyone; a 3'x 3' mesh net, towel, or sheet; up to 20 juggling scarves or velcro flags; a tunnel.

Physical activity: Chasing and Fleeing

Description of Idea

The gym is separated into 3 sections (mark with gym tape and/or cones) -- the 3 lines of defense.

Half of the class will each get a scooter to ride (seated only). These students will be the microbes who attempt to ride their scooters across the 3 lines of defense.

The 1st line of defense is the skin. There should be 2-3 players who represent the skin by riding a scooter while holding hands to stay connected. The "skin" players try to tag invading microbes while staying connected (holding hands).

The 2nd line of defense is the White Blood Cells (WBC). The WBC are represented by 4 students who each hold a corner of a mesh net, towel, or sheet (3'x3' size is ideal) and move inside the boundary to envelope/gently place net on top of invading microbes. For fairness and safety, have the 4 WBC students ride seated on scooters.

The 3rd and final line of defense are the antibodies and immunity. You will need a WBC tunnel in this designated area (either a cylindrical tunnel to crawl through or you can use cones/hurdles to scoot or crawl under). When an antibody scarves or "marks" a microbe in this 3rd line of defense, they need to recharge their "Marking" (scarving) power by going through this WBC tunnel. Keep a bag or bucket full of scarves at the end of this WBC tunnel. Have 2-3 students as antibodies (seated on scooters) who carry one scarf and try to tag ("mark") a microbe with a scarf. If a microbe is "marked" with a scarf, he/she must display this scarf openly (tying scarf around wrist will work well).

Meanwhile, one player on a scooter will be Immunity who is free to roam anywhere in the 3 lines of defense areas to tag any microbe with a scarf, a microbe that has been "marked".

Everyone must stay within boundaries. Defense players must stay within their designated boundary, except for Immunity who can roam anywhere.

When a microbe is tagged, enveloped, or marked with a scarf, he/she must pick up scooter and walk the "path of destruction" outside boundaries on sideline to start again.

For clarification of roles in this game, make up signs for the defense players to wear around their necks. Sticker name tags would also work for this purpose.

If a microbe successfully passes through the 3 lines, have him/her touch a picture/poster on the wall that depicts a sick person, to signify that the microbe was able to spread a disease. Have microbe return to starting line to try again.

Have microbes and defense players switch roles after half of your class time has elapsed.

Reinforce safety rules, specifically that each player rides a scooter on his/her bottom.

Variations:

I play this game with 5th graders, but this game would also be successful with 6-8 graders.

Assessment Ideas:

The teacher should periodically stop class and ask individuals how their role in this game represents how our bodies fight microbes. Also, the teacher should ask individual students during the game what their roles are.

Adaptations for Students with Disabilities:

Because everyone is on a scooter, students in wheelchairs will fit right in. Students with cognitive impairments can ride a larger, 2-seated scooter with a buddy who can assist with game rules and procedures.

Submitted by **Dave Isenberg** in Worcester, MA. Thanks for contributing to PE Central! **Posted on PEC: 3/7/2022**.

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