

Notes:

6S

Key Learning Points

1. Describe the importance of completing 6S.
2. Explain how to complete 6S.
3. Utilize 6S in improvement projects.

What is 6S?

6S is a technique that was developed by the Japanese to remove clutter from the work area, organize the workplace, prevent defects from happening, and improve work flow.

6S techniques were developed as a way to maintain workplace efficiency and satisfaction. The objective of 6S implementation is to create a quality workplace using a systematic approach to waste reduction, organization and housekeeping.

- Very Basic: It is one of the basic elements of Lean that an organization can implement. It is a great improvement tool that is very easy to install and brings “order out of chaos.”
- Complete Prior to Other Solutions: 6S should be put in place prior to other project solutions being implemented because it can yield additional results on its own merits. Also, the final solution implementation will be easier to put in place if this technique is done first.
- Systematic: 6S is a systematic approach to waste reduction, organization, behavior-based safety, and house keeping.

The Six “S’s”



S1 - Sort

- Step 1: Set standards for deciding what is needed.
- Step 2: Identify unneeded items.
- Step 3: Apply red tags and send to control area.
- Step 4: Disposition items in the control area.
- Step 5: Make sure that no unneeded items are brought into the facility.

S2 - Set in Order

- Step 1: Arrange needed items so they are easy to find and use.
- Step 2: Label items so their storage sites are easily understood by anyone.
- Step 3: “A place for everything and everything in its place.”
- Step 4: Implement visual control.

S3 - Sweep and Shine

- Step 1: Remove dirt, grime, and dust from the workplace.
- Step 2: Keep everything swept and clean.

S4 - Standardize

- Step 1: Decide upon standard practices for the process as a team.
- Step 2: Present standard practices so that anyone can understand the standard method in a minimal amount of time.
- Step 3: Verify that standard practices are being followed—focus on facts!
- Step 4: Correct any non-conformances immediately.
- Step 5: Repeat steps 1 through 4 as needed.

S5 - Self-Discipline

- Step 1: Maintain a high-level of 6S awareness—motivate through mottos, posters, and enthusiasm.

Notes:

Step 2: Create opportunities to improve the 6S process—schedule workshops, publish best practices, and start a suggestion program.

Step 3: Create motivation to maintain and improve 6S practices—publish the company goal, the gap with competitors, and the improvements made.

S6 - Safety

Implement behavioral-based safety processes and procedures that drive zero recordable injuries and zero lost time accidents. Behavioral-based safety practices are the foundation for all remaining 6S activities and must be ingrained in each activity.

Steps in Implementing 6S

1. Implement S1 - S3.
 - a. Train the team on S1-S3
 - b. Make practical exercises part of the training.
 - c. Prioritize the areas of improvement
 - d. Go Implement!
2. Implement S4 - S6. Implement S4 – S6 after S1 – S3 has stabilized. As the team continues with the 6S project, work that could be standardized to eliminate inconsistencies in operation and flow is identified. They then can create standard work sheets and checklists to ensure all process steps are completed properly.
 - a. Train the team on S4-S6
 - b. S4-S6 usually takes place a few weeks after S1-S3 is complete to allow each area to implement the first 3 S's.
 - c. Make practical exercises part of the training.
 - d. Complete standard work.
 - e. Complete 6S Audits.
 - f. Create a 6S Action Board.
 - g. Post audit results on the 6S Action Board.

S1: Sort

As a 6S team is assigned to assess and reorganize their workspace, they may find an excess of supplies, equipment and items which are no longer useful. Often times, these are items that have accumulated over years. A lack of organization and excess supplies are commonly discovered. There may be no rationale as to where supplies belong.

Notes:

Steps to Complete S1

1. Set standards for deciding what items or materials are needed.
2. Identify unneeded items. Look in unused rooms, along walls and under tables, closets, and in hidden spaces.
3. Apply red tags and send to Control Area—don't throw anything out yet! In the Control Area, categorize red tagged items, equipment, and materials. Determine disposition.
4. Make sure that no unneeded items are brought back into the workspace.
5. Make a list of what belongs.

Sorting Standards

- Things used daily
 - Place close to the area of use
- Things used once a week
 - Place close to the process
- Things used once in two months
 - Place in storage
- Things of uncertain frequency of use
 - Place in temporary storage—if not used in one year, take further measures; throw away, donate, or sell
- Things not used
 - Throw away, donate, or sell

Notes:

Images Depicting and the Stage Prior to Completing S1

Notes:



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6S Tool: Red Tags

Red Tags are labels which you affix to item's which you need to move, store, donate, or dispose of. You write on the tag the items final disposition.

Once you complete the Red Tag process, make a Red Tag Sort List showing the disposition of inventory breakdown.

At the end of the sorting process it is clearly visible how much extra “stuff” (materials, inventory, supplies) is stored in the workspace.

Criteria for Red Tag Use

1. Tag anything that is not believed to have been used within the previous month.
2. Attach the tag securely using either tape or tag wire.
3. Fill out the information on the tag as completely as possible. This will assist disposition of red-tagged items from the control area.
4. Send all red-tagged items to the control area.

Where to Look for Items to Red Tag

General

- In rooms and halls that have no designated use
- Along walls or behind columns
- On floors, walkways, and work areas
- Near entrances, exits, and along walkways near rest rooms

- On shelves and in drawers near work tables
- Equipment with a thick layer of dust indicating disuse
- Equipment obviously inoperable (broken power cord, unplugged, damaged)
- On shelves, in corners, and on desktops

Outdoor and Service Areas

- In piles of items near outside walls
- Near trash disposal sites
- In maintenance storage areas
- In janitor storage closets

Office

- Near the back of desk drawers
- In center and top desk drawers (excess pens, pencils, etc.)
- In piles of papers on the desk
- In boxes under the desk
- In lockers, shelves, and cabinets
- In room corners
- In cabinets and storage areas of meeting rooms

S2: Set in Order

After the removal of excess clutter during S1 the team now examines the layout and decides on a convenient place in the work area to put things. Sort the remaining items into logical order and placement, and according to their frequency of use. This can be done through the use of binning systems, the use of lists and labels, and standardization of appropriate inventory levels to simplify re-ordering and re-stocking supplies.

Steps to Complete S2

1. Arrange needed items so they are easy to find and use.
2. Label items so their storage sites are easily understood by anyone.
3. Remember: “A place for everything and everything in its place.”
4. Implement visual control.

Notes:

Keys to Set in Order

- Eliminate searching waste
- Looking for documents, markers, staplers, etc.
- Make things easier to get and use
- Keep materials in a place where they can be immediately seen, picked up, and used
Make things easier to put back
- Office materials, unlike factory parts which become part of a product, are reusable and need to be easily returned to their storage place
- Make things understandable at a glance
- “Set in Order” means making the proper location of things so obvious that even a temporary employee can understand at a glance
- Avoid “private collections”
- Make apparent at a glance if something is not as it should be.
 - Too much of an item
 - Wrong contents of drawers and cabinets
 - Things out of place
- Create floor markings to divide aisles, work areas, and storage areas.
 - Lined storage areas also labeled
- Draw white or yellow lines.
 - Use paint for permanent markings, tape for temporary
 - Line width to be 100mm, or 4 inches
 - Drawn straight line from one end to the other
 - Faded lines need to be redrawn as they can be a source of accidents
 - Old lines no longer in use need to be removed

Notes:

Images Depicting S2

Binning Systems:

S1

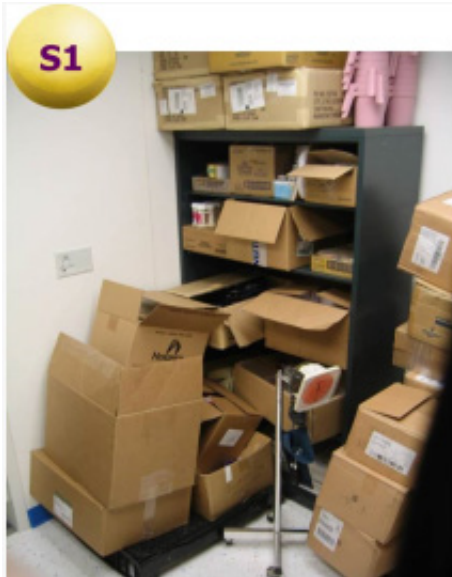


S2



Notes:

S1



Notes:

S2



Shadow Boxes



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S3: Sweep and Shine

At this point the team knows what items and materials are going to remain in the workspace. This is when they put plans in place to make cleanliness and organization a part of everyday workplace activities.

Steps to Complete Step 3

1. Remove dirt, grime, and dust from the workspace. Clean everything. Dust all surfaces, remove clutter from common areas, remove outdated and old wall and board posts, notes, piles of paper, etc.
2. Keep everything swept and clean. Address any non-conforming items or unneeded items discovered while cleaning up. Initiate repair orders for broken machines and equipment, initiate red tags, etc. as appropriate.

Keys to Sweep and Shine

- Clean Everything
 - Start from the top and work your way down so dirt does not fall on freshly cleaned areas.
 - Clean thoroughly to remove clutter. Clean thoroughly with brooms, mops, rags, de-greasers, steam cleaners, etc. Office staff and managers should take part in the cleaning/organizing with the team!
 - Just because something looks uncluttered or organized doesn't mean it is.
Never just paint over the dirt on machines. Just because it looks clean doesn't mean it is.
- Address Any Defects or Unneeded Items

- Rough, pitted floors and uneven rugs in offices impede employees and can be a safety hazard.
- Defective or broken machinery needs to be repaired ASAP. Submit a repair order for any machinery needing attention.
- Additional unneeded items may have been hidden in the clutter and disorganization. Red tag them and send them to the control area.
- Find the Root Cause
 - Areas or equipment that must be cleaned daily or several times a day will not improve unless the source of the contamination is found and remedied.
 - Difficult issues may best be addressed with a “SWAT Team” approach in the affected area.

Notes:

Daily Checklist for Step 3

The purpose of this checklist is to keep the workplace in order all of the time.

Check daily for:

- Unused items
- Out of place items
- Other housekeeping issues or concerns

Who should complete:

- Assign one person to be responsible for an area
- Rotate responsibilities to someone else each week
- Adopt, “if you use it, clean it,” in common areas

S4: Standardize

Once the need to standardize becomes part of the culture of your workplace, everyone will have the discipline to follow through on what has been decided. These should be consistent use of the first three S’s (Sort, Set in Order, and Sweep & Shine).

By having standardized methods in place, you will be able to adapt more easily to changing conditions and will be ready to take on new complex challenges in the future.

Steps to Complete S4

1. Make it easy to standardize work methods.
2. Continuously improve your efficiency and productivity.
3. Allow follow-through on planned procedures each and every time.

4. Prevent deterioration of S1-S3.

Standard Practices

Decide Upon Standard Practices for the Process as a Team

- Everyone makes decisions together regarding how things will be done in your work area.
- Meetings are held to design standard practices and plan how things are to be done.
- Procedures are organized into a visual control manual for your work area.
- Standard practices are verified and are being followed—focus on facts!

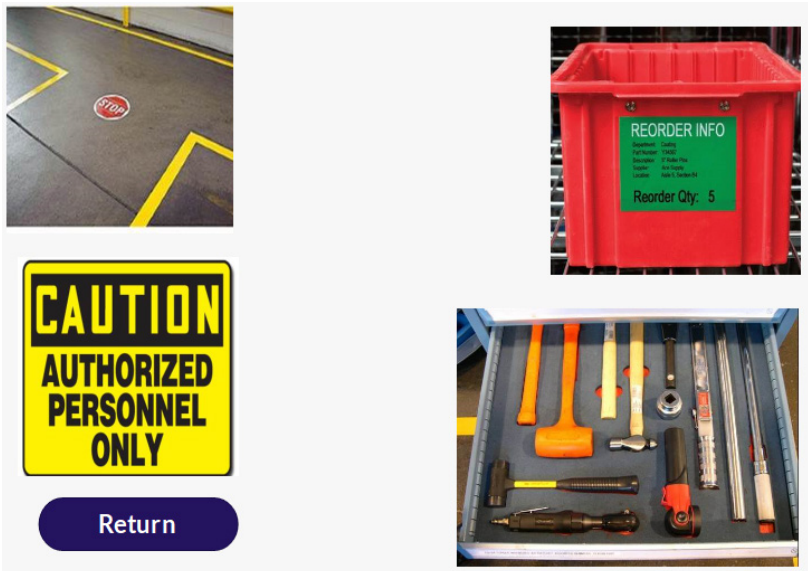
Use Visual Cues

Remember the saying “a picture is worth a thousand words?” Visual management and visual controls are based in that philosophy. Visual management incorporates visual controls and process layouts so that spotting an abnormal or unusual situation is easy. Visual cues show:

- How to do a job
- Where things are sorted
- How to use a tool or piece of equipment
- Required inventory levels
- Process performance information
- When help is needed
- Potential hazards

Notes:

Images of S4: Use Visual Cues



Notes:

S5: Self-Discipline

With standardized 6S practices and procedures in place, it is now time to make sure workers get disciplined in following them. Make a habit of properly maintaining correct procedures and continuously improving workplace conditions. Once you start 6S, do not let it fade out halfway through and come to nothing. The cycle of starting out strong and then losing enthusiasm causes people to resist change, and therefore, to resist improvement that is essential to future success. When this occurs, companies tend to fall into a rut. The best way to overcome the type of thinking seen above is to break the cycle and commit to the 6S approach through Self-Discipline. Work together and make this a successful way of conducting your day-to-day business.

Steps to Complete S5

1. Maintain a high-level of 6S awareness. Motivate through mottos, posters, and enthusiasm.
2. Create opportunities to improve the 6S process. Schedule workshops, publish best practices, and start a suggestion program.
3. Create motivation to maintain and improve 6S practices. Publish the company goal, gap with competitors, and the improvements made.

S6: Safety

Now that there is a clean and organized environment it is time to focus on safety. The idea behind safety is not to just avoid dangerous hazards in the workplace, but is to try and remove the hazards altogether. Creating a focus on safety in the workplace will make for a safer, and ultimately more comfortable environment for employees to work.

Steps to Complete S6

1. Implement behavioral-based safety processes and procedures that drive zero accidents or injuries for customers, employees, and the community at large.
2. Identify and address any potential hazards in the workplace.
3. Implement work standards that follow good ergonomic guidelines.
4. Ensure that safety processes are the foundation for all remaining 6S activities.

6S Tool: 6S Conformance Audit

The 6S Conformance Audit is one of the most important tools for maintaining a 6S program. Audit frequently in the beginning and less frequently as your scores rise and stay consistently high.

Concepts

1. The audit tool is easy to use and audits are relatively quick to conduct.
2. It provides a basis from which to first understand the current condition of the area, and further gauge the level of improvement over time.
3. The spider diagram visual results are quick and easy to read. Posting in a visible location provides motivation and knowledge to all staff of the current performance in the area.

The Audit Tool

The audit tool consists of three parts; a criteria table to assist in the scoring, the scoring of the audit, and the results which are presented in the form of a spider diagram. The following table is a sample of the scoring criteria. Use it as a guideline when conducting the audit.

SCORE	6S	6S IN ORDER	6S/6S & 6S/6S	STANDARDIZATION	6S/6S DESCRIPTION	SAFETY
1	Sorted and organized items are moved together at the workplace	It is possible that not every item is in its proper place and in its proper place	The workplace is not clean and tidy	Standardization for cleaning and organizing are not in place. Any cleaning to these items is really messy	Four categories of items are in place. One person or organization is responsible for one person or organization. Safety issues must be taken into account	Personnel safety training is required for all personnel. For one person or organization. Safety issues must be taken into account
2	It is possible that not every item is in its proper place and in its proper place	It is possible that not every item is in its proper place and in its proper place	The workplace is not clean and tidy	Standardization for cleaning and organizing are not in place. Any cleaning to these items is really messy	Four categories of items are in place. One person or organization is responsible for one person or organization. Safety issues must be taken into account	Personnel safety training is required for all personnel. For one person or organization. Safety issues must be taken into account
3	Sorted and organized items are moved together at the workplace	It is possible that not every item is in its proper place and in its proper place	The workplace is not clean and tidy	Standardization for cleaning and organizing are not in place. Any cleaning to these items is really messy	Four categories of items are in place. One person or organization is responsible for one person or organization. Safety issues must be taken into account	Personnel safety training is required for all personnel. For one person or organization. Safety issues must be taken into account
4	Sorted and organized items are moved together at the workplace	It is possible that not every item is in its proper place and in its proper place	The workplace is not clean and tidy	Standardization for cleaning and organizing are not in place. Any cleaning to these items is really messy	Four categories of items are in place. One person or organization is responsible for one person or organization. Safety issues must be taken into account	Personnel safety training is required for all personnel. For one person or organization. Safety issues must be taken into account
5	Sorted and organized items are moved together at the workplace	It is possible that not every item is in its proper place and in its proper place	The workplace is not clean and tidy	Standardization for cleaning and organizing are not in place. Any cleaning to these items is really messy	Four categories of items are in place. One person or organization is responsible for one person or organization. Safety issues must be taken into account	Personnel safety training is required for all personnel. For one person or organization. Safety issues must be taken into account
6	Sorted and organized items are moved together at the workplace	It is possible that not every item is in its proper place and in its proper place	The workplace is not clean and tidy	Standardization for cleaning and organizing are not in place. Any cleaning to these items is really messy	Four categories of items are in place. One person or organization is responsible for one person or organization. Safety issues must be taken into account	Personnel safety training is required for all personnel. For one person or organization. Safety issues must be taken into account

6S Conformance Audit

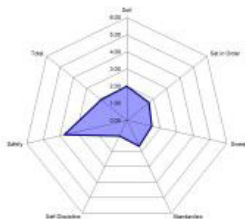
Department: <input type="text"/>		Date of Audit: <input type="text"/>		Team Members: <input type="text"/>	
6S	DESCRIPTION	EVALUATION FORM	SCORE	COMMENTS	
Sort	1. Removing unnecessary items	All items not required for performing operations are removed from the work area. Only tools and product are present at work	2		
Sort	2. Storage of cleaning equipment	All cleaning equipment is stored in a neat manner, handy and well-labeled when needed	3		
Sort	3. Tool and gauge arrangement	Tools, gauges, and fixtures are arranged neatly and stored, kept clean and free of any risk of damage	2		
Sort	4. Bulletin Board	All bulletin boards are arranged in a neat and orderly manner. No outdated, torn or faded announcements are displayed	1		
Sort	5. Emergency access	Fire and emergency equipment are unobstructed and stored in a prominent, easy-to-locate area. Stop switches and breakers are marked or color-coded for visibility	3		
			Sort Average:	2.5	
Set in Order	6. Items on floor	Work-in-process, tools, and any other materials are not left to sit directly on the floor. Large items such as tote boxes are labeled on the floor in clearly marked areas	2		

Notes:

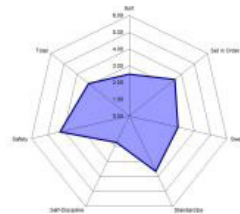
Results

The audit is scored on a scale from 1 to 6 where 6 is Excellent and 1 is poor. As the scores improve over time, the area on the graph expands from the center out toward the perimeter. See the examples below.

Baseline Results



Results after 3 Weeks



Based on the audit results achieved, each area will need to define the frequency for conducting the audits. The following is an example of the results of a baseline audit. After continued efforts and 6S practice, audit results should begin to expand outward towards the edges of the spider web.

Audit Board

A 6S audit board is a display of 6S past, present and future performance. It should be placed in a highly visible location where employees in the area can easily and quickly view the information. The audit board should typically include, and is not restricted to, the following:

1. Post 6S Audit tool and scoring criteria.
2. Post 6S Standard Work.
3. Post audit results.
4. Post action items that come from the 6S audits or other sources, and assign responsibility.
5. Post notices regarding safety.
6. Each area will determine the best location to post the 6S Audit Board.
7. The 6S team will determine how often the 6S Audit Board is updated and who makes the updates.

Notes:

6S BOARD

NEXT AUDIT: 5/19

LAST 3.30	CURRENT 4.32	RESPONSIBILITIES	
		WHO	WHAT
		Sherrill	Restock rooms daily
		Sherrill	Restock restock sheet subscribe 1-2

TRENDS

GUIDELINE

STANDARD WORK

AUDIT

ACTION ITEMS

WHAT	WHO	DATE
Bind 7 Label rooms	All	5/19

SAFETY

Q13108 REF.
HUMANITARIAN FILE
RESPONSE POLICY
TO THE BOARD BY
ELEANOR: A SIGN IN
SHEET SIGNED
COPIES OF POLICY IN
OWN FROM TIGER ROOM
& BY NURSE STATION IN OR
SIGN AND CHECK
FOR AND PAID IN AND
FOR OR ON GROUND OR
FROM DECK FOR SUE

Notes:

Integrating 6S into a Lean Six Sigma Project

While 6S can be used as a stand-alone tool at any time, during a Lean Six Sigma project it is recommended that it be incorporated during the following schedule:

Measure Step—Implement S1-S3

- Use the 6S audit form to determine a baseline for the current state.
 - S1: Sort
 - S2: Set in Order
 - S3: Sweep and Shine

Improve and Control Steps—Implement S4-S6

- S4: Standardize
- S5: Self-Discipline
- S6: Safety

Pitfalls to Avoid

- Management does not provide resources or time to complete.
- Workforce does not buy in to 6S. They believe that current cluttered departments are fine.
- Audits are not completed and reported as scheduled (key sustaining metrics are not in place).
- Action lists are not developed or implemented.
- Staff are resistant to new changes.