

# Five 'S'

GETTING THINGS IN ORDER

SIMPLER. FASTER. BETTER. LESS COSTLY.

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# Enhancing Your Work

1  
5s in  
Practice

2  
Understand the  
elements of 5s

3  
Apply 5s  
everyday

every step of the way 

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# Introducing 5s

- Sort – get rid of all the excess
  - When in doubt throw it out
- Straighten – What must be kept; make visible and self explanatory
  - Create an atmosphere where abnormalities are easy to identify
- Shine – Clean and organize daily
- Standardize – create audits / standards for the area
  - Revisit the area frequently
- Sustain – encourage everyone to take part with implementation
  - Develop guidelines and stick with them

# Results Expected from 5s

- Improved Work Flow
  - Fewer interruptions
  - Fewer lost items
  - Less waiting
  - Less movement
- Reduced Waste
  - Less lost time
  - Fewer lost documents
  - Less inventory
- Maintain Quality
  - No diminished quality of service delivery
  - No trade-offs
  - Don't pass problems to others

**Make things better for  
customers, employees and  
taxpayers**



Training consultant Nik Kellingley argues that productivity is directly affected by your ability to file and retrieve documents easily:

“I think tidy desks are probably more conducive for most people’s sanity and if you work in a job where bits of paper are really important then they can end up impacting on performance hugely.



If you spend ten minutes a day searching for something that was “just here a moment ago” then by the end of the year you’ll have wasted several working days looking for stuff.”

# Purpose of 5s

- To provide an on-going self-regulated system that instills a discipline to create, improve, and maintain a clean, well organized, and safe work environment
- The cleaner, more organized, and more self-regulated, the better the quality, productivity, and safety

**Before**



**After**



# 5s Computers

- **31%** of PC users have lost all of their files due to events beyond their control
- **60%** of companies that lose their data will shut down within 6 months of the disaster
- Every week **140,000** hard drives crash in the United States
- **40%** of USB memory sticks are lost

# 5s Documents

**According to PricewaterhouseCoopers, the average organization:**

- Makes 19 copies of each paper document
- Spends \$20 to file each document
- Loses one out of every 20 documents
- Spends \$120 searching for a lost document
- Wastes 25 hours recreating each lost document

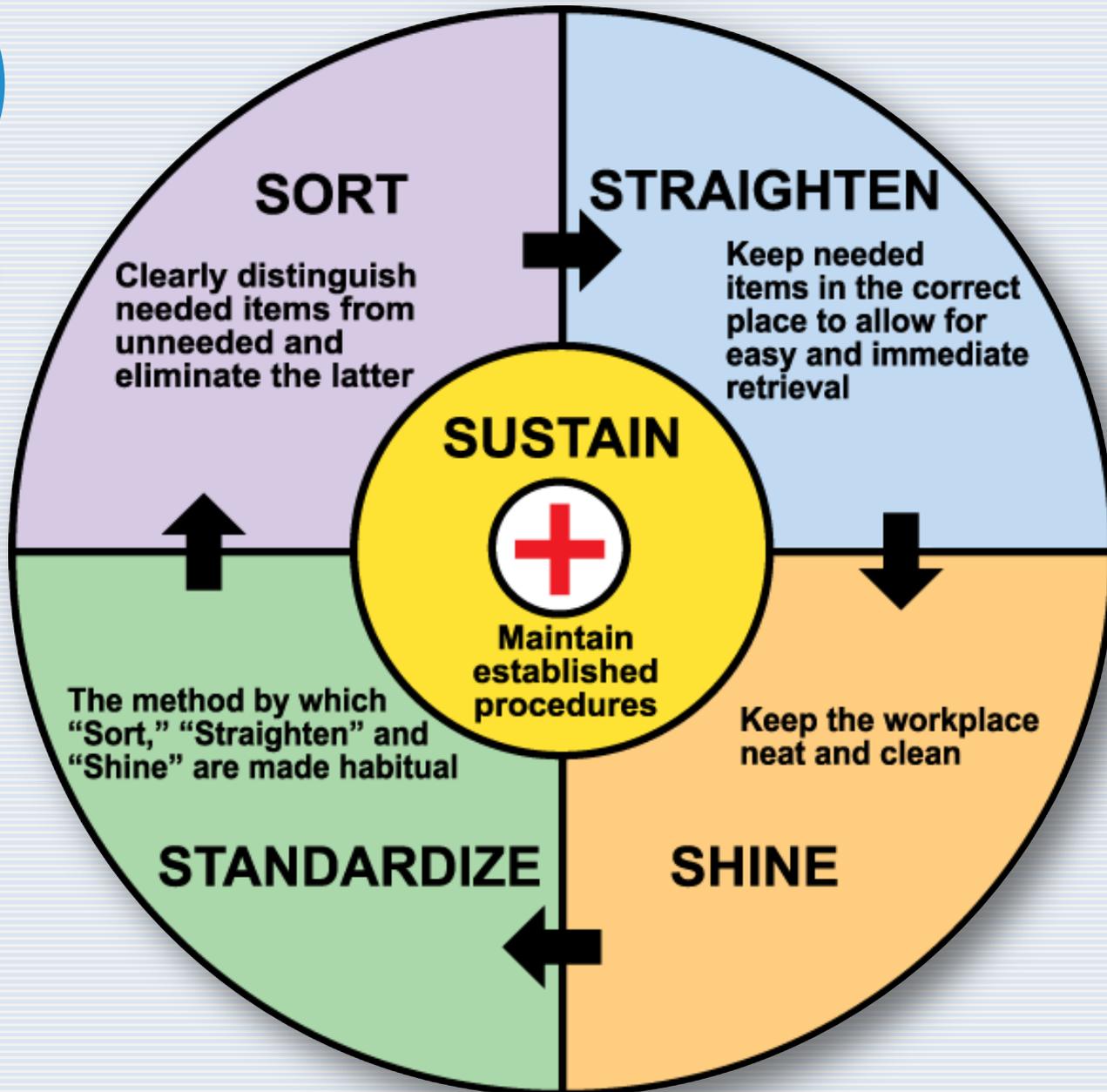
**Before**



**After**



Understand the elements of 5s



# Sort – Remove unnecessary things

## Definition

- Remove all items from the workplace that are not needed for the job



## Purpose

- 1S avoids the following problems:
  - Crowded, hard-to-work-in environment
  - Time wasted looking for correct items
  - Unneeded inventory/files costly to maintain
  - Excess inventory that hides problems
  - Unneeded items/equipment make it harder to improve processes

## Visual of 1S

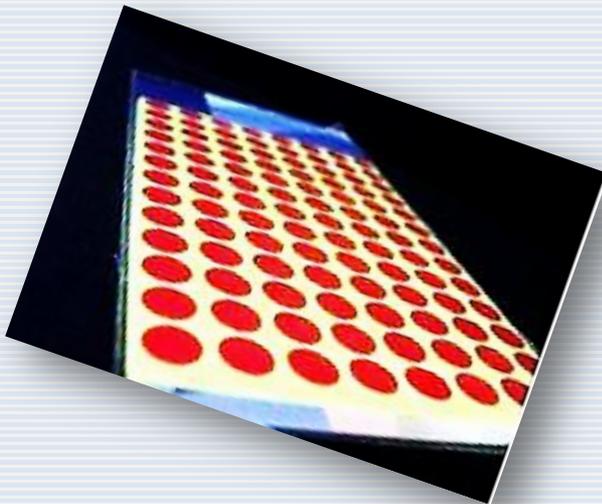
- Begin with clearing the clutter away from a given process... and not be distracted by the piles of non-relevant inventory, tools or accumulated waste

# Sort – Remove unnecessary things

- Sort essential stuff from non-essential items
- Non-Essential “STUFF” includes
  - Not needed now
  - Not needed here
  - Not needed ever again
  - Not needed in the first place
  - Not needed any more

# Sort – Remove unnecessary things

- Items that need to be removed but cannot be removed right away should be red tagged
- Fill out the red tag information and affix it to the item that needs to be removed



Red Tag No.	
Date	Person
Item Description	
Quantity	
Disposition <input type="checkbox"/> Move <input type="checkbox"/> Scrap <input type="checkbox"/> Return <input type="checkbox"/> Store Offsite <input type="checkbox"/> Other _____	
Comments	

# Sort – Remove unnecessary things



BEFORE



AFTER

# Sort – Remove unnecessary things

BEFORE



- Deleted unused icons
- Removed unused programs
- Deleted old files or archived onto CD's

AFTER



# Straighten – Organize

## Definition

- Arranging items so they are easy to use and labeling them so they are easy to find and put away

## Purpose

- 2S avoids time wasted looking for correct items by promoting Visual Management

## Visual of 2S

- Simply ensuring a place for everything and everything in its place...
- 2S is all about cutting the time spent looking for things
- Be able to get your hands on exactly what you need quickly



# Straighten – Organize

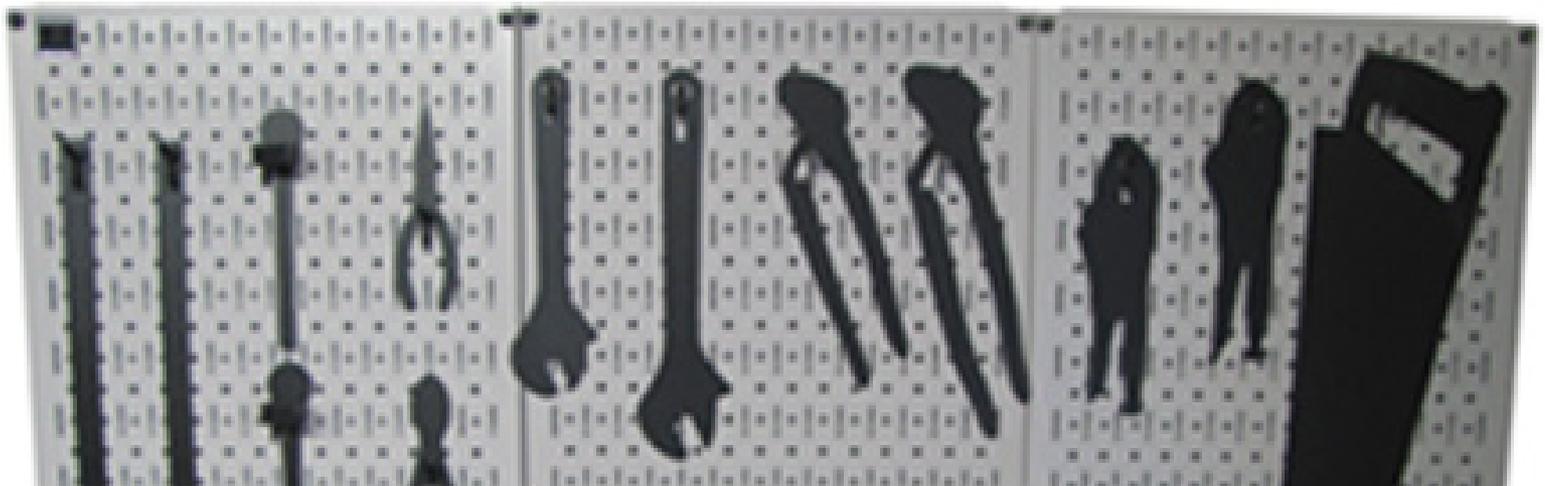
- Organize the necessary items so they can be used and returned easily
- Place all necessary items in the best location and visually organize the area
  - First decide where all items should be so that the organization is easy to use and understand
  - Choose proper storage methods that minimize inventory and promote visual management
  - Visually indicate locations so items in use can be returned and missing items are easily identified
  - Create visuals so anyone can understand the workplace

# ODOT Aviation Kaizen



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# Shine – Clean

## Definition

- Sweeping floors, wiping off machinery, & generally making sure everything in the facility stays clean



## Purpose

- By ensuring everything is clean, it is easier to detect when and where there is a problem with a process or piece of equipment

## Visual of 3S

- Concentrate on shining, cleaning, brightening and cleansing the area
- If you work in a “spic & span area, you are less likely to be distracted by dirt. People begin to respect their areas and office!

# Shine – Clean

- Researchers find average desk harbors 400 times more bacteria than average toilet seat
- Phone, Water fountain handle, Microwave door handle and Keyboard are the top five most germ-contaminated spots in office. And take this figure, on average, the area where you rest your hand on the desk has 10,000,000 bacteria



# Standardize – Define the best way

## Definition

- **Standardize processes, make things consistent**
- **Create rules for cleaning and maintenance**

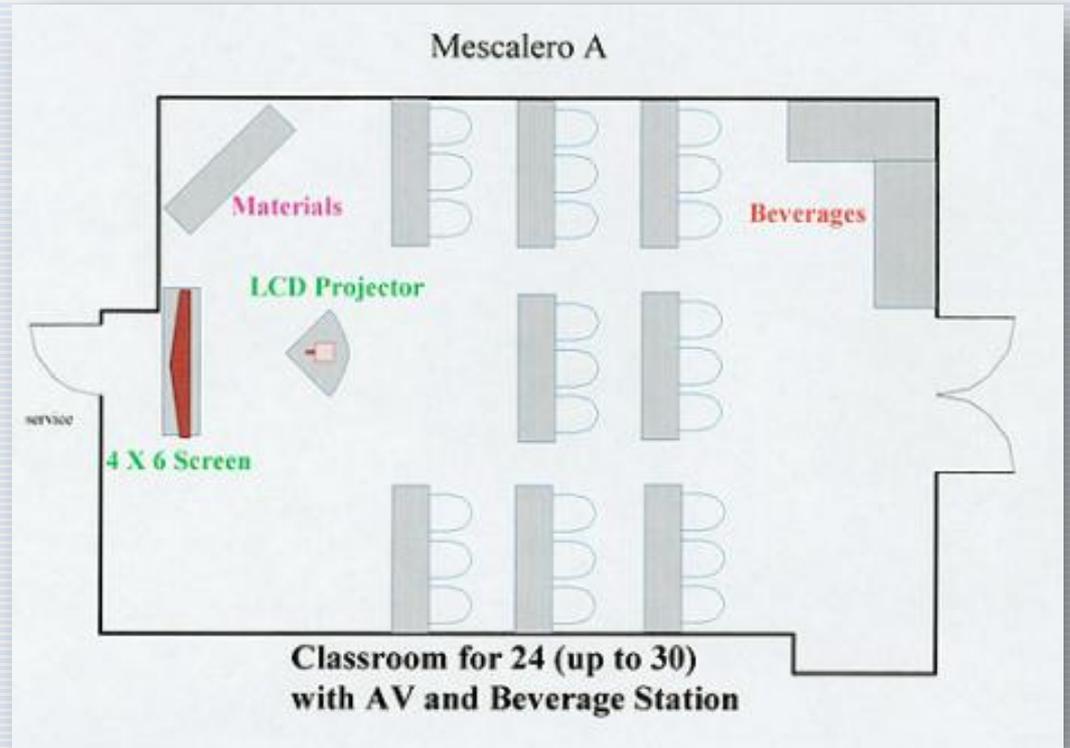
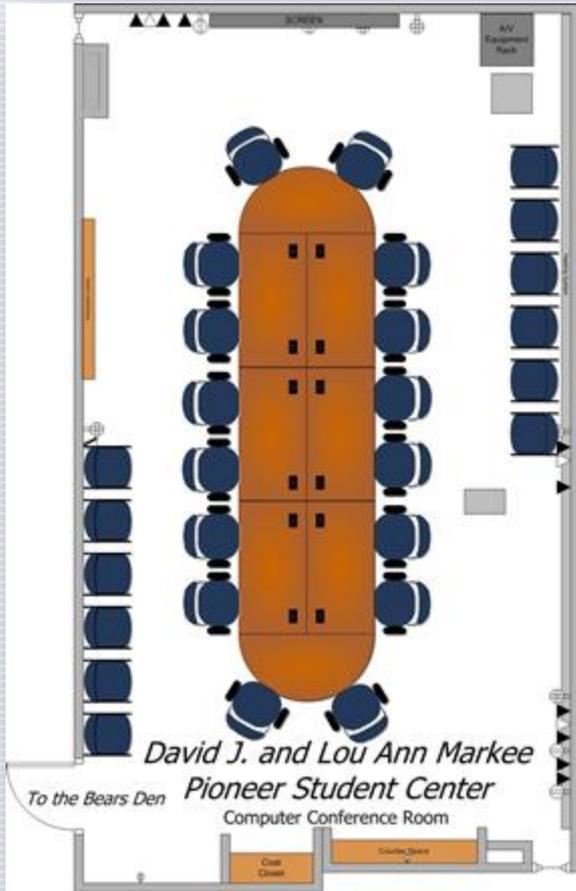


## Purpose

- **Make a habit of properly maintaining correct processes**
- **Moving into 4S or Standardization begins to change the event from one of “housekeeping” to true process transformation**

## Visual of 4S

- **Start tackling the issues of transforming the culture...**
- **It provides us with tools, standards, consistency, and, all the training, processes, audits & checklists necessary to make it understood and routine**



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# Standardize – Define the best way and do it consistently



Everything is together  
in one place



Labeled:  
No guesswork



Safety

# Visual Management Considerations

Visual Management makes things...

EASY  
to find

EASY  
to put back

EASY  
to notice  
when  
something is  
missing

# A CHECKLIST FOR CHECKLISTS

## Development

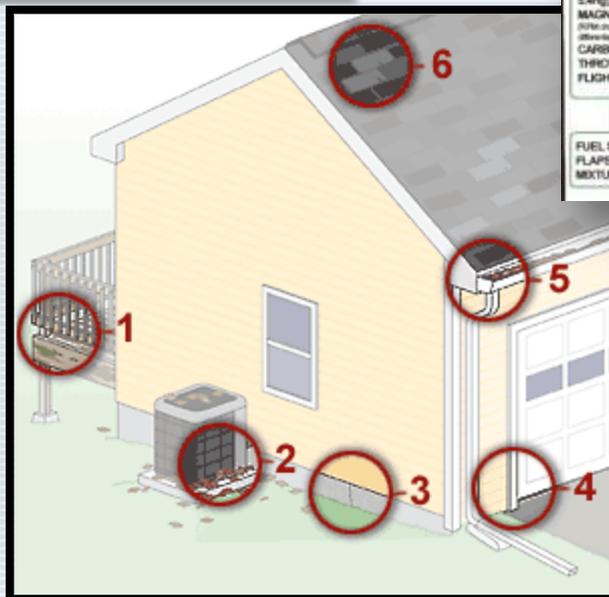
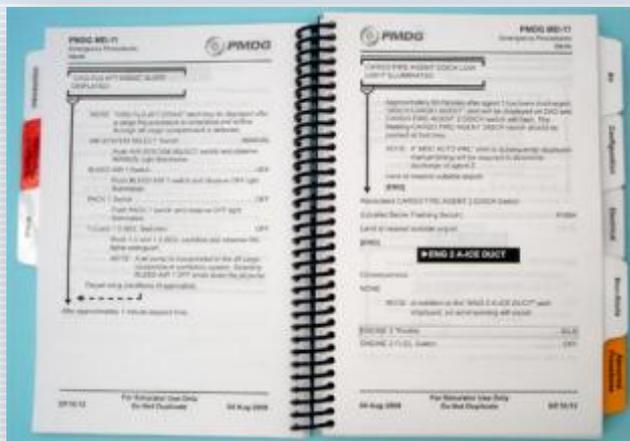
- Do you have clear, concise objectives for your checklist?
- Is each item:**
  - A critical safety step and in great danger of being missed?
  - Not adequately checked by other mechanisms?
  - Actionable, with a specific response required for each item?
  - Designed to be read aloud as a verbal check?
  - One that can be affected by the use of a checklist?
- Have you considered:**
  - Adding items that will improve communication among team members?
  - Involving all members of the team in the checklist creation process?

## Drafting

- Does the Checklist:**
- Utilize natural breaks in workflow (pause points)?
  - Use simple sentence structure and basic language?
  - Have a title that reflects its objectives?
  - Have a simple, uncluttered, and logical format?
  - Fit on one page?
  - Minimize the use of color?
- Is the font:**
- Sans serif?
  - Upper and lower case text?
  - Large enough to be read easily?
  - Dark on a light background?
- Are there fewer than 10 items per pause point?
  - Is the date of creation (or revision) clearly marked?

## Validation

- Have you:**
- Tried the checklist with front line users (either in a real or simulated situation)?
  - Modified the checklist in response to repeated trials?
- Does the checklist:**
- Fit the flow of work?
  - Detect errors at a time when they can still be corrected?
  - Can the checklist be completed in a reasonably brief period of time?
  - Have you made plans for future review and revision of the checklist?



1976 **CESNA C-150M CHECKLIST** N-63365

<p><b>BEFORE STARTING</b></p> <p>PREFLIGHT INSPECTION _____ Complete          SEATS, SEATBELT, HARNESS _____ Adjust &amp; lock          FUEL SHUTOFF VALVE _____ On          RADIOS, &amp; ELECTRICAL EQUIP _____ Off          BRAKES _____ Test &amp; set</p>	<p><b>TAKE-OFF Cont'd</b></p> <p>CARBURETOR HEAT _____ Cool          TRANSPONDER _____ Set on ALT          RUNWAY HEADING _____ Check Head Ind          THROTTLE _____ Full open          ALERONS _____ Into the wind          ROTATE _____ 50 KIAS          CLIMB SPEED _____ 80-70 KIAS</p>
<p><b>STARTING ENGINE</b></p> <p>MIXTURE _____ Rich          CARBURETOR HEAT _____ Cool          MASTER SWITCH _____ On          PRIMER _____ As required, locked          THROTTLE _____ Open 1/4"          BEACON _____ On          PROPELLER AREA _____ Clear          IGNITION SWITCH _____ Start          OIL PRESSURE _____ Check          FLAPS _____ Up          MIXTURE _____ Lean 1" for taxi          RADIOS _____ On</p>	<p><b>CLIMB-OUT</b></p> <p>THROTTLE _____ Full Open          MIXTURE _____ Full Rich          LIGHTS _____ As required          GALLAGES _____ Check          V<sub>0</sub> = 59KIAS / V<sub>y</sub> = 59KIAS / Cruise climb = 80-70KIAS</p>
<p><b>DURING TAXI</b></p> <p>BRANDS/STEERING _____ Test          MAGNETIC COMPASS _____ Checked          GYRO INSTRUMENTS _____ Checked</p>	<p><b>CRUISE</b></p> <p>POWER _____ 2300 to 2700 RPM          ELEVATOR TRIM _____ Adjust          MIXTURE _____ Lean for max RPM</p>
<p><b>BEFORE TAKE-OFF</b></p> <p>PARKING BRAKE _____ Set          DOORS &amp; WINDOWS _____ Closed &amp; locked          FLIGHT CONTROLS _____ Free and Correct          FUEL SELECTOR VALVE _____ Recheck - On          ELEVATOR TRIM _____ Take-off Setting          MIXTURE _____ Rich          THROTTLE SETTING _____ 1700 RPM          ENGINE INSTRUMENTS _____ Check          AMMETER _____ Check          SUCTION GAUGE _____ Check (4.6 to 5.4psi)          MAGNETIS _____ Check          (Note: oil should increase 100 RPM after mag, or 75 RPM after oil valve mag)          CARBURETOR HEAT _____ Check operation          THROTTLE _____ 1900 RPM          FLIGHT INSTRUMENTS _____ Check &amp; set</p>	<p><b>DESCENT</b></p> <p>MIXTURE _____ Rich          POWER _____ As Desired          CARBURETOR HEAT _____ As Required</p>
<p><b>TAKE-OFF</b></p> <p>FUEL SELECTOR _____ On          FLAPS _____ Up          MIXTURE _____ Rich</p>	<p><b>BEFORE LANDING</b></p> <p>SEATS, BELTS, HARNESS _____ Adjust &amp; lock          PRIMER _____ In &amp; locked          FUEL SELECTOR VALVE _____ On          CARBURETOR HEAT _____ Apply full heat          MIXTURE _____ Rich          FLAPS _____ As Desired          AIRSPEED _____ 80 to 70 KIAS (max)</p>
	<p><b>AFTER LANDING</b></p> <p>CARBURETOR HEAT _____ Cool          FLAPS _____ Retract          STROBES &amp; LANDING LIGHT _____ Off          TRANSPONDER _____ Standby          MIXTURE _____ Lean 1" for taxi</p>
	<p><b>SHUTDOWN &amp; PARKING</b></p> <p>RADIO/ELECTRICAL _____ Off          MIXTURE _____ Idle Cut-off          IGNITION MASTER SWITCH _____ Off          BEACON _____ Off</p>

**Standardize – Define the best way and do it consistently**



**Clear  
Readable  
Understandable**

# Policies & procedures



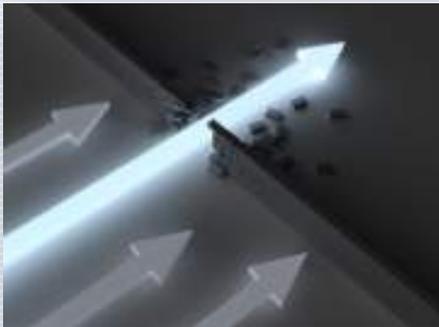
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# Sustain – Define how to maintain the best way

## Definition

- Create buy-in to hold the first 4S's together
- Develops good work habits that will continue over the long term



## Purpose

- Make a habit of properly maintaining correct processes
- Culture change! 5S is quoted as one of the most important Lean Tools because it is the foundation of all other tools

## Visual of 5S

- Focuses on getting the first 4S's to be welded into the culture of the organization
- The trick is to make the entire thinking process surrounding 5S part of the living, breathing, everyday mode of operation

# Sustain – Make Habitual

- Monthly area review
- Cover in staff meeting
- Award/Reward areas
- Recognize Improvement
- Involve everybody
- Annual/Semi annual clean up day
- 5s Potluck



Apply 5s  
everyday

# Creativity Applied

- Apply new and better ways to accomplish work
- Here are a few creative ideas...





STRAIGHT PINS

SEWING KIT

C BATTERIES

9VLT BATTERIES

AA BATTERIES

AAA BATTERIES

SM PAPERCLIPS

SM POSTITS

POSTIT FLAGS

RUBBERBANDS

RUBBERBANDS

LG PAPERCLIPS

TAPE

WHITE OUT

MINI BINDER CLIPS

SM BINDER CLIPS

STAPLES

PUSH PINS

MD BINDER CLIPS

MD BINDER CLIPS

LG BINDER CLIPS

What does an emergency room  
patient see more of than anything  
else?



I'm OK



I'm in Trouble!

The Riverwood Middle School art students were invited to paint ceiling tiles to be hung in Memorial Hermann Northeast Hospital's emergency room. **Houston**



# Post Office

- Very Good Home Delivery (Amazing)
- Counter Service (Not their specialty)
  - 16 people in line
  - 3 windows
  - Only two open (December)
  - Package to send – 9 questions
  - Package pick up – went in back 6 minutes
  - My visit 27 minutes



But wait...  
There's More!



TEAM SELF EVALUATION

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# Hands-On Site Evaluation (handout)

Level	Sort	Simplify	Shine	Standardize	Sustain
<b>Baseline 0</b>	Unsafe items in work area.	Placement of items causes unsafe conditions.	Spills, waste, trash, etc. produce unsafe conditions.	No work methods or procedures documented.	No routine review/correction of unsafe conditions.
<b>Beginning 1</b>	Needed and un-needed items found in work area.	Needed and un-needed items are placed randomly throughout the workplace.	Work area and machines are not cleaned on a regular basis.	Methods of work not completely documented.	Occasional, unscheduled 5S activity.
<b>Basic 2</b>	Needed /un-needed items separated, un-needed tagged.	Needed items stored in an organized manner.	Area and equipment cleaned daily.	Methods of work documented but not consistently used.	5S activities conducted on regular basis. (Daily-Weekly)
<b>Visual 3</b>	Red tag area created, all un-needed items removed.	Needed items have dedicated positions which are clearly indicated.	Standard work layout posted and maintained.	Methods of work posted and consistently used by some staff. Little or no enforcement.	5S assessment conducted occasionally and results posted.
<b>Systematic 4</b>	List of needed items developed, maintained, posted.	Needed items can be retrieved within seconds and limited movement	Daily inspections of work and area occurs.	Methods of work consistently used by all staff.	5S assessment conducted on a regular basis and recurring problems are identified.
<b>Success 5</b>	Un-needed items are not allowed in area.	Standard method for restocking needed items. (Flag or indicator)	Root cause sources of dirt, grease & spillage have been eliminated.	Methods of work are regularly reviewed and improved. Discussed in team meetings.	Root causes of problems revealed by 5S assessment are identified and eliminated.
<b>Score</b>					

# Improvement

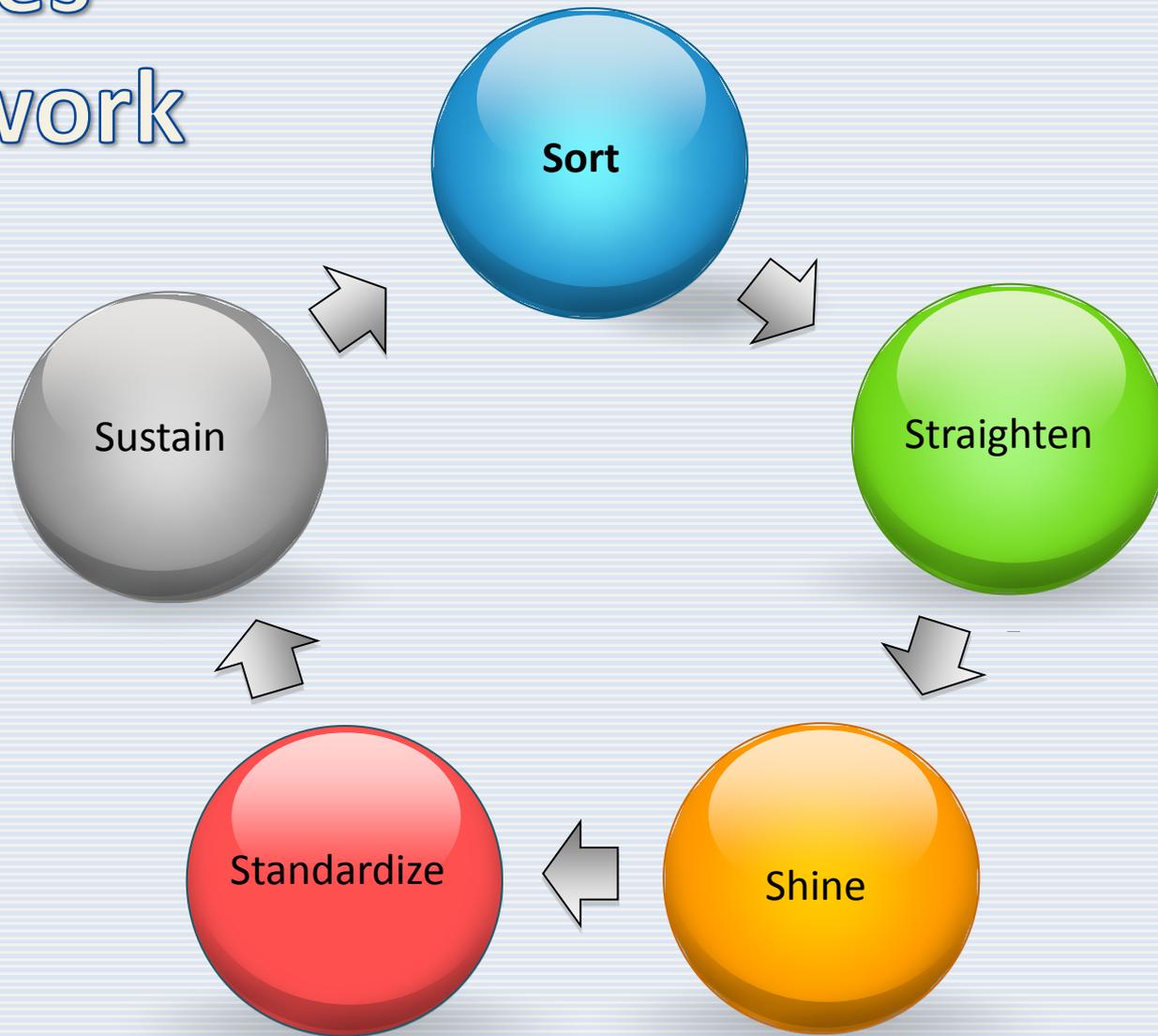
- Discussion of Issues Identified
- Improvement Teams
  - Sort
  - Simplify
  - Shine
  - Standardize
- Sustain – support the team decisions, reinforce those decisions, change of culture

# Improvement – What/Who/When

- Action Registers
  - **Sort**
    - Remove un-needed items
    - Red tag
    - Crowded, cluttered
    - Excess inventory, supplies, piles
  - **Straighten**
    - Office flow
    - Easy to find, visual
    - Organized, in-place
  - **Shine**
    - Clean
    - Stays clean
    - Brighten
    - Supplies
  - **Standardize**
    - Consistency
    - Procedures/processes
    - Maintenance/checklists
    - New habits/culture

Each team will identify specific actions that are necessary and document that action along with the responsible person(s) and at minimum a start date

# 5S Takes Teamwork



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