A Practical Approach to the Successful Practice of 5S

While some consider 5S a tool, it is more than that. 5S is not just a methodology, it is a culture that has to be built into any organization which aims for spontaneous and continuous improvement of working environment and working conditions. It involves everyone in the organization from the top level to bottom.

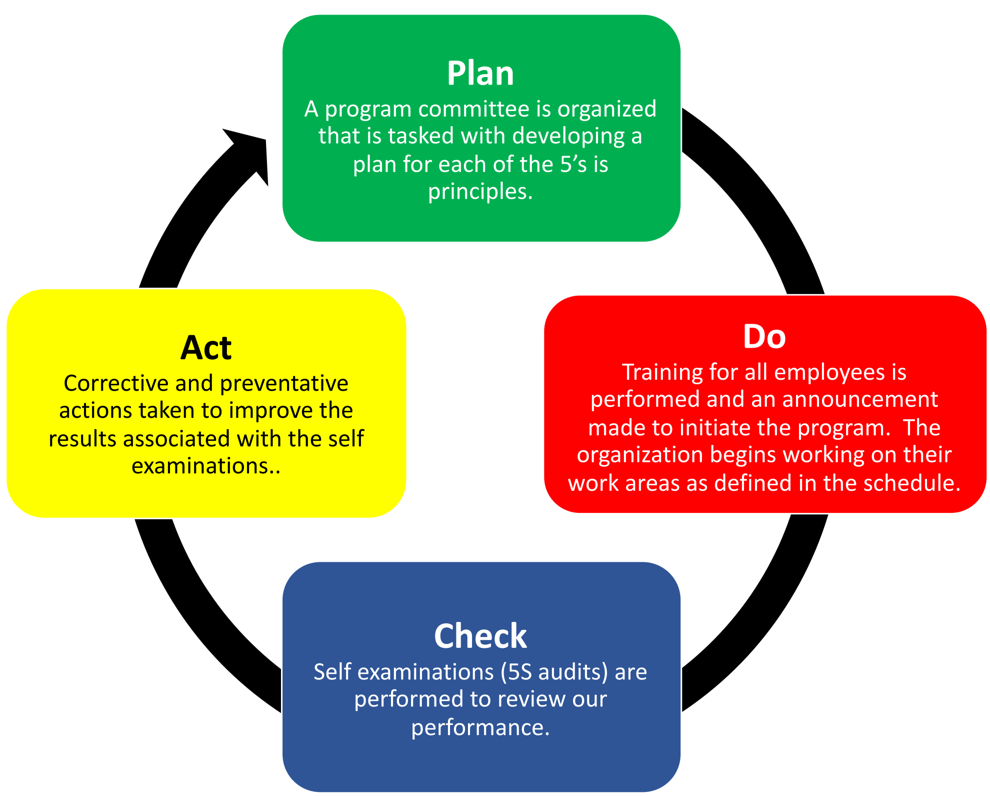
Too often the 5S philosophy is confined to one classroom training session or, at best, used as a one-time implementation methodology that then dies its own death due to negligence. 5S is not a list of action items that has to be reviewed at some interval of time. Instead, it has to be practiced as a daily activity, which requires concentration, dedication and devotion for sustaining it and ultimately making it a company-wide culture.

A proper and step-by-step process has to be followed to make 5S a practice and a success.

Plan-Do-Check-Act Approach to 5S

The PDCA (plan, do, check, act), or “Deming cycle,” of implementing 5S is effective. This is a never-ending process and has to follow a process approach.

5S Terms Translated



GAP IMPROVEMENTS

Japanese Terms	English Translations	5S Terms	Definitions
Seiri	Tidiness	SORT	Throw away rubbish and unrelated materials
Seiton	Orderliness	SET IN ORDER	Set things in place for quick retrieval and storage
Seiso	Cleanliness	SHINE	Clean the workplace, everyone is a janitor
Seiketsu	Standardization	STANDARDIZE	Standardize the way of maintaining cleanliness
Shitsuke	Discipline	SUSTAIN	Make it a way of life, this means commitment

Keep Detailed Records

Data collections should focus on routine work area duties. As data is collected, inefficiencies become more apparent which allows us to routinely make course adjustments to our process. By collecting data and improving our processes based on this data, we will begin to appreciate improvements in safety and efficiency.

Visual Communication

Visual communication is one of the most effective ways to improve and recognize our organizations 5S improvements. Methods of communication may consist of the following:

- Change boards after an area has completed a 5S phase
- Electronic media that shows team members and customers areas of change
- Company recognition during our monthly plant wide meetings
- Monthly newsletter

Regardless of the method, it is important to communicate team improvements in order to create an engaged workforce who implements and sustains our 5S processes, which in turn improves our efficiency.

Step 1: Sort

Sort is the first step in our 5S implementation, it consists of the removal of unnecessary items from a work area that is not limited to the production floor. Work areas include those areas found in call centers, corporate offices and hospitals as well as departments within companies such as engineering, quality, and planning. The outcome of "Sort" is a safer working environment, which is the result of the removal or clutter, redundancies, and unused items.

Red-Tagging, the Sort Tool

The red tag process is very simple. The team identifies an item that does not belong to a work area. The take a pre-printed red tag, or a blank red tag, and fill it out. The pre-printed red tags will require the person to fill out the sections of the red tag. In other cases, blank red tags are used and on these tags the person should write their name, date, why the item was moved to the red tag area, and their recommendation to how the item should be dispositioned.

Once the item is moved to the red tag area, the appropriate manager is required to review the tags and finish the disposition of the item which could include: send the item to an auction, sell the item to the company's team members, or discard the item to the waste collector.

Actions Items:

1. Develop criteria for disposal for not-needed items
2. Take "before" photographs to aid in the 'story' of the improvement
3. Review a workplace to identify items that are not required to complete the work
4. Red-tag the items not required to complete the work
5. While red tagging, ask these questions:
    - Is this item needed?
        i. Is it needed in this quantity?
        ii. How frequently is it used?
        iii. Should it be located here?
        iv. Who is ultimately responsible for the item? (verify from that person)
    - Are there any other 'not-needed' items cluttering the workplace?
    - Are there tools or material left on the floor?
6. Classify the remaining items by frequency of use
    - Items or equipment used hour by hour or day by day should be kept within arm's reach of the point of use
    - Items or equipment used once a week or once a month should be kept within the work area
    - Items or equipment used less frequently should be stored in a more distant location
7. Define a holding area (red tag area) for the red tagged items, this area should be relatively small to ensure managers review the items on a frequent basis
8. Individual departments should each have a holding area
9. Holding areas should be clearly visible and marked to assure visual control of items
10. Responsibility for the holding area should be assigned to a person at the beginning of the sorting activity
11. Items should be moved to a company-level holding area before final disposal of the items

12. The facility manager or an authorized person determines the method of disposal that may occur in the following:
    - Move items to other departments/sections where the items are required
    - Sell to someone inside or outside the company
    - Discard and haul away
13. Take “after” photographs to end the improvement story

Step 2: Set in Order

Set in Order is putting the necessary items in their place that provides easy access. In other words, there is a place for everything and everything goes in its place. This improvement reduces the time that team members wander around looking for the item that they need in order to perform their work.

Action Items:

1. Make sure that all unnecessary items are eliminated from the workplace
2. Consider work flow to decide which things to put where
3. Take “before” photographs wherever necessary
4. This should be done as per the frequency of use of items. More frequently used items should be kept near the workplace (see Nos. 9, 10 and 11 under *Sort*)
5. Workers should be able to answer the following questions:
    - What items do I need to do my job?
    - Where should I locate the items?
    - How many of the items do I really need?
6. Develop a plan based on number 5 (above) and locate the items accordingly
7. Use 5-Whys to decide where each item belongs
8. Locate needed items so they can be retrieved in 30 to 60s with minimum steps
9. Inform everybody at the workplace about the positioning of the items
10. Make a clear list of items with their locations and put it on lockers or cabinets
11. Label each locker/drawer/cupboard to show what is kept inside
12. Outline locations of equipment, supplies, common areas and safety zones with lines:
    - **Divider lines** define aisle ways and work stations
    - **Marker lines** show position of equipment
    - **Range lines** indicate range of operation of doors or equipment
    - **Limit lines** show height limits related to items stored in the workplace
    - **Tiger marks** draw attention to safety hazards
    - **Arrows** show direction
13. Identify all needed items with labels

14. Take “after” photographs
15. Complete evaluation using 5S levels of implementation with the facility manager or the authorized person in the organization

Step 3: Shine

Shine involves cleaning everything, keeping it clean daily, and using cleaning to inspect the workplace and equipment for defects. This is an action to clean the workplace daily.

Actions items:

1. Take “before” photographs
2. Adopt cleaning as a daily activity and as a part of inspection. Clean the workplace before starting of the job and before closing the job
3. Put aside 10 or 15 minutes for the same activity per day
4. Cleaning indirectly helps to check or inspect each and every part and place, this will become a habit
5. Find ways to prevent dirt and contamination
6. Clean both inside and outside on daily basis
7. Identify and tag every item that causes contamination
8. Use 5 Whys or cause-and-effect methods to find the root causes of such contamination and take appropriate corrective and preventive action
9. Keep a log of all places/areas to be improved
10. 5S “owner” check-sheets should be maintained on daily basis, make note that an operator merely operates the machine or process and might think cleaning is below them. An owner cares for the machine and area in which he or she works
11. Develop a plan, activity chart and distribute responsibility
12. Take “after” photographs
13. In addition to 10 to 15 minutes for Shine every day, owners should have a weekly 5S time, or monthly 5S day
14. Complete evaluation using 5S levels of implementation with the facility manager or the authorized persons in the organization

Step 4: Standardize

Standardize involves creating visual controls and guidelines for keeping the workplace organized, orderly and clean. This is a condition where a high standard of good housekeeping is maintained. The first three steps, or S’s, are often executed by order. *Standardize* helps to turn it into natural, standard behavior.

Actions Items:

1. Take “before” photographs
2. Check that the first three S’s are implemented properly
3. All team activity documents/check lists should be publicly displayed on a 5S board
4. Establish the routines and standard practices for regularly and systematically repeating the first three S’s
5. Create procedures and forms for regularly evaluating the status of the first three S’s
6. Standardize red tag procedures and holding area rules (see *Sort*)
7. Standardize procedures for creating shadow boards, position lines, and labeling of all items (see *Systematize*)
8. Standardize cleaning schedules using the “5S Owner Check Sheets” (see *Shine*)
9. Standardize “single-point lessons” for documenting and communicating 5S procedures and improvements in workplace and equipment
10. Create a maintenance system for housekeeping including a schedule for the cleaning of the workplace that utilizes a cross-functional team to perform the tasks
11. Inter-departmental competition is an effective means of sustaining and enhancing interest in 5S
12. Assign responsibility to individuals for a work area and machinery
13. Organize a regular inspection/audit and evaluation special team (including senior management team members) to monitor our progress
14. Instead of criticizing poor cases, praise and commend good practices or good performers
15. Take “after” photographs and post them on the 5S board(s)
16. Complete evaluation using 5S levels of implementation with the facility manager or the authorized persons in the organization

Step 5: Sustain

Sustain involves training and discipline to ensure that everyone follows the 5S standards. This is a condition where all members practice the first four S’s spontaneously and willingly as a way of life. Accordingly, it becomes the culture in the organization.

Actions Items:

1. Everyone in the workplace should treat their area as if it were their own home
2. Periodic facility management involvement is required to check that the first four S’s are implemented perfectly
3. Employees must make it a part of their daily work and not an action forced upon them

4. Dedication, commitment, devotion and sincerity are needed in implementation of 5S on a daily basis
5. Senior management should initiate a celebration for the total 5S implementation and be an active part in the total process in initiating and carrying forward the program
6. Senior management should do a periodic review of the status of their 5S
7. Inspections of first three S's should be done and the results displayed on 5S board regularly
8. Single point lessons should be used to communicate the standards for how 5S work should be done
9. Root cause problem-solving processes should be in place so that root causes are eliminated and improvement actions include prevention
10. Owners conduct 5S Kaizen activities and document their results
11. Owners complete daily check sheets to control factors that accelerate deterioration of equipment, and to keep clean workplaces that help build pride

When fully implemented, the 5S process increases morale, creates positive impressions on customers, and increases efficiency and organization. Not only will employees feel better about where they work, the effect on continuous improvement can lead to less waste, better quality and faster lead times. 5S is not only a system for housekeeping, it is an integrated approach for productivity improvement. 5S is a whole a culture which increases production, improves quality, reduces cost, makes delivery on time, improves safety and improves morale. 5S also is not a list of action items, but is an integrated concept of actions, condition and culture. To get the greatest success, the nature and implication of each “S” need to be understood by each employee and should be regularly practiced.

APPENDIX – FORMS & WORKSHEETS

- Cleaning Improvement Log
- 5S Sort Checklist
- 5S Set in Order Checklist
- 5S Shine Checklist
- 5S Standardize Checklist
- 5S Sustain Checklist
- 5S Production Audit Checklist
- 5S Office Audit Checklist

<table>
<tr><td colspan="5">CLEANING IMPROVEMENT LOG</td></tr>
<tr><td colspan="5">QUESTIONS</td></tr>
<tr><td>WHERE
is the issue located?</td><td>WHAT
exactly is the issue?</td><td>WHO
is acting on the issue?</td><td>HOW
is the solution implemented?</td><td>WHEN
will a solution be implemented?</td></tr>
<tr><td colspan="5">ANSWERS (use as many cells as needed to answer the questions)</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
</table>

GAP IMPROVEMENTS

5S SORT – Checklist

Goal: Eliminate nonessential workplace items

Work Area:	Date:	Initials:

SORT CHECKLIST

- ☐ Workplace photographed prior to 5S Implementation
- ☐ Red-tagging supervisor selected
- ☐ Duty task-times recorded prior to Implementation
- ☐ Logbook created for red-tagging records
- ☐ Established criteria and time allotted for sorting
- ☐ Red-tag zones designated near work areas
- ☐ Work-area red-tag zones well marked
- ☐ Nonessential items red-tagged for removal
- ☐ Nonessential items in work area red-tag zones
- ☐ Logbook updated
- ☐ Central red-tag zone established and marked
- ☐ Red-tag zone storage times established
- ☐ Duty task-times recorded

QUICK REFERENCE STEPS

[1] RED-TAGGING PREPARATION

A. Identify items known to be unnecessary
B. Consider tagging items rarely used
C. Identify items unnecessarily duplicated
D. Identify items found to have no function

[2] BEGIN IMPLEMENTATION

A. Designate items and fill out red tags
B. Securely attach red tags to items
C. Safely move red-tag items to work area zone
D. Allow personnel to review and retrieve items

[3] “WORK AREA” RED-TAG ZONES

A. Dedicate a space for work area red-tag zone
B. Ensure space is adequate and easily accessible
C. Clearly mark signs and floor tape to eliminate confusion
D. Set storage expirations, so items rotate out regularly
E. Divide into “infrequently” and unused” sections

[4] “CENTRAL” RED-TAG ZONE

A. Dedicate a space for central red-tag zone
B. Ensure space is adequate and easily accessible
C. Clearly mark with signs and floor tape
D. Set storage expirations, so items rotate out regularly
E. Divide work area red-tag zones by type

REGULAR WORK DUTY TASK TIMES

Name	Duty	Time (min)

GAP IMPROVEMENTS

5S SET IN ORDER – Checklist

Goal: Dedicate storage areas for all workplace items

Work Area:	Date:	Initials:
QUICK REFERENCE STEPS	**LOG OF ITEMS RELOCATED**	

[1] IDENTIFY AND DOCUMENT HAZARDS

A. Review workplace area for hazards
B. Evaluate effectiveness of current labeling/signage
C. Document worker identified hazards and mark appropriately
D. Ensure hazard labels/signs meet regulations and standards

[2] IDENTIFY PIPES AND UTILITIES

A. Mark pipes so regulations and standards are met
B. Mark with appropriately sized labels/signs
C. Properly identify utilities containing hazards

[3] PRIORITIZE & LABEL REGULARLY USED ITEMS

A. Prioritize regularly used items and label
B. Document regularly used items with dates to determine necessity
C. Locate higher value items and store in close proximity to work area
D. Properly label tools and inventory storage areas
E. Identify wall stored tools with “Shadow Labeling”

[4] LABEL UTILITY AND EQUIPMENT GAUGES

A. Check for appropriate identifiable labeling/signage
B. Mark Utilities with easily identifiable labeling/signage
F. Ensure utilities containing hazards are properly identified

[6] INSPECT PERSONAL PROTECTION EQUIPMENT

A. Ensure OSHA standards are met
B. Evaluate PPE reliability and condition
C. Document and correct issues found
C. Train all workers on proper use

Item	New Location

GAP IMPROVEMENTS

5S SHINE - Checklist

Goal: Maintain a clean and safe work environment

Work Area:	**Date:**	**Initials:**

SORT CHECKLIST	**QUICK REFERENCE STEPS**
☐ Photograph workplace prior to Shine activities ☐ Develop an inspection method to track progress ☐ Explain Shine to team, define goals as a group ☐ Seek team input on criteria used for evaluation ☐ Begin by cleaning or eliminating small imperfections ☐ Review area with teams to establish duty list ☐ Develop a cleaning duty inspection checklist ☐ Stock appropriate cleaning supplies for area ☐ Assign cleaning and monitoring responsibilities ☐ Rotate Shine duties amongst all team members ☐ Post area calendar of Shine dates and times ☐ Assign 5S leads to monitor first Shine period ☐ Be available to answer questions and resolve cleaning issues ☐ Focus on implementing more general duties first ☐ Expand Shine cleaning duties over time ☐ Incorporate small repairs and painting ☐ During inspections, seek input form team ☐ Act on worker suggestions once approved ☐ Record duty task-times and photograph area	**[1] SHINE PREPARATION** A. Eliminate obvious unclean areas B. Remove garbage regularly C. Create list of contaminants for removal D. Create a list of locations to be checked daily **[2] SHINE IMPLEMENTATION** A. Provide proper non-damaging solvents B. Stock appropriate amount of cleaning supplies C. Assign individual to maintain supplies D. Ensure cleaning supplies will be accessible **[3] SHINE CALENDAR** A. Create calendar with dates and times marked B. Rotates dates and times to eliminate conflicts C. Educate workers on proper procedures D. Develop cleaning checklist for work area E. Post calendar in work area for reference

REGULAR WORK DUTY TASK TIMES

Name	Duty	Time (min)

GAP IMPROVEMENTS

5S STANDARDIZE - Checklist

Goal: Establish a formal 5S system policy

Work Area:	Date:	Initials:

STANDARDIZE CHECKLIST	QUICK REFERENCE STEPS
☐ Review and adjust current visual communication to ensure conformance and uniformity ☐ Document new visual communication standards ☐ Post new standards at all locations where labels and signs are made ☐ Assure supplies and printers are available to produce proper labels ☐ Meet with team members regularly to review 5S ☐ Quickly implement manager-approved ideas ☐ Allow adjustments to ensure 5S evolves ☐ Involve other facility systems leaders ☐ Duty calendar updated for suitable long-term use ☐ Notify everyone of updated or new standards ☐ Properly post standards near areas of use ☐ Input continually sought from teams ☐ Train 5S to new team members (onboarding) ☐ Record duty task times ☐ Photograph current work area conditions	**[1] STANDARDIZE PREPARATION** A. Assign tasks and formalize as policy B. 5S system reviews are held regularly C. Allow for continual adjustments D. Involve other internal system leaders **[2] DEVELOP COMMUNICATION** A. Share team member feedback with managers B. Document team member feedback C. Rapidly implement management approved ideas D. Point out issues found for immediate correction **[3] BEGIN IMPLEMENTATION** A. Share team member feedback with managers B. Seek management approval C. Rapidly implement management approved ideas D. Continue to seek feedback from team members
[4] HELP 5S TO GROW A. Assure all managers are participating B. Develop list of processes and/or systems already in place C. Involve other process and system leaders D. Integrate 5S into other existing activities	**[5] KEEP EVERYONE INVOLVED** A. Encourage open dialog in all discussions B. Assure team members feel involved in the system C. Listen to ideas and take notes D. Continue to allow for adjustments

REGULAR WORK DUTY TASK TIMES

Name	Duty	Time (min)

GAP IMPROVEMENTS

5S SUSTAIN - Checklist

Goal: Formalize 5S system work area policy

Work Area:	**Date:**	**Initials:**

SUSTAIN CHECKLIST	**QUICK REFERENCE STEPS**
☐ Provide team members a meeting calendar ☐ Hold scheduled work area meetings ☐ Continue to document team member feedback ☐ Communicate successes with awards ☐ Consider implementing an internal 5S publication ☐ Continue to regularly meet with 5S team leaders ☐ Rotate facility wide 5S team leader mgmt duties ☐ Periodically record duty task times ☐ Periodically photograph work area conditions ☐ Store 5S records in a scrap book or electronic file ☐ Include photographs in progress reports ☐ Periodically post results on "Achievement Board" ☐ Periodically review 5S team leader duties	**[1] SUSTAIN PREPARATION** A. Design calendars for each work area B. Include general tasks in calendar C. Assure visual accessibility to calendar D. Update as necessary **[2] HOLD REGULAR MEETINGS** A. Formalize work area meetings B. Conclude meetings with inspections C. Address concerns during meetings D. Implement approved employee ideas
[3] LOOK TO WORK AREA TEAM FOR IDEAS A. Maintain an "open door policy" B. Involve employees in finding issue solutions C. Document employee suggestions D. Implement management approved suggestions	**[4] COMMUNICATE SUCCESSES** A. Communicate successes immediately B. Utilize internal publications and awards C. Display successes with graphs D. Continuously look for 5S success

REGULAR WORK DUTY TASK TIMES

Name	Duty	Time (min)

GAP IMPROVEMENTS

5S PRODUCTION AUDIT - Checklist

Goal: Monitor our 5S progress

Work Area:	**Date:**	**Initials:**	
#	**Criteria**	**Exists?**	**Rating**
SORT			
1	No unnecessary items are left or stored in the workplace		
2	All machines and pieces of equipment are in regular use		
3	All tools, fixtures and fittings are in regular use		
4	Storage area is defined to store broken, un-useable or occasionally used items		
5	Standards for eliminating unnecessary items exist and are being followed		
SET IN ORDER			
6	Locations of tools and equipment are clear and well organized		
7	Locations of materials and products are clear and well organized		
8	Labels exist to indicate locations, containers, boxes, shelves and stored items		
9	Evidence of inventory control exist (i.e. Kanban cards, FIFO, min/max)		
10	Dividing lines are clearly identified and clean as per company standard		
11	Safety equipment and supplies are clear and in good condition		
SHINING			
12	Floors, walls, ceilings and pipework are in good condition and free of dust/dirt		
13	Racks, cabinets and shelves are kept clean		
14	Machines, equipment and tools are kept clean		
15	Stored items, materials and products are kept clean		
16	Lighting is adequate and free of dust		
17	Good movement of air exists through the room (to limit the spread of viruses)		
18	Pest control exists and effective		
19	Cleaning tools and materials are easily accessible		
20	Cleaning assignments are defined and are being followed		
STANDARDIZE			
21	Information displays, signs, color coding and other markings are established		
22	Procedures for maintaining the first three S's are being displayed		
23	5S checklists, schedules and routines are defined and being used		
24	Everyone knows their responsibilities, tasks, and when/how to perform them		
25	Regular audits are carried out using checklists and measures		
SUSTAIN			
26	5S seems to be a way of life rather than just a routine		
27	Success stories are being displayed (i.e. before & after stories)		
28	Rewards and recognitions is part of the 5S system		
	SCORES ("Exists" = Count & Rating = Average)		

Scoring

Exists? Yes or No

Rating: 0 = very poor, 1 = poor, 2 = good, 3 = very good, 4 = excellent

GAP IMPROVEMENTS

5S OFFICE AUDIT - Checklist

Goal: Monitor our 5S progress

Work Area:	**Date:**	**Initials:**	
#	**Criteria**	**Exists?**	**Rating**
SORT			
1	Cabinets and shelves show no irrelevant documents, drawings, etc.		
2	Desks and tables show no irrelevant reference materials documents, etc.		
3	Drawers contain no excess pieces of equipment, documents, etc.		
4	Storage area is defined to store unneeded items and outdated documents		
5	Standards for eliminating unnecessary items exist and are being followed		
SET IN ORDER			
6	Desks and cabinets are free of accumulations of papers and other objects		
7	All tools and equipment are stored in a fixed place		
8	Tools and equipment are well organized for ease of use and return		
9	Labels of cabinets, shelves, and files allows immediate identification		
10	Documents are filed in accordance with our Record Retention Guidelines		
11	Displays are tidy, free of clutter, labeled and up-to-date		
12	Safety equipment is easily accessible and in good condition		
SHINING			
13	The floor is kept clean and no signs of damage		
14	Walls and ceilings are in good condition and free from dirt/dust		
15	Racks and cabinets are kept clean and in good condition		
16	Equipment and tools are kept clean and in good condition		
17	Desks, tables and other furniture are kept clean and in good condition		
18	Lighting illumination and angle of intensity is adequate		
19	Good air movement and temperature exists throughout the room		
20	Trash containers are emptied on a regular basis		
STANDARDIZE			
21	Visual controls and display boards are used and regularly updated		
22	Procedures for maintain the first three S's are being displayed		
23	5S checklists, schedules and routines are defined and being used		
24	Everyone knows their responsibilities, tasks, and when/how to perform them		
25	Regular audits are carried out using checklists and measures		
SUSTAIN			
26	5S seems to be a way of life rather than just a routine		
27	Success stories are being displayed (i.e. before & after stories)		
28	Rewards and recognitions are part of the 5S system		
	SCORES ("Exists" = Count & Rating = Average)		

Scoring

Exists? Yes or No

Rating: 0 = very poor, 1 = poor, 2 = good, 3 = very good, 4 = excellent

GAP IMPROVEMENTS