

Three Environmental Health Activities:

- ***One Hand Washes Another***
- ***I'm All Washed Up . . .***
- ***Who is All Washed Up?***

Goals

- to study and research emerging and re-emerging infectious diseases, particularly through vector-borne, food-borne, and water-borne educational activities
- to understand that certain exposures in the environment cause various infectious diseases

Activity	Objectives
One Hand Washes Another	<ul style="list-style-type: none"> • Investigate need to wash hands

Is it worth washing our hands? Students will investigate the need to wash hands. Applications of this activity may be seen in the restaurant business where many hands touch our food before we eat it. At this point, it may be good for students to compare their results to an agar plate that has not been opened. This plate acts as a “control.” It’s purpose is for comparison to see if things are growing on the plate from some other source of contamination.

1. Student groups will need one agar plate for the washed hand and one for the unwashed hand.
2. Ask students to touch the agar with all fingers for the hand they use most.
3. Students will then wash their hands. After washing, touch another agar plate.
4. If student groups wish to compare types of hand cleaner; ask them to create the best experimental design to compare products.
5. If student groups wish to compare styles of hand washing, ask them to design the best experimental design to compare hand washing practices.
6. Place agar plates into a cabinet. Observe daily for two or three days. Ask students to summarize their results and report to the class. It is likely that students will find bacteria that are left on their hand no matter how well they wash. This may be the time to ask, “Is all bacteria bad?”
7. Disposal of agar plates may be accomplished by boiling in a pressure cooker or by soaking plates in a 50% solution of Chlorox.

I'm All Washed Up . . .

Goals

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Activity	Objectives
I'm All Washed Up	<ul style="list-style-type: none"> • Investigate need to wash hands

This is another hand washing activity, which is supposed to symbolize the act of washing or not washing after a clean up activity. One will hopefully imagine various such activities in the daily act of living. Student groups will need two agar plates. The teacher provides students with a yeast solution. This is prepared by dissolving one or two packages of yeast in warm sugar water. Let this yeast solution sit for 30 minutes before use.

1. Students pour some of the yeast solution into a petri dish.
2. Students wipe the petri dish clean using a sheet of paper tissue.
3. After discarding the tissue, the student touches with all fingers the agar plate.
4. The student washes their hands and touches another agar plate with the washed hand.
5. Place agar plates into a cabinet. Observe daily for two or three days. Ask students to summarize their results and report to the class. Look for the applications.
6. Disposal of agar plates may be by accomplished by boiling in a pressure cooker or by soaking plates in a 50% solution of Chlorox.

Who is All Washed Up?

Goals

- to study and research emerging and re-emerging infectious diseases, particularly through vector-borne, food-borne, and water-borne educational activities
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Activity	Objectives
Who is All Washed Up?	<ul style="list-style-type: none">• Observe other students and survey who washed hands• Discuss the results and implications of the survey

This activity is designed as a weeklong survey in which students observe other students in the restroom to see whether or not they wash their hand after using the toilet. As a class activity, students should agree not to tell others about the survey and to not use names of students they observed. They will simply note the number of students observed and the number that did wash and the number that did not wash.

At the end of the week, tally the student surveys for the class to see. Discuss the results and the implications of this survey. Is it a valid survey? Is there enough information to make valid conclusions? Are there deeper applications for this study?

Perhaps the information is worthy to be shared in the school newspaper. Perhaps a class brochure which deals with hand washing etiquette is in order.

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