Acting Superintendent of Schools   **Mrs. Eveny de Mendez**

January 25, 2019

Dear Hazel Elementary School Parents / Guardians,

Earlier this year, the West Orange Public Schools received reports from several high school students that some classrooms were "stuffy" and they were feeling "drowsy" during class. In response, the Board contracted AHERA Consultants to conduct testing throughout all schools for levels of carbon dioxide.

All classrooms, multi-purpose rooms, gym areas, teacher workspaces, and offices were evaluated for carbon dioxide, carbon monoxide, and temperature and relative humidity, including visual inspections for the presence of mold.

Air monitoring findings revealed:

- No elevations in carbon monoxide in any of the locations were found
- Temperature and humidity were within normal ranges as recommended by ASHRAE and PEOSH
- No evidence of visible mold contamination or mold like or musty odors detected

In humans, carbon dioxide (CO_2) is produced by respiration. Concentrations can accumulate in a place where there is stagnant air, such as classrooms where there are a higher number of students in small spaces. In New Jersey, PEOSH standards refer to 1000 parts per million (ppm) CO_2 as guidance for public spaces.

- CO_2 levels exceeding 1000 ppm is a general indicator that fresh air needs to be introduced into the space in order to reduce the concentration.   Ranges between 1000-1999 ppm can cause complaints of drowsiness and poor air.   PEOSH guidelines recommend the utilization of operable windows to introduce the fresh air.
- CO_2 levels ranging between 2000 - 5000 ppm could lead to stagnant, stale, or stuffy air that may produce sleepiness, headaches and poor concentration. PEOSH guidelines for these levels recommend that unit ventilators be assessed to ensure proper air flow into the space.
- Carbon dioxide can have adverse affects on health when it reaches a concentration of 20,000 to 40,000 ppm, a level defined by the federal Environmental Protection Agency.

Fresh air supply findings at Hazel Elementary Schools, as measured by carbon dioxide, revealed the following levels:

- Of the 36 areas tested, 10 contained good to excellent levels of carbon dioxide
- 23 areas contained carbon dioxide levels between 1000-1999 ppm
  (Rm. 2, 106, 101, 105, 103, 104, 204, 208 Side, 202, 205, 206, 201, 207, Resource Center 5, Resource Center 6, Art Room 4, Nurse's Office, Main Office/ Principal, 2 Storage, Library, Computer Room, AV Storage/Work Room, SGI-B).
- 3 areas contained carbon dioxide levels between 2000-2432
  (Rm. 208 Center, Art Room 4A, Multipurpose Room).
- None of the areas contained carbon dioxide levels above 2432

Based on these findings and PEOSH standards, health officials have assured us that the levels of carbon dioxide present at Hazel Elementary School pose "no imminent health risks" for the students or staff of Hazel Elementary School and that the present levels are not "unusually elevated".

For areas containing CO_2 levels between 1000-1999 ppm, recommendations include:
- Utilizing operable windows whenever necessary to introduce fresh air into the space
- Continuing to conduct routine preventative maintenance service of unit ventilators
- Ensuring that instructional materials are not covering unit ventilators
- Ensuring all unit ventilators remain turned on throughout the day

For areas containing CO_2 levels above 2000 ppm, the unit ventilators will be inspected for proper function, damper position, thermostat controls and repaired if necessary.

The safety and health of our students, staff and school community continue to be the priority of the West Orange Public Schools.   A formal presentation will be made to the Board on Monday, January 28th, and school reports will be sent home to parents Friday, January 25, 2018.

Eveny de Mendez
Acting Superintendent of Schools
West Orange School District