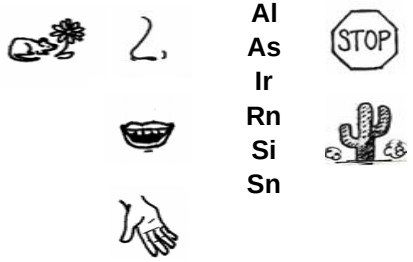
IAQ Hazard Game Cards

Volatile Organic Compounds (VOCs)

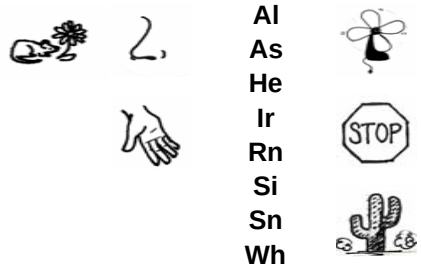
- Colorless, flammable gases emitted from solids or liquids that evaporate easily at room temperature
- Common VOCs: toluene, xylene, formaldehyde, acetone, isopropanol
- VOC concentrations may be up to ten times higher indoors than outdoors
- Used as an adhesive or solvent in paint, art supplies, cleaning products and personal care products
- Select low-emitting, non-toxic products and materials wherever possible when furnishing, renovating or constructing a school building

Cockroaches



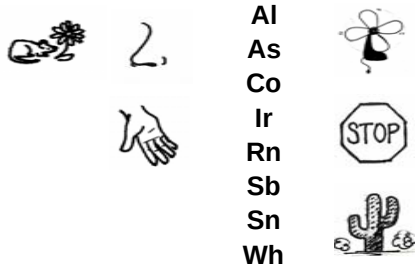
- Cockroaches can live almost anywhere, but prefer warm, moist places with food
- Found in crowded cities and southern states in the U.S. and in dirty homes and kitchens
- Body parts and feces are known asthma triggers and cockroach feces and saliva can cause allergic reactions
- Establish a Food in the School policy, keeping food and drink out of classrooms and hallways; empty trash daily
- Sanitation is important! Keep all food in sealed containers, clean up crumbs and spills

Mold (spores)



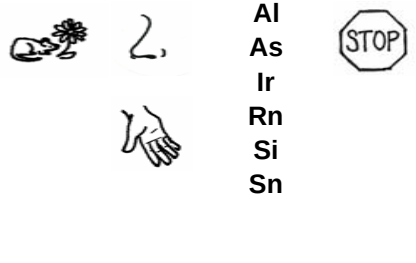
- A type of fungi that can be found almost anywhere; molds multiply by producing microscopic spores
- Spores are found in indoor air or dust, with higher concentrations in outdoor air
- Grow rapidly in warm, moist areas on food sources: wood, drywall, carpet, paper, ceiling tiles - gives off musty odor
- Asthma trigger and allergen
- Discourage mold growth: Increase ventilation and reduce humidity, fix water leaks, control condensation and replace water-damaged materials

Dust Mites



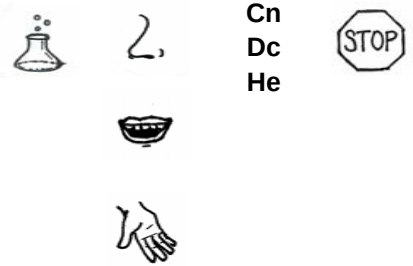
- Microscopic insects that feed on human and animal dander (skin flakes)
- Like warm (75-80 ^{o}F), moist (>60% humidity) conditions
- Most common allergen for asthmatics
- Feed on dander found in dust, pillows, carpets, upholstered furniture and fabrics
- Maintain a clean, dry classroom!
- Dust shelves using a damp cloth and vacuum thoroughly with a HEPA filter
- Reduce clutter in classroom, remove upholstered furniture and hanging "dust collectors"

Animal Dander



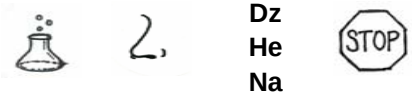
- Dander is tiny scales of animal skin that float in the air and can be inhaled
- From animals with fur or feathers such as dogs, cats, hamsters, guinea pigs and birds
- Proteins in the dander, urine and saliva can aggravate asthma and allergies in sensitive people
- Establish a school policy restricting pets from classrooms or allowing pets as visitors only

Lead (Pb)



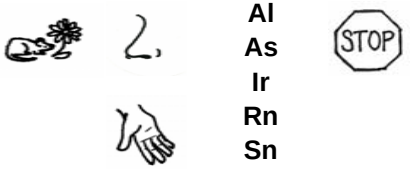
- Naturally occurring, highly toxic metal
- Found in lead-based paint, lead dust and contaminated soil
- Banned for use in paint in 1978 and as a gas additive in 1980s
- Main source is lead-based paint (on walls and furniture) which becomes airborne when paint is disturbed
- Effects nervous system, causing learning disabilities
- Leave lead-based paint undisturbed if it is in good condition; do not sand or burn off paint that may contain lead
- Hire a professional to remove paint

Carbon Monoxide (CO)



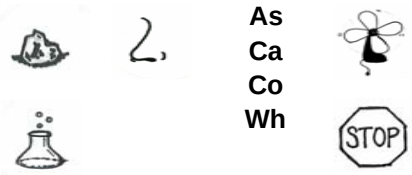
■A colorless, odorless, and tasteless gas used in appliances, furnaces, water heaters and boilers
■Produced by incomplete burning of fuels
■Sources in schools are improperly vented furnaces or exhaust fumes (from vehicles or furnaces) that have been drawn back into the building
■Properly inspect, maintain and vent heating systems and appliances annually
■Install carbon monoxide detectors in areas with burning fuels (natural gas)
■Do not idle vehicles around school

Pollen



■Microscopic reproductive plant particles that come from trees, flowers and grasses
■Released from plants that produce seeds; enter buildings through open windows and doors
■Resist the temptation to open windows during high pollen times of the year
■Vacuum with HEPA filters
■Properly install and maintain filters in ventilation system to trap pollen and prevent it from entering building

Environmental Tobacco Smoke (ETS)

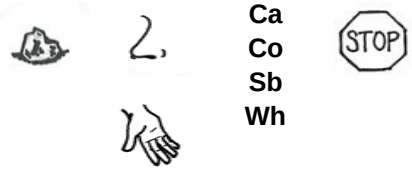


■Contains 4000 chemicals consisting of solid particles, liquid droplets, vapors and gases resulting from tobacco combustion
■Many chemicals in ETS are toxic or are cancer causing and cause severe asthma attacks
■Sources include smoke from a burning cigarette, pipe, or cigar or the smoke exhaled by a smoker
■Implement and enforce nonsmoking policies, particularly indoors and near school entrances

Radon (Rn)

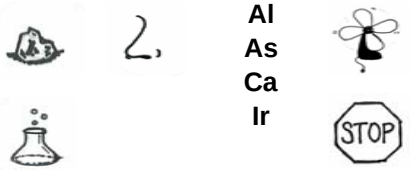
■Odorless, radioactive gas; decay product from uranium-238
■Naturally occurring radioactive gas found in soil, rock and water
■Radon gas can seep into buildings through foundation cracks or openings and build up to higher concentrations indoors
■Implement a radon testing program in school; test all rooms at ground level
■Seal cracks in floors and walls
■Install systems to remove radon from beneath concrete floor or basement slab

Asbestos (As)



■Long, thin microscopic fibers (similar to fiberglass) from naturally occuring minerals; insoluable in water and resistant to fire and heat
■Most asbestos-containing products banned in 1989
■Used in fire-proofing materials: shingles, insulation, ceiling and floor tiles, laboratory tabletops; also automotive brakes and clutches
■Mandate asbestos management plan in school
■Do not disturb materials that contain asbestos

Diesel Exhaust



■Complex mixture of gases and particles
■Contains carbon particles (soot), carbon monoxide, carbon dioxide, and ozone-forming nitric oxides and other toxic air pollutants
■School buses and other diesel vehicles can produce concentrated exhaust emissions both outside and inside school buses and school buildings
■Asthma trigger and allergen
■Do not allow buses or other vehicles to idle on school grounds
■Replace the oldest buses and reduce emissions from newer buses