

Enhancing Your School IPM Program



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Healthy Buildings, Active Learners

Healthier Environment →
Healthier Children →
= Higher Academic Achievement !



So what does this have to do with
“Integrated Pest Management”?

Pesticide-centric control methods lead to unnecessary exposures

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- ▶ Unnecessary release into the environment and exposure of students, faculty, and staff can result from
 - ▶ Calendar-based, rather than pest-driven pesticide applications
 - ▶ Unsanctioned use by well-meaning teachers, parents, and coaches



Pests and pesticides in schools are an environmental health issue

- ▶ Children are especially vulnerable to problems associated with some pests
- ▶ Cockroaches are asthma triggers
- ▶ Rodent infestations can be disease vectors, asthma triggers



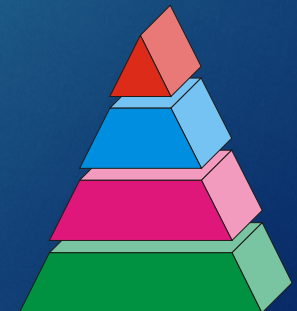
Asthma is the most common chronic illness in children

- ▶ 4.8 million kids - U.S.
- ▶ Number one cause of absenteeism – *more than 12.8 million school days per year*
- ▶ Most exacerbations are due to environmental triggers
- ▶ Common pests in schools are triggers

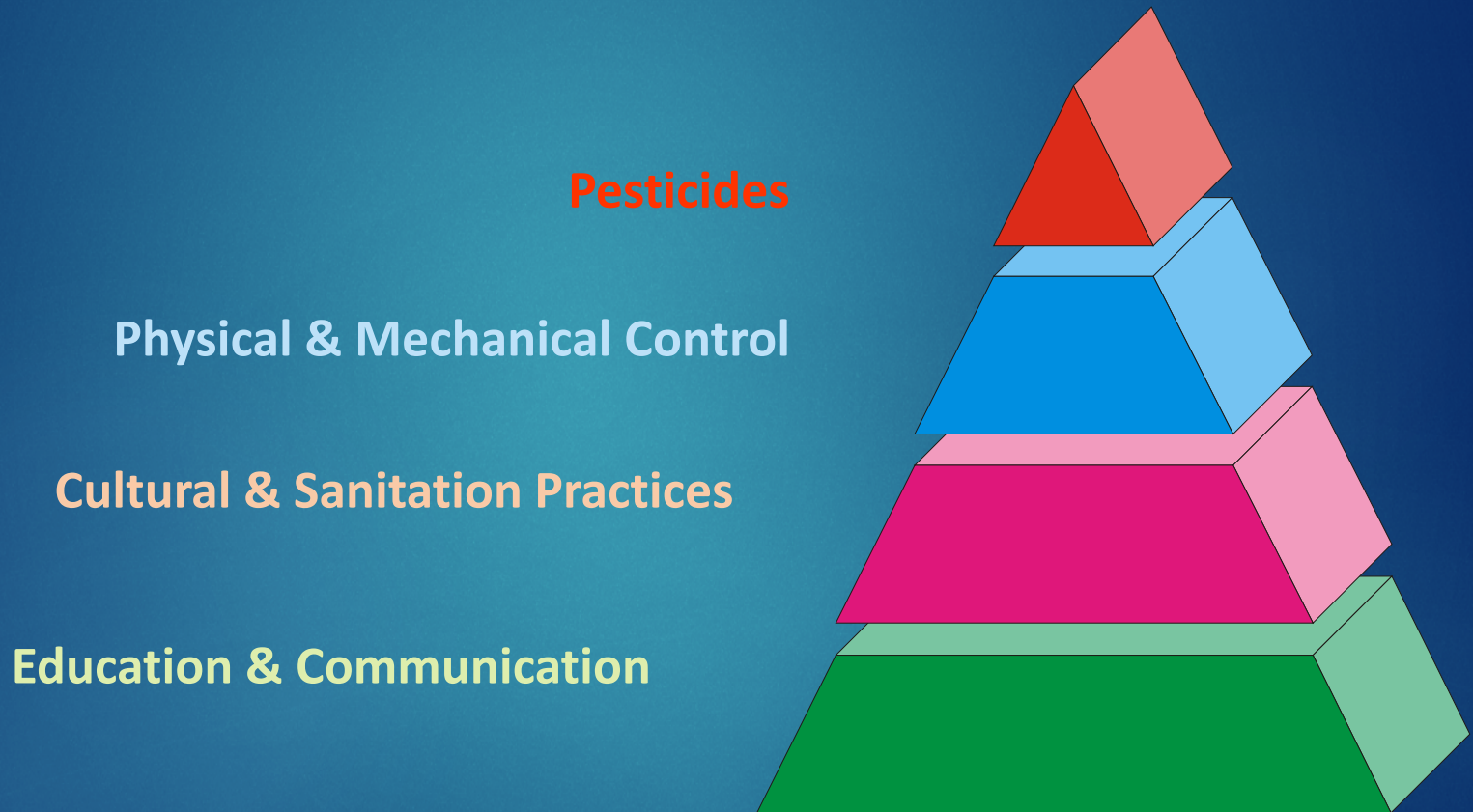


The Promise of IPM in Schools

- ▶ 71% reduction in pesticide use
- ▶ 78% reduction in pest-related work orders
- ▶ Reduced asthma triggers, reduced absenteeism
- ▶ Lower costs as pest problems are reduced (*IPM implementation requires initial investment*)
- ▶ No increase to workload of school facilities staff (*"Do what you're doing, just think pests."*)



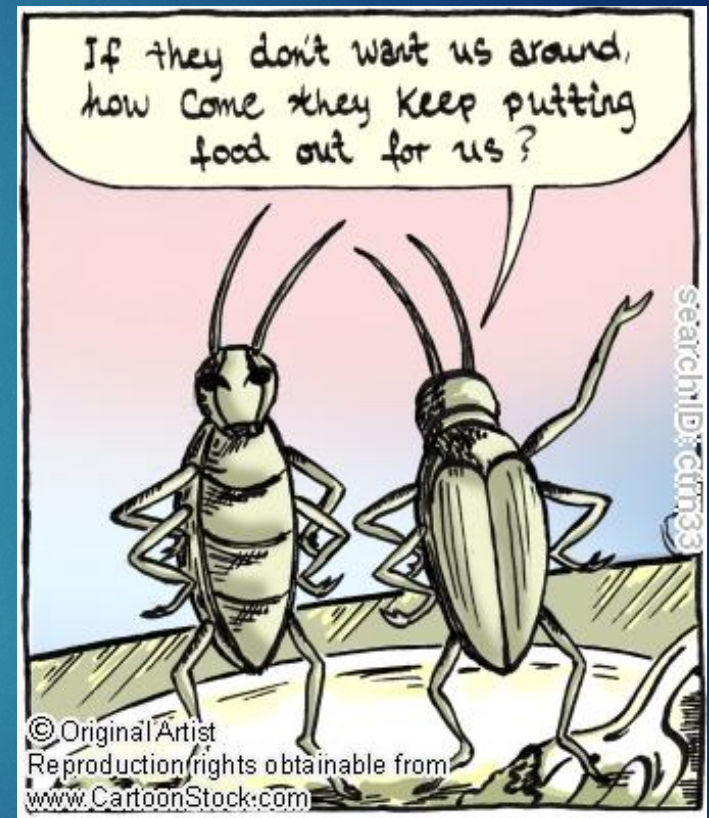
IPM Basics



Why we need Integrated Pest Management


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- ▶ All creatures require food, water and shelter to survive.
- ▶ Pests find buildings where these needs are met and take up residence.
- ▶ Block pests out and remove their sources of food, water and shelter and you will need fewer pesticides to control pests.



Who has time for IPM?

- ▶ With more work than time to accomplish how do I find time for IPM?
- ▶ Policies
- ▶ Procedures
- ▶ Implementation
- ▶ Monitoring



IPM is just about meeting some regulation and addressing problems as they hit my desk.....or is it?

- ▶ Is there more about IPM than this statement?
- ▶ Make your school district become more proactive and less passive in its IPM process
- ▶ Dedicating a small amount of time consistently to IPM will provide significant short-term and long-term benefits....including saving money
- ▶ IPM does not have to be perfect.....it just needs consistent improvement

Polices

- ▶ Use MSMA or some other policies as a template
- ▶ Modify these blanket policies to meet the needs of your district
- ▶ Reach out to other districts and seek ideas on what they are doing
- ▶ Review the policies quarterly and update annually
- ▶ Add notes throughout the year so when the policy gets updated it is not a major task

Procedures



- ▶ Having written procedures is important for building expectations and understanding of stakeholders inside and outside of the district
- ▶ Let procedures be clear enough to set a roadmap but not so restrictive it limits your ability to do what you need to
- ▶ Make sure the overview of the procedures are understood by all employees
- ▶ Have support from senior administration and building administrators on these procedures

Implementation



- ▶ Communication is an important ingredient to successful implementation
- ▶ Planning and timing are key items
- ▶ Create a schedule for the year and stick to it
- ▶ In-house versus external contractors
- ▶ Techniques for small, medium and large school districts

Monitoring

- ▶ Review your implementation process and search for ways to improve
- ▶ Communicate with outside vendors
- ▶ Communicate with internal staff
- ▶ Be critical in your evaluation to ensure you are considering new and different ways of being more efficient and effective

Contracting for Services

- ▶ Perform a self-assessment to determine which services can be provided in-house versus an external provider
 - ▶ Be clear about the areas you do know and those for which there is limited or no knowledge
 - ▶ Be honest about the amount of time available to perform services in-house effectively and efficiently
 - ▶ Evaluate if the knowledge and expertise can be obtained if it is not currently known
 - ▶ What rules, regulations, licenses and laws need to be understood and also updated/renewed to perform a function
 - ▶ Consider the cost/benefit of internal versus external contracting for services

Contracting for Services (Cont'd)

- ▶ Steps to consider in engaging external contracted services
 - ▶ Before you start your process ask your peers and colleagues
 - ▶ Do your research and homework before you conduct your search
 - ▶ Determine the best method for soliciting qualifications and costs from potential vendors
 - ▶ Read your district purchasing policy
 - ▶ Determine appropriate method of soliciting- RFP, RFQ, quotes
 - ▶ Decide if you need a consultant or legal counsel in assisting in the process
 - ▶ Write the documents to be clear and concise
 - ▶ Set reasonable time frames for obtaining information, evaluating and engaging a vendor
 - ▶ Once evaluated, select the vendor and provide notification of award

Contracting for Services (Cont'd)

- ▶ Developing and Maintaining Relationships with Vendors
 - ▶ Once vendor is selected have pre-engagement meeting
 - ▶ Develop expectations for type of work, time frame, reporting of results and follow-up
 - ▶ Appear on site periodically during the performance of services
 - ▶ Communicate with vendor shortly after performance of services and evaluate the work performed and steps for improvement
 - ▶ For vendors with ongoing/periodic performance schedule meet no less than annually in person to evaluate the work performance, schedule, work logistics and pricing
 - ▶ It is easy to become more complacent with ongoing vendors- important to give informal performance review periodically throughout the year.
 - ▶ Contracted service providers work for the district so make sure they are held accountable to your expectations and meet your needs.

Training of Staff

- ▶ Communication with staff (maintenance, grounds and custodial) is critical to success with IPM
- ▶ Communication with the public and with teaching staff and administration
- ▶ Have buy-in and support from superintendent, business manager, and board/committee
- ▶ Training of staff does not always need to be lengthy or complicated (email, newsletter, monthly update)
- ▶ Make training an important and required part of your program
- ▶ Set expectations high and staff will be motivated to achieve the goals

Training of Staff

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- ▶ Annual (or semi-annual) Training
 - ▶ Set the date of training months ahead of time (ex: 6 months)
 - ▶ Develop agenda
 - ▶ What is required training
 - ▶ What is impacting your district currently or in near future
 - ▶ Give break time and let them ask presenters questions
 - ▶ Make the training mandatory
 - ▶ Bring in professionals to assist
 - ▶ Have food and drink
 - ▶ Make training long enough to accomplish goals but not so long you lose them
 - ▶ Engage the staff to be part of the training- active and not passive
 - ▶ Ensure the staff understands the topics covered (engagement, quiz, follow-up)

Ongoing Training

- ▶ Training has no beginning or ending point- maybe peaks and valleys but is an ongoing process
- ▶ We intuitively know training is important BUT how do we fit it in our schedules which have no time available already
- ▶ Break your ongoing training down to manageable, short portions
- ▶ Many people learn best over time with continual reinforcement
- ▶ Find the methods to provide ongoing training that work best for your staff and district (probably a combination of these methods)
 - ▶ In person
 - ▶ Webinars
 - ▶ Online
 - ▶ In-house
 - ▶ Emails
 - ▶ Newsletters

This presentation will (briefly) cover:

- Pest Inspection: A Necessary Task
- Monitoring: Is What You Are Doing, Working?
- Sanitation: It's Why The Pests Want In – Food!
- Maintenance: It's How The Pests Get In!
- Excluding Pests: Its Not That Hard! Think Good Maintenance!

What are you “looking” for?

- ▶ Actual Pest – need the pest to identify it
- ▶ Signs of Pest – droppings, damage, shed skins, tracks, evidence of nesting

Thorough Inspection is Critical

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Inspections

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- ▶ Inspect from a pest's perspective - think food, water, shelter



Perform regular kitchen inspections



Kitchens: Are you Feeding Pests Where you Cannot See?



Remember the "back leg zone"

Sometimes you need to move furniture

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Why else might you inspect?

- ▶ To determine if monitoring is working
- ▶ To check traps placed during monitoring
- ▶ When the pest is especially dangerous or may be a health risk
- ▶ When you need to be sure what is going on
- ▶ Regulatory visits
- ▶ When the problem is not resolved
- ▶ When you are called back by staff

Ask Questions

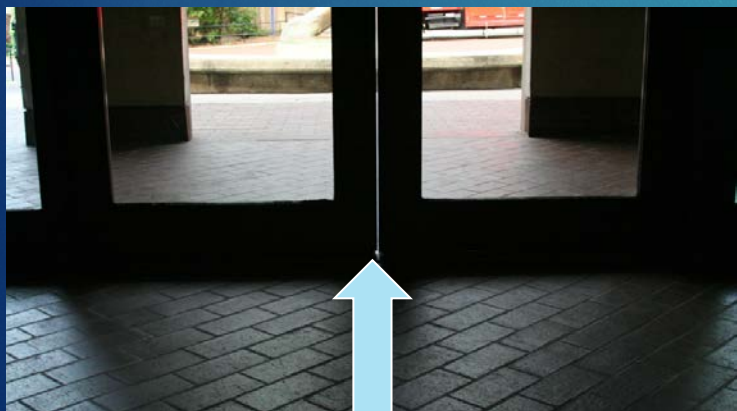
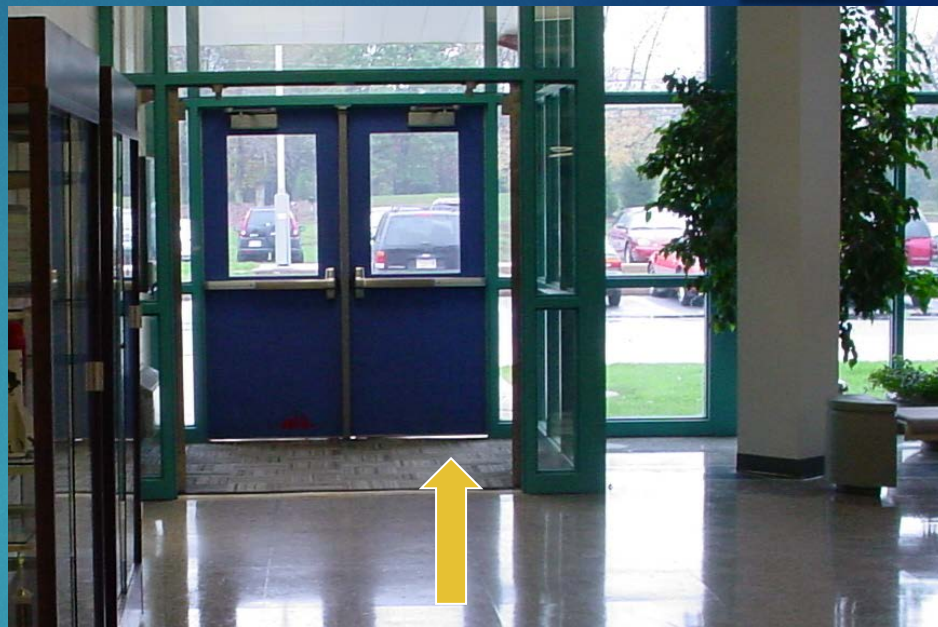
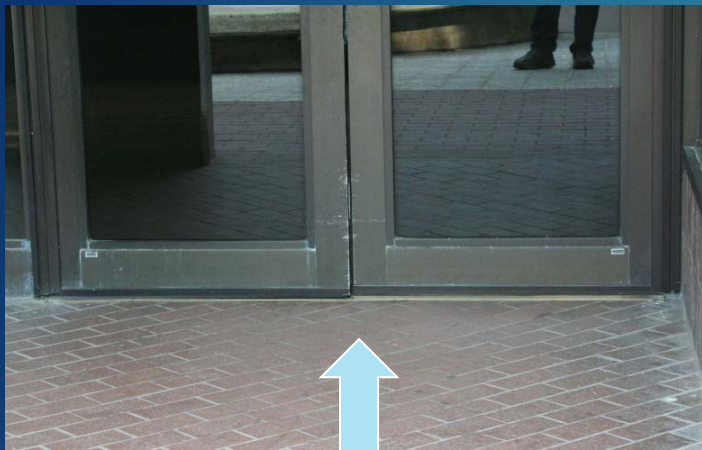
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Why is this door propped open?

Inspecting Doors

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Finding How Pests Get In

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Food Storage

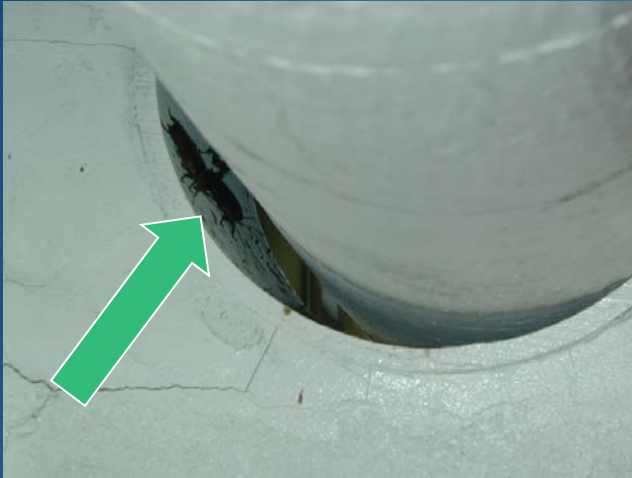
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cardboard = cockroach condos



Chasing pipes

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Seal pipe chases with appropriate materials



Utility Installations

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A Firm Foundation: edges provide a place to travel and hide



Drain Issues



Brilliant Ideas?

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Trash Bags Keep Food from Pests



What is Monitored Routinely?

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Monthly monitoring / inspection:

- ▶ Kitchen/cafeteria
- ▶ Break rooms/ Staff Lounges
- ▶ Physical plant areas
- ▶ Family Science/Home Economics
- ▶ Anywhere food is stored or eaten
- ▶ Problem areas reported since last visit



Sticky Traps for Monitoring Insects



- ▶ Name? Date? Location?
- ▶ No protocol for setting and reviewing sticky traps = No useful information

Monitoring → Reporting → Action Protocol

Seen any rodents, bugs, or "conductive conditions" lately?
Please jot down your observations for us!

Appendix 3 Appendix 3, Version 2.0 Last edited 8/23/11

Integrated Pest Management

Pest Log: KITCHEN

Report of Pest Sighting				Respondent	
Date	Name	Location in the kitchen	Pest/Problem Description	Action Taken and Cost (if any)	Initials & Date



“Pest Logs” to report and record pest problems and action taken to manage them

Reporting Pests - Sight & Log

- Contact the IPM Coordinator.
- We suggest creating a sequential system to report pest complaints and building problems.

Service Complaint Log

PEST SIGHTED	AREA PEST WAS SIGHTED	PERSON REPORTING PEST	CORRECTIVE ACTION BY BOWCO	BOWCO TECHNICIAN	DATE COMPLETED
Brown Bugs in cafeteria	slot sink in cafe slop sink	J. Porter Sr. cust	Treated w/ Gel	B. McMickle	01/25/11
Bedbug	Rm. 323 on student	J. Porter	Inspection	B. McMickle	01/25/11
2 Bugs looks like brown house roaches	4th floor slop sinks	J. Porter	INSPECTION	B. McMickle	02/03/11
Bedbug	419 412	J. Porter	Inspection Book Bags + Rm 323	B. G. fol	2-7-11
Said bedbug was in student bag	323	Teacher Rm 323			
		J. Porter			

Pest sighting and service logs should be kept by the school food service, IPM coordinator and grounds manager. Make accessible to inspectors, staff, and others.

Identify What You Found

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- ▶ Identify it to species if possible, or take a sample
- ▶ Record it in a pest log, or visitation report
- ▶ Make recommendations for resolving the problem: sanitation, trapping, maintenance issues



Why ID pests?

Because not knowing the correct pest name leads to wasted time and unnecessary treatments.

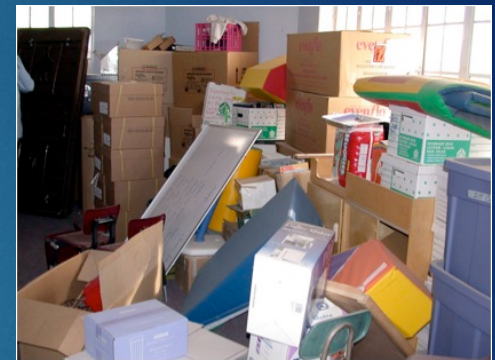


NOPE! A LEAF-FOOTED BUG!!

Prevention and Avoidance through Sanitation

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- ▶ Pests need food, water and shelter



Drain Flies Require a Shift In Strategies: elbow grease vs. pesticides

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Kitchen Sanitation

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- ▶ minimizing food, water and harborage for pests



Kitchen / Food Prep Areas

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- All surfaces in food preparation and serving areas should be cleaned regularly and thoroughly
- Ensure all cracks, leaks and moldings are sealed

Poor Sanitation

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Kitchen Storage Areas

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- Keep food and beverages in tightly sealed containers
- Bulk products should not contact walls or floors
- Store paper goods separately and away from food



Other Eating Areas

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- Keep all eating confined to designated areas, if possible.
- Thoroughly clean food serving tables and floor after each use
- Install pest monitors in any classrooms where food is served
- “Clean to the corner” - clean hard to reach spaces
- Sweep and mop after each meal



Teachers' Break Rooms

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- Upholstered furniture may provide pest harborage
- Clean and dry dishes daily
- Remove food in cardboard boxes

Vending Machines

- ▶ Spilled or broken products attract mice and roaches
- ▶ Ensure scheduled cleaning which may need to be negotiated with the vendor
- ▶ Monitor



Food Storage in Breakrooms and Classrooms

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- If food must be in the classroom:
 - store in clear pest proof containers off of the floor



Pets in Classrooms

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- ▶ Keep all pet food stored in clear plastic containers
- ▶ Clean up spills promptly
- ▶ Pet cages and aquariums must be kept clean
- ▶ Check aquariums for water leaks

Cubbie and Locker Sanitation

- Cubbies, lockers and storage areas should be cleaned at least seasonally
- No food should be stored in cubbies or in lockers for more than a day
- Provide independent storage cubby areas for younger children



Custodial Mop Room

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- To reduce pest harborage in custodial closets:
 - Hang mops upright and allow to dry
 - Keep sinks and buckets empty and dry when not in use
 - Keep floor and sink drains clean



Available water and improper storage

Custodial Closets and Storage

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- ▶ Utilize appropriate shelving practices
- ▶ Keep clean and clutter-free
- ▶ Remove all cardboard, or at least get it off of the floor
- ▶ Do not store any boxes on the floor
- ▶ Monitor



Take Away Pests' Homes

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- ▶ Recycle cardboard
- ▶ Avoid using cardboard for storage
 - ▶ It is a favorite living-space for cockroaches and other pests



Clutter and pests

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- ▶ Clutter control is essential in classrooms to reduce pest habitats
- ▶ Clutter enables pests to hide and reproduce undisturbed
- ▶ Store materials in plastic storage boxes with lids
- ▶ How organized and clutter free are the closets in your classrooms?



Eliminate Clutter / Harborage

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Clutter removal is an essential part of IPM and pest elimination

Why does this classroom have pests?

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This is a real classroom!

Remove Pests' Food: Waste Management

- Employ good waste management practices:
 - Indoor trash containers should be emptied frequently
 - Trash cans should have lids
 - Do not leave trash cans full overnight
 - Keep trash cans clean both inside and out
 - Use child-friendly cans in rooms with young children



Good Waste Management is Good Pest Management

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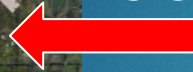
- Distance - 30' from building
- Concrete pad
 - Rats/mice will burrow beneath asphalt or stone

Sanitation & Maintenance Issues: dumpster recommendations

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Keep dumpsters clean and closed



Schedule pick-ups often enough to keep trash away from pests



Clean up trash around dumpsters



Keep lids in good repair



Cafeteria Maintenance

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- Clean serving line spills
- Thoroughly clean and dry trays and dish return areas
- Properly clean dishwashing racks
- Small amounts of water can sustain pests



Kitchen Moisture Sources

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- Condensation under refrigerators
 - wipe dry or use a drip pan to collect water
 - empty the collection pan frequently



More Hiding Places Near Water

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Exclusion

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- ▶ Eliminate pest entry/migration points = pest proofing



Keep Them Out: Maintenance / Exclusion

Excluding pests = pest proofing

Use barriers, including screens, seals, nets and door sweeps



Thresholds to the Future: Looking down on the problem

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Complete the
job...

Restrooms

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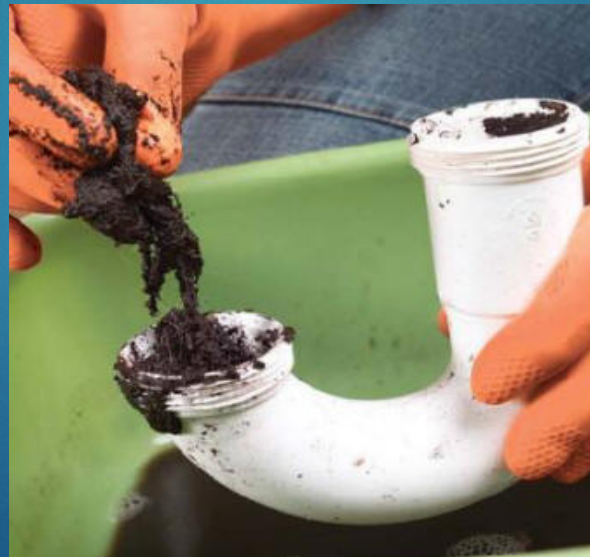


When inspecting pay close attention to water sources

Restrooms

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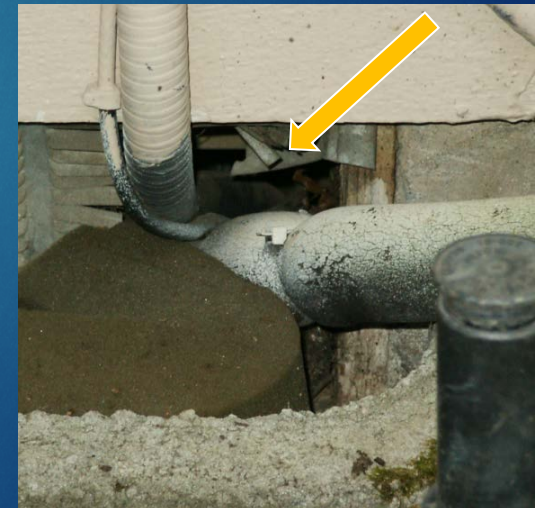
- clean daily
- maintain plumbing in good repair – fix drips and leaks
- keep sink areas clean and dry
- seal all holes around pipes
- tighten escutcheon plates



Kitchen Pest Proofing

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- Cover drain traps
- Screen vent pipes
- Flashing, floor drains, vents
- Seal gaps around pipes



Basements: A Closer Look

► Inspect



Basements

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Moisture – Standing water

Basements

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Seal those holes!



Don't design school buildings to invite in pests!

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Weep Vents


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Pest Conducive Areas in Schools Include:

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- 
- ▶ Kitchen / food prep areas
 - ▶ Cafeterias / eating areas
 - ▶ Faculty rooms
 - ▶ Classrooms / storage
 - ▶ Restrooms
 - ▶ Student lockers/ cubbies
 - ▶ Gyms / locker rooms
 - ▶ Custodial areas
 - ▶ Waste disposal areas
 - ▶ Basements

What's the IPM difference?

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Element	Conventional Pest Control	Integrated Pest Management
Education / Knowledge	Minimal	Extensive
Inspection & Monitoring	Minimal	Extensive
Emphasis	Treat <u>symptoms</u> of problem, and/or routine pesticide applications	Treat <u>causes</u> of problem. Pesticides used only as needed.
Insecticides in occupied spaces	Sprays and aerosols	Baits, gels, dusts, IGRs, etc.
Application of sprays or fogging	Surface treatments	Generally avoided or crack and crevice only
Sanitation and exclusion for rodent control	Minimal	Extensive
Lethal rodent control	Emphasis on rodenticides	Emphasis on trapping
Program strategy	Reactive	Preventive
Potential liability	High	Low