10 Steps to become a Lean Enterprise
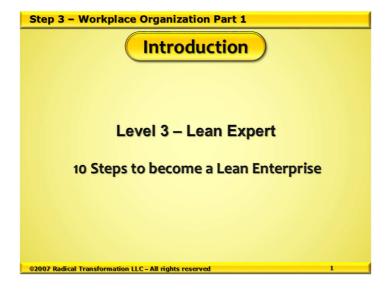
Lean Expert Training Course

Step 3
Workplace Organization
Part 1

Lean Expert Course Workbook - Step 3 Workplace Organization Part 1

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Please note that some of the screens in the online course have been omitted from this workbook. This is to protect any proprietary information that may be included in the pictures.

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Step 3 – Workplace Organization Part 1

Introduction

Level 3 – Lean Expert

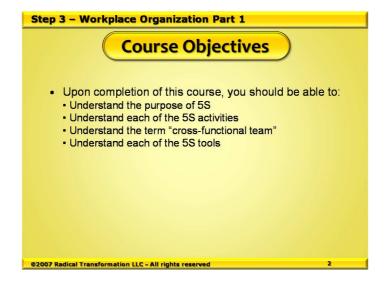**10 Steps to become a Lean Enterprise**

Welcome.

We would like to welcome you back to our next module in this online training course.

This training module is called "Step 3 – Workplace Organization Part 1."

This module is a continuation of our Lean Expert online course series called "10 steps to become a Lean Enterprise."

This program has been specifically designed to demonstrate our step by step methodology that will allow any organization to become a Lean Enterprise.

Let's continue your lean journey!

Course Objectives
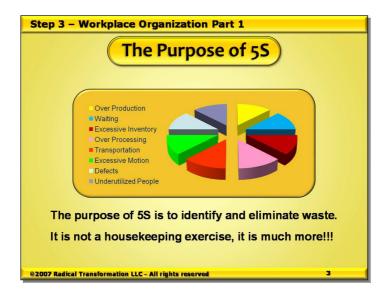
Here are the course objectives for Workplace Organization Part 1.

We specially designed this course to give the information you need to get a full understanding of each step required to become a Lean Enterprise.

Upon completion of this course, you should be able to:

- Understand the purpose of 5S.

- Understand each of the 5S activities.

- Understand the term "cross-functional team".

- Understand each of the 5S tools.

Now we are going to work through each course objective.

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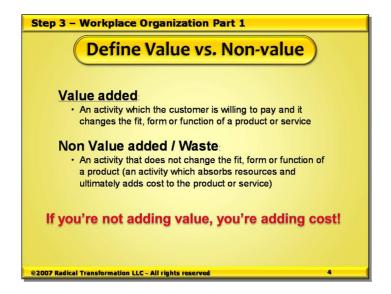### The Purpose of 5S.

The purpose of 5S is to identify and eliminate waste. Many organizations implement what they may call 5S, but it is nothing more than a housekeeping exercise. 5S is not housekeeping, it is much more than this!

A Lean Enterprise is totally focused on one thing, and that is the identification and elimination of waste to improve value for the customer.

It is important to understand the eight wastes, which are:

- **Overproduction.**
- **Waiting.**
- **Transportation (or conveyance)**
- **Over processing.**
- **Excess inventory.**
- **Defects.**
- **Unnecessary motion.**
- **Underutilized people.**

5S is used to focus on identifying and eliminating these eight types of waste.

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Step 3 – Workplace Organization Part 1

Define Value vs. Non-value

Value added:
- An activity which the customer is willing to pay and it changes the fit, form or function of a product or service

Non Value added / Waste:
- An activity that does not change the fit, form or function of a product (an activity which absorbs resources and ultimately adds cost to the product or service)

If you're not adding value, you're adding cost!

Define Value vs. Non-value.

At this point, it is important to take a moment and recap the meaning of waste. To understand value and non-value, it is important to start by asking a key question: What is value? Without answering this question, it is impossible to differentiate between value and non-value (or waste).

Value:

It is an activity the customer is willing to pay for.

It changes the fit, form, or function of a product or service.
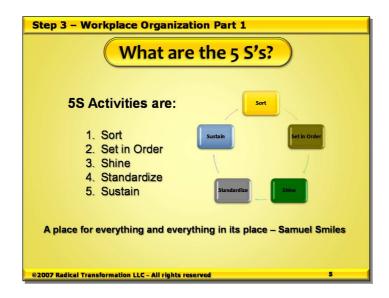
Non-value (or waste).

It is an activity the customer is not willing to pay for.

It does not change the fit, form, or function of the product or service.

It absorbs resources and increases the cost of the product or service.

Simply put, if a business is not adding value, it's adding cost to its products.

The reason for this is that waste in any form will always increase the cost of final products or services. There is only one person who will pay for these increased costs, and that is the customer. In today's global marketplace, the customer has many choices, and they often exercise their right to choose another supplier when cost, quality, delivery, or service becomes an issue for them.
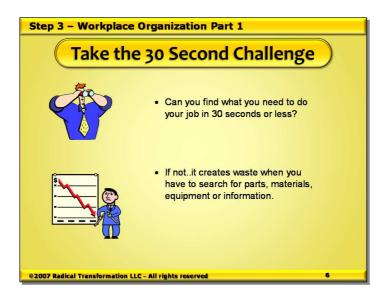
What are the 5S's?

The purpose of workplace organization is to identify and eliminate waste and to create a visual environment that is easy to manage.

It involves the integration of two systems; 5S and Visual Management. In this training module, Workplace Organization Part 1, you will learn about 5S. We will discuss Visual Management in the Workplace Organization Part 3 training module.

A 5S program consists of five separate activities each starting with the letter "S".

- **Sort** - Separate necessary and unnecessary items.
- **Set in Order** - Designate a specific location for all necessary items
- **Shine** - Inspect equipment through cleaning
- **Standardize** - Implement standardized 5S practices in all work areas
- **Sustain** - Integrate 5S into the daily work activities.

The mantra for 5S is, "A place for everything and everything in its place".

Take the 30 Second Challenge.

As an active part of the Workplace Organization training, we will ask you a very simple question. Can you find what you need to do your job in 30 seconds or less?

You probably need to think about it for a moment or two! What do you think? Do you think it is possible? What is your answer?

If the answer is "Yes", then your company's management team is helping you to stay focused on doing your job and continuing to be productive.

If the answer is "No", then your company's management team is encouraging you to accept wasteful practices by having to search for parts, materials, equipment, and information, etc.

When you're searching for any of these items, you are not able to focus on your job. While you are searching for items, you are not being productive. The result of doing this on a continuous basis is longer lead times, machine downtime, repetitive interruptions to production flow, etc.

The goal of workplace organization is to create an environment where the items you need to do your job are available in your work area, when you need them.

Step 3 – Workplace Organization Part 1

5S Levels of Achievement

	SORT	SET IN ORDER	SHINE	STANDARDIZE	SUSTAIN
LEVEL 5 Focus on Prevention	Employees are continually seeking to find opportunities for improvement	A dependable standard documented method has been implemented and established to provide a continual evaluation of the process for improvement.	Area employees have devised a dependable standard documented method of preventative cleaning, inspection and maintenance.	Everyone is continually seeking the elimination of waste with all improvements documented. Information is shared throughout the organization to establish best practices.	There is a general appearance of a confident understanding and adherence to the 5S principles. 5S is fully integrated into the work practices
LEVEL 4 Focus on Consistency	A dependable standard documented method has been established to keep the work area free of unnecessary items.	A dependable standard documented method has been established to recognize in a visual sweep if items are out of place or exceed standard quantity limits	5S cleaning and inspection agreements are evident in the work area. They are understood, applied and documented continually.	Substantial standard process documentation is available, followed and updated on a regular basis.	Follow-through with 5S agreements and safety practices is evident throughout the work area.
LEVEL 3 Focus on Visual Controls	Unnecessary items have been removed from the workplace.	Designated locations are marked to make workplace organization more visible and visual.	Work/break areas and machinery are cleaned on a daily basis. Visual Controls have been established.	Working environment changes are being documented. Visual Control standards for labeling and quantity levels have been established.	5S agreements and safety practices have been developed and are visually evident in the work area.
LEVEL 2 Focus on 5S Basics	Necessary and unnecessary items are separated.	A designated location has been established for items.	Work/break areas are cleaned on a regular scheduled basis. Key items to check have been identified.	Methods are being improved but changes have not been documented.	A recognizable effort has been made to improve the condition of the workplace.
LEVEL 1 No Awareness of 5S	Needed and not needed items are mixed throughout the workplace.	Items are randomly located throughout the workplace.	Workplace areas are dirty, disorganized and key items not marked or identified.	Workplace methods are not consistently followed and are undocumented.	Workplace checks are randomly performed and there are no visual measurements of 5S performed.

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5S Levels of Achievement.

In this matrix, you can see five levels of achievement for 5S. As an organization achieves each one of these levels it is moving towards a goal of prevention:

> Level 1 - There is no awareness of 5S throughout the organization.

> Level 2 – The focus is on implementing the basic 5S principles.

> Level 3 – The focus is to create orderliness by making everything visual.

> Level 4 – The focus is to standardize to achieve consistency.

> Level 5 – The focus is to implement prevention as a standard practice.

The purpose of the five levels of achievement is to bring attention to the different depths of requirements for achieving a visual workplace that can differentiate between a normal vs. an abnormal situation.

This document will be used in the "Standardize" element of the 5S process. We will discuss this later in the training module.
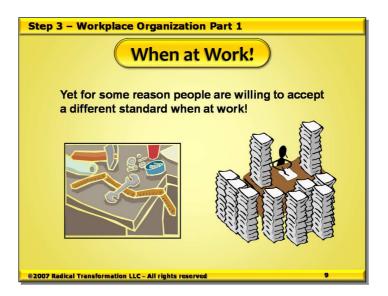
When People are at Home

When people are at home they tend to keep their living space clean and tidy. They will spend hours organizing their personal items by placing them in specific locations so they can find them the next time they're needed.

A good example of this is a typical family kitchen. Most family members know exactly where their cooking utensils, crockery, and cutlery are located and how to retrieve them. Some households have a specific way of storing their clothing, tools, cleaning materials, etc. They will have a designated place for everything and expect everything to be put back into the right place. Why would they bother to do this?

They do it because if they put things back in the right place, other family members will know exactly where to find them. If things are put back in a different place it causes frustration and people become upset because they can't find what they are looking for. People are creatures of habit, and putting things into the right place is a good habit to follow. It is also a matter of being considerate to your family members.

What about when people go to work? How do people act when they are at work? We will discuss this on the next screen.

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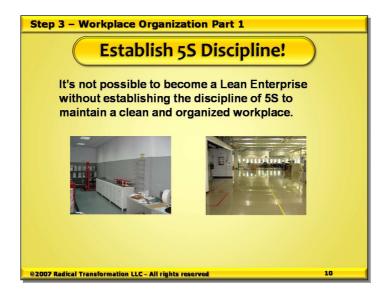
When People are at Work

When people come to their place of work they seem to be willing to accept a different standard than they do at home. They are often willing to put up with a lower standard of tidiness and cleanliness in their workplace. Why is this?

It has much to do with the culture of a business and the management team stance on the organization of the work areas in their facility. If a management team is willing to accept that it's natural for workers to keep their work area clean and tidy, they will be directed to do it. However, if the management team enforces a once in a while housekeeping exercise because a customer or visitor is coming to tour the facility, then it will only be clean and tidy at those times.

Employees will defer the decision making to their management team when it comes to keeping their work area clean and tidy. It's not because they don't want to do it, it's because they see their primary function as working to produce goods. The only reason they will keep their work area clean and tidy and maintain it this way at all times is if it's acceptable to the management team for them to do this during their work time.

Many companies allow their workers to take 10 or 15 minutes at the end of their shift to clean up their work area. This seems reasonable but the main problem is defining how clean and tidy it should be. What is the definition of clean and tidy? Well, it's different for each worker based on the environment they work in. A hospital will have a different definition of clean and tidy than a truck repair plant. The important point is to make sure the employees understand what clean and tidy actual means.
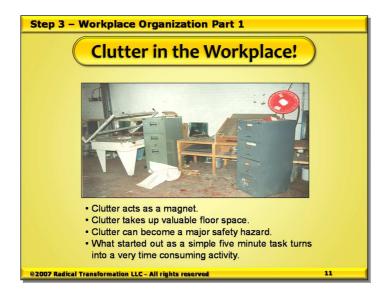
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Establishing 5S Discipline

It's impossible to become a Lean Enterprise without establishing the discipline to maintain a clean and organized workplace.

If an organization does not have the internal discipline to establish a robust 5S system, it does not have the discipline to become a Lean Enterprise. Why is this?

5S is the foundation of all Lean practices. During a Lean implementation, almost every activity involves some level of workplace organization. 5S and visual management are integral parts of the Lean philosophy.

An organization cannot achieve the standards demonstrated in the pictures on the screen without the necessary discipline throughout the organization.

Clutter in the Workplace!

Clutter is an element of waste in the workplace.

Clutter acts like a magnet because it draws other items to it. People see items being stored in out of the way places and they think it automatically gives them permission to add more to it.

Clutter piles up and consumes valuable floor space.

Clutter can become a major safety hazard. It can harbour unsafe equipment, materials, and infestation such as rodents and bugs.

Clutter can overwhelm the workplace if it is not checked in the early stages. What started out as a simple five minute task can turn into a very time consuming activity. Most people are willing to take on a five minute task but do not want to take on a major clean-up project, especially when they feel it is not their responsibility.

First Impression for Customers!

We are going to look at two pictures on the screen.
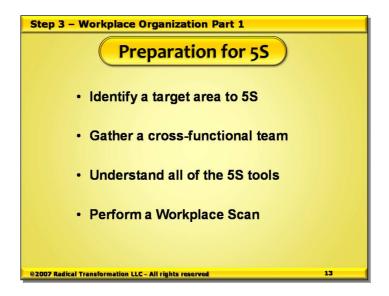
Take a close look at the first picture. It was taken before anything changed in the work area. It demonstrates how this company was performing on a daily basis.

The second picture was taken after a 5S event which focused on improving the work area.

Compare the 'before' and 'after' conditions of the work area and answer the following questions as if you owned this company:

- Which condition would you prefer your customers to see when they walk into the facility for the first time?

- Which condition would demonstrate to your customers that your company cares about the way it manufactures their products?

- Which one would fill your customers with total confidence in your company's ability to manufacture the best quality products for them?

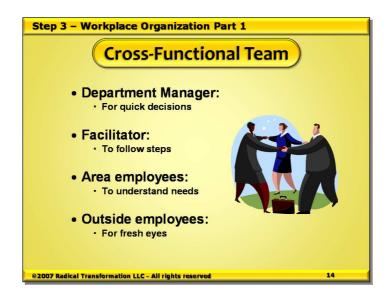These questions are important and relevant to every customer.

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Preparation for 5S

Before starting to conduct a 5S event it's important to do some preparation work upfront. There are four specific activities that must be completed. Each 5S team member must have a full understanding of these activities.

Here are the four activities listed:

1. Identify a target area for a 5S event.

2. Gather a cross-functional team.

3. Understand all the 5S tools.

4. Perform a workplace scan.

On the following screens we will discuss the details of these four activities.

Cross Functional Team
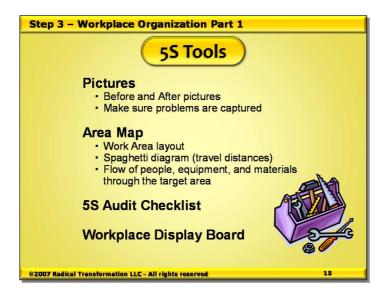
When choosing the team members for any event it's important to include employees from several different departments. This allows the group of employees to become what is known as a cross functional team. The purpose of having a cross functional team is to bring several different perspectives into the process. It allows the team members to understand the issues from another person's viewpoint. Traditionally there are four categories of employees included in team events:

Department Manager: They help to expedite the needs of the team members to make quick decisions. A manager would be able to get fast feedback from an executive leadership team about operational, financial, safety needs, etc.

Facilitator: This person would ensure that the team members are following each of the 5S steps during an event. They would give guidance to the team to help them if they find themselves stalled.

Area employees: These employees work in the target area, so they have a good understanding of their own needs. They have a personal experience of the day to day problems.

Outside employees: These employees are very important because they will probably have little to no prior knowledge of the target area processes. However, they bring fresh eyes to the event and are often able to see things that other people are blinded to. They are willing to be inquisitive and ask questions that those who work in the area would consider silly or dumb.

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5S Tools.

The 5S tools are consistent and used for every event. The 5S process has been tried and tested over many years and is successful if the team uses these tools.

There are four categories of tools that will be discussed in the following screens.

Pictures:

- Take before and after pictures.
- Make sure problems and solutions are captured.
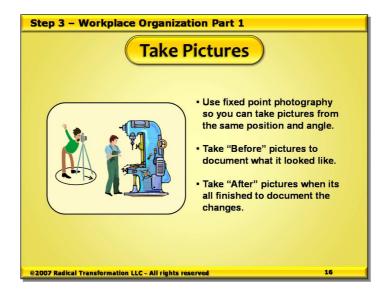
Area Map:

- Draw a Work Area layout.
- Draw a spaghetti (travel) diagram with distances.
- Draw the flow of people, equipment, and materials through the target area.

5S Audit Checklist:

- Complete an audit checklist before and after the 5S event.

Workplace Display Board:

- Place 5S information in the target work area for everyone to see.

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Take Pictures

It is important to document the 5S process during an event. One of the best methods for doing this is to take 'before' and 'after' pictures of the work area.
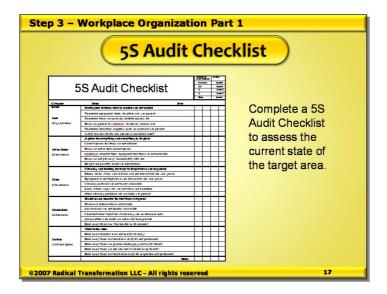
Take these pictures from the same viewing angle of the work area. Therefore, it's important to use fixed point photography so you can take pictures from the same position.

An easy method is to use some chalk to draw a circle on the floor to identify the camera location. Place an arrow inside the circle to show the direction the camera was facing when taking the pictures.

Take 'Before' pictures to document what the work area looked like before the 5S event.

Take 'After' pictures when the event is finished to document the work area after any changes.

A copy of the 'after' picture will be displayed inside the work area. This picture will become the current 5S standard for the work area. 5S auditors will use this picture to determine if the work area is being maintained at the same level.

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5S Audit Checklist

A team should complete a 5S audit checklist to assess the current state of the target area before any changes are implemented.
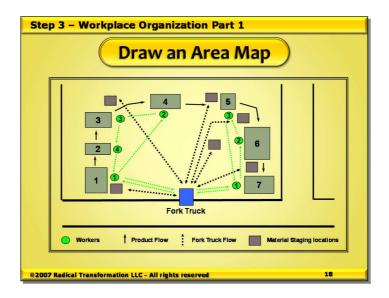
Another 5S assessment will be completed after the event to determine if the work area was improved and by how much.

The audit checklist will be the standard document used during the "Sustain" phase of the 5S system. This ensures that the work area is being consistently maintained or improved and is not reverting back to how it was before implementing a 5S system.

It is important to train the people doing the audits so that a level of consistency exists between different 5S auditors. The best standard to use for comparison purposes is a visual one, such as a picture, which cannot be disputed.

Auditors should not be expected to use their own judgment to determine if a work area is acceptable or not. They should have access to standard documents, which should include 'after' pictures and the 5S standard for the work area.

We will discuss the details of standard work in Step 8, later in the training module.

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Draw an Area Map

A team will draw a map of the target work area before any changes are implemented. This is a crucial part of the 5S documentation process. If this is not completed there will be no record of the 'before' condition of the target area.
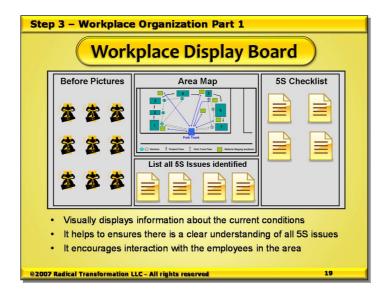
A work area map should identify the following:

- Each of the work processes,

- The flow of production through the work area.

- The movement of the workers in the work area.

- The staging locations for equipment and materials.

- Transportation of materials in and out of the work area.

The purpose of the area map is to document the layout and work patterns in the area.

The area map will be updated or redrawn after all the changes have been completed. A new version of the map will become the standard layout and 5S process document for the work area during any audits as part of the 'Sustain' phase.

The 5S auditors will use the map to compare the current state of the work area. They will be able to see if the area is being maintained at the same level as the standard.
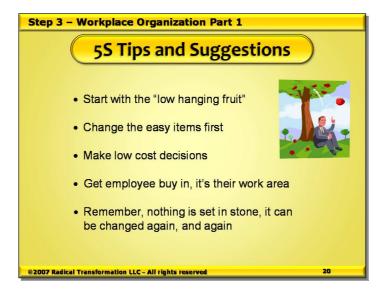
Workplace Display Board

During a 5S event, it is advisable to create a Workplace Display Board. It should be centrally located in the target work area where it can be easily observed.

The purpose of the board is to display 5S information about the current conditions inside the target work area.

A display board ensures there is a clear understanding of all 5S issues in the work area. Information is shared openly with everyone. It encourages interaction with the employees in the work area. They can see what is happening and understand the need for them to become actively involved in the 5S process.

The board will eventually display the 'before' and 'after' conditions of the target work area. These boards often become visual marketing tools to demonstrate to customers and visitors what a company is doing to improve their processes.
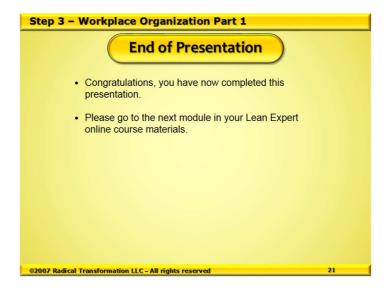
5S Tips and Suggestions

Here are a few simple tips and suggestions, they will help during a 5S implementation or an individual event:

- Always get the team to start to focus on the "low hanging fruit".
- Get them to concentrate on changing the easy items first.
- Make low cost decisions; don't start by focusing on things that will cost money.
- Get employee buy in, it's their work area. People are very territorial about their work space. Before allowing a team to go in and start removing items, first spend a little time explaining the process.
- Remember, nothing is set in stone; it can be changed again, and again.

To most people 5S is common sense. However, there will be challenging situations that will have to be overcome. Try to start in an area with minimal challenges and use it as a model to show how 5S improves the work area. This is the best way to get buy-in from employees.

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Step 3 – Workplace Organization Part 1

End of Presentation

- Congratulations, you have now completed this presentation.

- Please go to the next module in your Lean Expert online course materials.

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<u>End of Presentation.</u>

Congratulations, you have now completed this presentation.

Please go to the next training module in your Lean Expert online course materials.

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Reference Materials

1. **5S for Operators – 5 Pillars of the Visual Workplace.**

   By: Hiroyuki Hirano. Published by Productivity Press 1996.

2. **5S for the Office.**

   By Tom Fabrizio and Don Tapping. Published by Productivity Press 2006.

3. **5S Pocket Guide.**

   By Jim Peterson and Roland Smith. Published by Productivity Press 1998.

4. **Identifying Waste on the Shop floor.**

   By Productivity Development Team. Published by Taylor & Francis Inc. 2003.

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Documents List

1. **5S Checklist for Manufacturing work area.**
2. **5S Checklist for Office work area.**

Work Area - 5S Checklist

Performed by:			Area:		Date:	
#	**Description**	**Scoring Criteria** Rating Scale 1-5 (poor = 1, excellent = 5)	**Score**	**Notes for next level of improvement.**		
1	**Sort**	Workstations should be clean, organized and neat with only tools and products necessary to perform tasks.				
2	**Sort**	Control of machines and tools are properly labeled, stored and clearly marked. All calibrated tools are current, and have a home location.				
3	**Set in Order**	All cleaning equipment is available and stored in a neat manner, for when needed. All floors are cleaned throughout the shift as work is performed.				
4	**Set in Order**	Only documents necessary to do the work are stored at the workstations and they are neat and orderly. Bulletin boards are arranged in a straight, neat manner.				
5	**Shine**	Floors locations are clearly marked as to where WIP, etc. should be stored.				
6	**Shine**	Nothing is placed on top of machines, cabinets, or equipment. Nothing leans against the walls or columns. All guards and deflectors are in place.				
9	**Standardize**	Tools and equipment are labeled or stored properly and there is a location identified for all tools and equipment, like shadow boards, labeled shelves, bins, etc.				
10	**Standardize**	Documents are labeled, clearly as to contents and responsibility for control and revision. Nothing is unlabeled.				
11	**Sustain**	All machines and equipment are painted and kept clean by routine daily care. Cleaning includes all glass and working surfaces are cleaned and polished.				
12	**Sustain**	Obvious system of 5S is in place. Everyone in the work area knows what the 5S's are.				
		Total Score:		÷ 60 max score = %		

Additional comments:

Office Area - 5S Checklist

Performed by:		Area:		Date:	
#	**Description**	**Scoring Criteria** Rating Scale 1-5 (poor = 1, excellent = 5)	**Score**	**Notes for next level of improvement.**	
1	**Sort**	Office/desks are well organized with no unnecessary items. Personal items are stored in one drawer or defined area.			
2	**Sort**	All binders, files, etc. are clearly and properly labeled.			
3	**Set in Order**	Binders, files etc. are stored in a defined location and easily returned to that location using visual methods.			
4	**Set in Order**	Items, equipment and work in progress are stored on the desk in a neat and orderly manner.			
5	**Shine**	Office cleaning equipment and materials are labeled and easily available.			
6	**Shine**	Floors and furniture are kept free of dust, debris and unused items.			
9	**Standardize**	Documents are labeled, clearly as to contents and responsibility for control and revision. Nothing is unlabeled.			
10	**Standardize**	Bulletin boards are arranged in a neat and orderly manner. Nothing is torn or outdated.			
11	**Sustain**	All office furniture and equipment are kept clean by routine daily care. Cleaning includes all glass and working surfaces are polished.			
12	**Sustain**	Obvious system of 5S is in place. Everyone in the office area knows what the 5S's are.			
		Total Score:		÷ 60 max score =	%

Additional comments: