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Introduction

Investigation #1 Temperature

- Collect three bags of corn nuts of same size, flavor, brand
- We will be testing rate of diffusion at three different temperatures 0 degree celsius, 24 degree celsius and 50 degree celsius.
- Set lab groups with 4-5 students.
- Place 4-5 students one meter apart in the classroom beginning at teachers desk.
- Set your stopwatch at zero.
- When directed by teacher, person number one opens the bag and everyone starts the stop watch.
- The other students will stop their timer when they first detect the smell of the Corn nuts.
- Enter your data in seconds in the shared excel sheet.

Repeat the procedures with the second bag of Corn Nuts on day 2. (room temp 24 degree celsius)

Repeat the procedures with the third bag of Corn Nuts on day 3. (50 degree celsius)

Investigation #2 Material

- Open corn nuts (be discrete) and allow diffusion into the room.
- Ask students if they smell anything peculiar...not their neighbor or friend
- Present students with corn nuts and discuss.
- Explain that corn nuts come in many varieties (plain, garlic, bbq, jalapeno, texas ranch)
- Get in groups of 4 to 5, assign a bag opener at zero meters
- Have a computer/ipad for each group

- Ask bag opening student to gather one bag of each flavor
- Each student should be separated one meter apart in classroom
- Students should get out phones or stopwatches to record time and also using timer on room monitors
- When teacher announces GO then the stopwatches start and the opener shakes the bag of the control (plain flavor) and opens the bag. Opener begins chewing handfuls of corn nuts at a time

Investigation #3 Form

Procedure:

1. Measure out two separate sets of 100 ml of corn nuts
2. Grind one set of corn nuts in the coffee grinder.
3. Place both in zipper bags and wait till the next day.
4. Students get in a line separated 1 meter of distance apart, starting at the teacher desk.
5. Synchronize stopwatches.
6. Teacher opens the first bag and signals the students to start the stopwatches.
7. Students record the amount of seconds until they smell the corn nuts.
8. After the smell of corn nuts has dissipated repeat steps 4 through 7 with the other bag of corn nuts.