



## Welcome!

### Healthy School Environments Across the South

Athens, Georgia  
February 23, 2012



Indoor Air Quality (IAQ)



Sumbuya Secondary School  
Sierra Leone, West Africa



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## Goal of Training

- To provide information and tools to help you create healthy indoor environments in schools.



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## Learning Objectives

- Understand the elements of maintaining a green and healthy school.
- Discover how improved IEQ leads to academic success.
- Be equipped to create an effective IEQ management program.
- Develop an action plan.



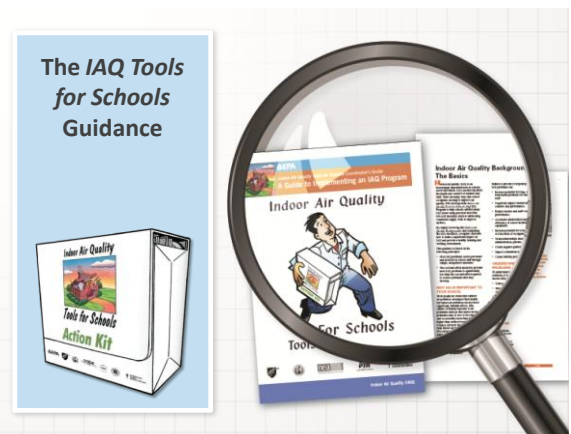
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## Hat Trick

- Grounding in a Firm IEQ Knowledge Base**
  - Effective Framework for Success
  - Technical Expertise
- Action Learning Approach**
  - Peer-to-Peer Learning
  - Action Learning
- Powerful National Network**
  - Mentoring
  - Ongoing Support



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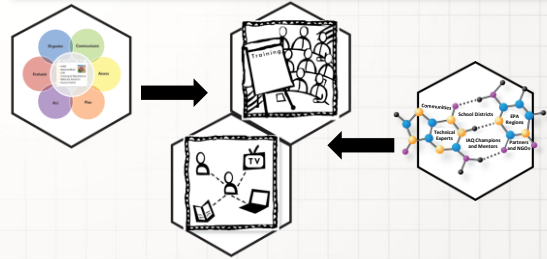


## National Network – Connections to Spur Action

Strengthening the National Network through Regional Pacing Events

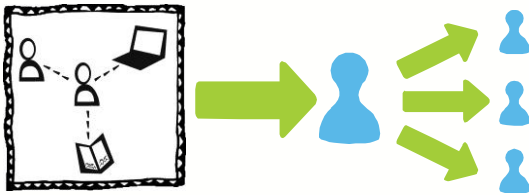


## The National Schools Network: Three Platforms



Knowledge of Best Practices  
Network Members  
Action Learning System

## The Schools Connector



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## Full Day Agenda

- 9:00 – 9:15 a.m. **Welcome**
- 9:15 – 10:45 a.m. **Creating Green and Healthy Schools – The What, The Why and The How**
- 10:45 – 11:35 a.m. **Making the Case and Getting Buy-in**
- 11:45 – 12:45 p.m. **Lunch**
- 12:45 – 1:45 p.m. **Virtual Walkthrough**
- 1:45 – 2:45 p.m. **Concurrent Sessions I:**
  - Fresh Air: Optimal HVAC Management for Improved Health
  - Mold and Moisture: Double Trouble for Schools
  - Green Cleaning and Maintenance
  - Smart Materials Selection
  - Source Control and Integrated Pest Management
  - Asthma in Schools: The Health Perspective
- 2:45 – 3:45 p.m. **Concurrent Sessions II (Repeat)**
- 3:45 – 4:30 p.m. **World Café Open Space**
- 4:30 – 5:00 p.m. **Leaving in Action**



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## How to “Be”

- Focused on identifying the defining actions you will take.
- Willing to speak in the language of IEQ success.
- Open to Assuming a Leadership Role in the movement for safer, greener, healthier more productive schools.
- Excited to apply a successful Framework to your work.
- Leaders in Service to One Another.



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## Leaders in Service

- Seek Permission to Serve.
- Grant Permission to be Taught.
- Use Effective Questions.
- Listen with Authority.
- Create the Future with Powerful Requests and Offers.
- Generate Action and Outcomes with Bold Declarations.



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## Your Leadership Story

*I am in service to helping communities make every school a Pristine Palace of Learning.*

*What is the IEQ story you are in service to?*



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"We can't solve problems by using the same kind of thinking we used when we created them."

*Albert Einstein*



"It matters if you just don't give up."

*Stephen Hawking*



"The more complex the mind, the greater the need for the simplicity of play."

*Cpt. James T. Kirk*



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## Creating Green and Healthy Schools – The What, The Why and The How



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## Goals

**This session is intended to help you understand...**

- What a green and healthy schools means.
- Why green and healthy schools are important.
- How school districts build sustainable and effective practices over time.



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### National Network – Connections to Spur Action

*Strengthening the National Network through Regional Pacing Events*



### National Network – Connections to Spur Action

*Strengthening the National Network through Regional Pacing Events*

1. School Officials
2. Teachers and Students
3. Facilities Staff
4. Parents
5. Healthcare Professionals
6. Award Winners and Mentors
7. Communities – Parents
8. Technical Experts
9. EPA Regions
10. Partners and NGOs



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## Action Planning

- What motivational message did you hear that you would like to share with others to encourage them to enroll in the movement for creating green and healthy schools?



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## Creating Green and Healthy Schools – The Why



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## Panelists

- Lynn Jackson, Director of Business Operations, Georgia Department of Education
- Francesca Lopez, Program Manager, Georgia Asthma Control Program – Department of Public Health
- David Stubbs, Director of Facilities Planning and Construction, Clarke County School District



## Creating Green and Healthy Schools – The Why

Lynn Jackson, Director of Business Operations, Georgia Department of Education



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## Creating Green and Healthy Schools – The Why

Francesca Lopez, Program Manager, Georgia Asthma Control Program – Department of Public Health



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**THE DAILY NEWS**  
THE WORLD'S FAVORITE NEWSPAPER

Georgia Falls Off the Top 20 List of Worst Asthma States in the Nation!

70% decrease in ER visits  
80% who report asthma in control

**How they did it:**

- Schools Adopt Asthma Friendly School Policies
- Schools Implement IEQ strategies
- 100% of asthma patients receiving evidence based care



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# Creating Green and Healthy Schools – The Why

David Stubbs, Director of Facilities Planning and Construction, Clarke County School District



# Creating Green and Healthy Schools – The How



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## Creating Green and Healthy Schools The Framework for Effective School IEQ Management



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## Design to Sustain Action



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## Be in Action for Results



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## Install the Best Solutions



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The Framework for Effective School IEQ Management:  
Six Key Drivers



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The Framework for Effective School IAQ Management:  
Six Key Drivers



The Framework for Effective School IAQ Management:  
Six Technical Solutions

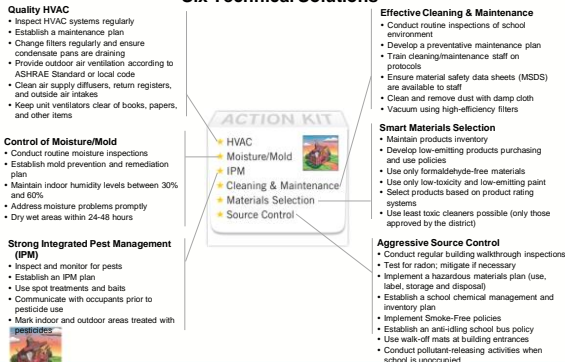


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The Framework for Effective School IEQ Management:  
Technical Solutions



The Framework for Effective School IEQ Management:  
Six Technical Solutions



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Quality HVAC

- Inspect HVAC systems regularly
- Establish a maintenance plan
- Change filters regularly and ensure condensate pans are draining
- Provide outdoor air ventilation according to ASHRAE Standard or local code
- Clean air supply diffusers, return registers, and outside air intakes
- Keep unit ventilators clear of books, papers, and other items



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**Control of Moisture/Mold**

- Conduct routine moisture inspections
- Establish mold prevention and remediation plan
- Maintain indoor humidity levels between 30% and 60%
- Address moisture problems promptly
- Dry wet areas within 24-48 hours



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**Strong Integrated Pest Management (IPM)**

- Inspect and monitor for pests
- Establish an IPM plan
- Use spot treatments and baits
- Communicate with occupants prior to pesticide use
- Mark indoor and outdoor areas treated with pesticides



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**Effective Cleaning & Maintenance**

- Conduct routine inspections of school environment
- Develop a preventative maintenance plan
- Train cleaning/maintenance staff on protocols
- Ensure material safety data sheets (MSDS) are available to staff
- Clean and remove dust with damp cloth
- Vacuum using high-efficiency filters



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**Smart Materials Selection**

- Maintain products inventory
- Develop low-emitting products purchasing and use policies
- Use only formaldehyde-free materials
- Use only low-toxicity and low-emitting paint
- Select products based on product rating systems
- Use least toxic cleaners possible (only those approved by the district)



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**Aggressive Source Control**

- Conduct regular building walkthrough inspections
- Test for radon; mitigate if necessary
- Implement a hazardous materials plan (use, label, storage and disposal)
- Establish a school chemical management and inventory plan
- Implement Smoke-Free policies
- Establish an anti-idling school bus policy
- Use walk-off mats at building entrances
- Conduct pollutant-releasing activities when school is unoccupied



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**Everyone Can be a Steward of the Indoor Environment**



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## Creating Green and Healthy Schools – The How

### The Framework in Action



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## Mastering the Framework: The Action Planning Guide



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## Mastering the Framework: The Action Planning Guide

Rate how your own program shows up for each Key Driver.

1. No Action.
2. Planning.
3. Forming.
4. Well-Developed.



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## Putting the Framework Into Action

- Benton Starks, Senior Director of Facilities Services, Richmond County School System in Augusta, Georgia



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## Mastering the Framework

- Jim Mitchell, Maintenance Director, Cobb County Schools in Marietta, GA



- Bill McKnight, Facilities Director, Forsyth County School System in Cumming, GA



- Joseph Clements, Executive Director of Facilities Services, Fulton County School System in Atlanta, GA



- Michael Coon, Senior Director of Operations, Savannah-Chatham County School System in Savannah, GA

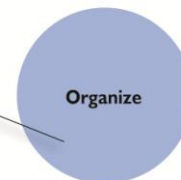


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### KEY DRIVER: Organize for Success

#### ORGANIZE

- Develop Systematic Approach
- Identify Existing Assets
- Design Standard Operating Procedures
- Empower an IAQ Leader
- Build an Effective Team
- Create Champions
- Secure Senior Buy-In





## Mastering the Framework: The Action Planning Guide

Rate how your own program shows up for each Key Driver.

1. No Action.
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### KEY DRIVER: Communicate with Everyone, All the Time

#### COMMUNICATE

- Share Your Goals
- Make IAQ Meaningful
- Be Transparent & Inclusive
- Communicate Results

Communicate



## Mastering the Framework: The Action Planning Guide

Rate how your own program shows up for each Key Driver.

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### KEY DRIVER: Assess Your Environments Continuously

#### ASSESS

- Walk the Grounds
- Listen to Occupants
- Use Technology
- Determine a Baseline
- Keep Customers Satisfied
- Identify and Prevent Risks

Assess



## Mastering the Framework: The Action Planning Guide

Rate how your own program shows up for each Key Driver.

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### KEY DRIVER: Plan Your Short and Long-term Activities

#### PLAN

- Prioritize Actions
- Put Goals in Writing
- Start Small
- Work in Stages
- Plan for the Future

Plan



## Mastering the Framework: The Action Planning Guide

Rate how your own program shows up for each Key Driver.

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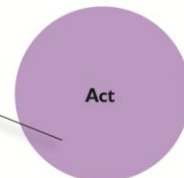


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### KEY DRIVER: Act to Address Structural, Institutional and Behavioral Issues

#### ACT

- Educate Staff About IAQ to Change Behavior
- Train Occupants to Address IAQ Risks
- Address the Source of Problems



## Mastering the Framework: The Action Planning Guide

Rate how your own program shows up for each Key Driver.

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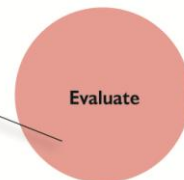


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### KEY DRIVER: Evaluate Your Results for Continuous Improvement

#### EVALUATE

- Solicit Feedback
- Capture Return on Investment



## Mastering the Framework: The Action Planning Guide

Rate how your own program shows up for each Key Driver.

1. No Action.
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## Mastering the Framework: The Action Planning Guide

- At your tables, share your ratings and collect strategies from one another.



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## Making the Case and Getting Buy-in



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## Assertions

- Based on data – True or False.
- Shape thinking in groups.
- Powerful descriptions.



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## Assertions

“50% of the nation’s schools have IAQ management programs in place.”

*David Rowson, EPA IAQ Tools for Schools Program*

“Unscheduled asthma visits have been reduced since beginning our program.”

*Pam Clark, Hartford Public Schools, CT*



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## Assessments

- Are generative and create the future.
- Are never true or false – *can't be verified*.
- Belong to the speaker – *highly personal opinions*.



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## Assessments

*“This classroom is filthy.”*

*“IEQ costs too much.”*

*“Our IEQ program is effective.”*

*“Our schools are clean, safe and healthy.”*



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## Assertion or Assessment?

- This IEQ program is too expensive, we can't afford it.
- Teachers won't take the time to fill out checklists.
- IEQ is not related to our main mission of educating kids.



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## Key Question

- What are some of the assessments that are challenges to your IEQ management program?



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## The Framework for Effective School IEQ Management



## Communicate with Key Players

### Who is on your district's IAQ team?

IAQ Tools for Schools award-winning districts and faculty **always** have the following key stakeholders at their meetings:

- District CFO or Finance Director
- Facility Manager
- Superintendent
- School Committee Members



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## Evaluate and Highlight Return on Investment

Demonstrating return on investment will help you win buy-in from decision makers.

- Which data points matter to each stakeholder?
- Return on your investment is not just in dollars.
  - Decreased absenteeism and better classroom performance means healthier and happier students and staff.



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## Action Planning

- As you listen to the school district stories of success, write down your answer to the following question:
  - Which areas of the Key Drivers and Technical Solutions did these schools use to make the case and obtain buy-in?



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## Hear From Your Peers



- David Stubbs, Director of Facilities Planning and Construction, Clarke County School District



- Bill McKnight, Facilities Director, Forsyth County School Systems



- Jim Mitchell, Maintenance Director, Cobb County Schools



- Brenda Stokes, Director of Construction, Bibb County School District



- Matt Otani, Vertical Market Leader, Georgia Power Energy Services



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**Making the Case and Getting Buy-in**  
Clarke County School District

David Stubbs, Director of Facilities Planning and Construction



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**Making the Case and Getting Buy-in**  
Forsyth County School Systems

Bill McKnight, Facilities Director



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**Making the Case and Getting Buy-in**  
Cobb County Schools

Jim Mitchell, Maintenance Director



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**Making the Case and Getting Buy-in**  
Bibb County School District

Brenda Stokes, Director of Construction



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**Making the Case and Getting Buy-in**  
Georgia Power Energy Services

**Alternative Funding for Schools**

Guaranteed Energy Savings Performance Contracting

&

Rebates and Tax Incentives



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**Guaranteed Energy Performance Contracting**

- Implement needed repairs and renovate facilities
- Annual energy savings pays for the upgrades over a 10 year period
- Partner with an Energy Services Company (ESCO)
- Provides a full turnkey project from engineering, design, construction and commissioning
- No upfront capital required – ESCO arranges financing
- ESCO provides a written guarantee of the energy savings



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## How it works



Project Cost	\$1,000,000
Annual Energy Savings	\$140,000
Less Annual Principal and Interest (3.0%, 10 year)	<u>(\$116,400)</u>
Subtotal	\$33,600
Less On Going Service	<u>(\$8,000)</u>
Net Annual Positive Cash-flow	\$25,600



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## Benefits



- Better more efficient buildings
- Improved classroom environment
- Full turnkey solutions
- Allows schools to fund energy efficient solutions without capital dollars
- Written guarantee of annual savings



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## Resources



- Energy Services Coalition  
– [www.energyservicescoalition.org](http://www.energyservicescoalition.org)
- National Assoc. of Energy Services Companies  
– [www.naesco.org](http://www.naesco.org)
- Georgia Environmental and Finance Authority  
– [www.gefa.org](http://www.gefa.org)



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## Other Funding Sources



### Georgia Power Earth Cents Rebates

- Incentive to install energy efficiency equipment
- HVAC, building automation, lighting controls etc.
- Energy Efficient Lighting up to \$10,000 per building
- [www.georgiapower.com/earthcents](http://www.georgiapower.com/earthcents)

### Federal Tax Incentives - Internal Revenue Code 179D

- Allows government entities and public institutions to transfer the tax credit for energy efficiency upgrades to taxable entities
- Negotiate a reduction in project cost based on the tax incentive



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## Action Planning

- At your tables, discuss the following question:
  - Which areas of the Key Drivers and Technical Solutions did these schools use to make the case and get buy-in?



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## Lunch Location: New College



Performance by: *Clarke Central High School Orchestra Ensemble with Director Eunice Kang*



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## Virtual Walkthrough

**Dave Blake**

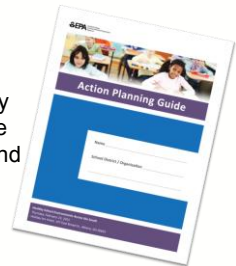
Northwest Clean Air Agency

<http://www.nwcleanair.org/qaPrograms/indoorAir.htm>



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- In the Technical Solution Breakouts, record key strategies in your Action Planning Guide under 'Key Strategies for Installing the Best Technical Solution' and 'Actions and Strategies to Apply to My Own Work.'



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## Technical Solutions Break-Out Sessions



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### Breakout Sessions



Session	Room Location
Fresh Air: Optimal HVAC Management for Improved Health	Athena Room
Mold and Moisture: Double Trouble for Schools	Georgia East
Green Cleaning and Maintenance	Georgia West 2
Smart Materials Selection	Georgia West 1
Source Control and Integrated Pest Management	University Room
Asthma in Schools: The Health Perspective	New College



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## Technical Solution Mini Makeover

### Before the Breakouts:

- Use post-it notes to capture your questions
- Post your questions on the Technical Solutions Flip Charts

### After the Breakouts:

- Use post-it notes to capture key strategies others should know
- Post your strategies on the Technical Solution



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## World Café Open Space



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## Goals

This session is intended to help you...

- Create a deeper collective understanding.
- Build momentum.
- Develop suggestions, activities and ideas.



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## World Café Open Space Panel

*What is the one thing that everyone should know about your topic?*



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## Mastering the Framework: The Action Planning Guide

Rate how your own program shows up for each Technical Solution.

1. No Action.
2. Planning.
3. Forming.
4. Well-Developed.



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## Instructions

- Talk with you group: Share one strategy and one question from the Technical Solution breakouts.
- Pick one person to be your spokesman.
- Determine the one question you would like to pose to the panel.



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## Responses from Panel



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## Leaving in Action



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## Declarations

- The most generative assessments.
- Pure leadership speech act.
- Not prove-able or based on data.
- Powerful motivators.



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## Requests and Offers

- Create the future.
- Unlock natural abundance with less effort.
- Knit us together.
- Generate action in groups.



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## Generating Commitments

- Requests.
- Offers.
- Counter-requests and counter-offers.

*“Deal-Making”*



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## Completing Our Work

- Write your declaration script.
- Say it out loud: share it at your tables.
- Select someone to share theirs with full group.
- Shower them with encouragement.



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## A Final Request

- Take your Declarations and Act on them, leave one behind for me to enjoy.



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## Keep in Touch!

- **Mentorship**
- **Webinars**
- **Email and Newsletter Updates**
- **Listserv**



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## Resources

- *IAQ Tools for Schools* Guidance: [www.epa.gov/iaq/schools](http://www.epa.gov/iaq/schools)
- *IAQ Tools for Schools* Connector E-Newsletters and Emails:
  - Send an email to: [IAQTfSConnector@cadmusgroup.com](mailto:IAQTfSConnector@cadmusgroup.com)
  - View archives at: [www.epa.gov/iaq/schools/bulletins.html](http://www.epa.gov/iaq/schools/bulletins.html)
- Schools IAQ Connector Listserv:
  - Send a blank email message to [schools\\_iaq\\_connector\\_subscribe@lists.epa.gov](mailto:schools_iaq_connector_subscribe@lists.epa.gov). Then, check your email inbox for your confirmation and membership details.
- *IAQ Tools for Schools* Webinar Resources  
<http://www.epa.gov/iaq/schools/webconferences.html>



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## Additional Resources

- EPA Region 6:  
<http://www.epa.gov/aboutepa/region4.html>
- CEFPI: [www.cefpi.org](http://www.cefpi.org)



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## Gratitude



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