THE DEVELOPMENT AND TESTING OF THE 5S PUZZLE GAME

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AGENDA

- Problem statement
- Background
- Methodology
- Examples of 5S
- References

Problem statement

A 5S number simulation already exists but the following limitations were observed.

- Inability of players to visualize progress if played online/virtually.
- Frustration in locating numbers of smaller font.
- Perhaps most importantly, difficulty in relating 5S to applications for those working in the construction sector.
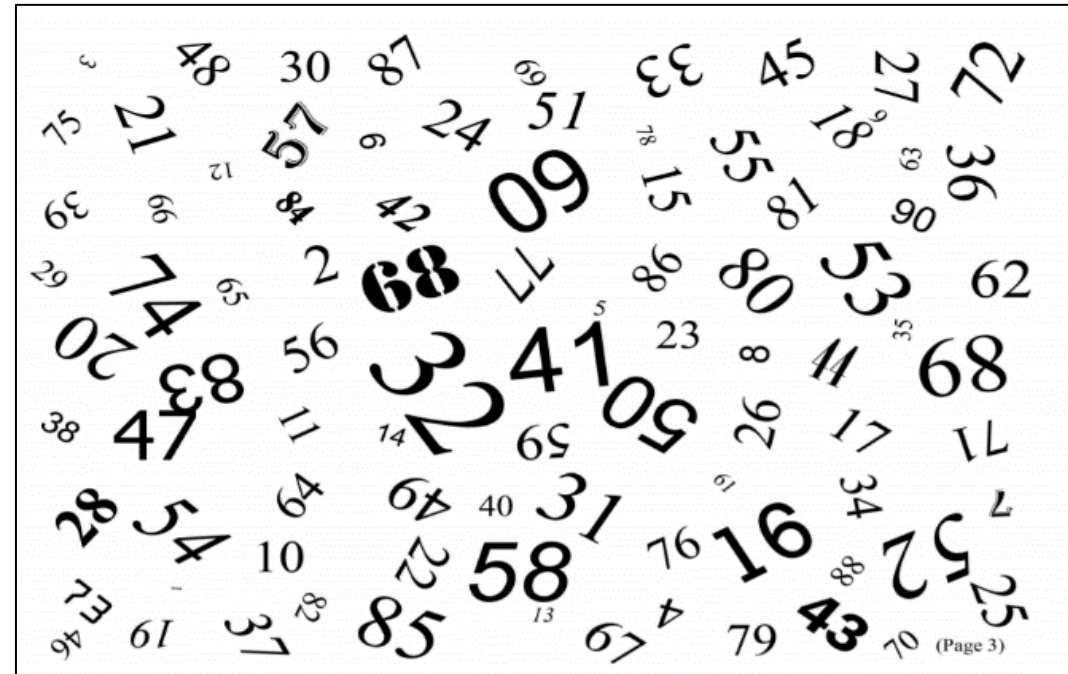
Reprinted from Super Teams 5S Game Handout.

WHAT IS 5S?

Table 1: Explanation of 5S

Japanese words	English translation	Meaning
Seiri	Sort	Sort through all items and remove unnecessary items.
Seiton	Set in order	Place all items in an optimal position.
Seisō	Shine	Clean the workplace and all relevant materials on a regular basis.
Seiketsu	Standardize	Standardize the processes used to sort, order and shine.
Shitsuke	Sustain	Ensure that the progress is maintained.

Osada 1991; Table 1

GROUP GAME RULES

- Each team has 4 people, 3 will assemble the puzzle and 1 will keep time
- Round 1 each person has 30 seconds to complete the puzzle as much as they can and total of 1 minute 30 seconds
- Do not resize or do not rotate and do not delete the pieces
- No verbal communication between team member is allowed.
- There will be a brief discussion after each round.

5S PUZZLE GAME

# Table 2: Percentage completion/ efficiency as the rounds progress

Round #	Total number of puzzle pieces placed correctly (out of 20)	Percentage completion/ efficiency of the round
1	7	35%
2	12	60%
3	16	80%
4	17	85%
5	20	100%

Table 3: Evaluation of the 5S puzzle game versus the 5S number game

| Name of simulation	Total number of volunteers selecting the simulation	Percentage of volunteers selecting the simulation
5S puzzle game	34/40	85%
5S number game	6/40	15%

CONCLUSIONS

This paper is presenting with development and testing of a new on-line simulation with the primary goal of developing an understanding by participants of the principles of 5S.
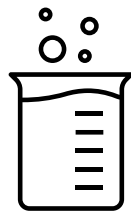
This simulation demonstrates that creating pieces that move make it easier for those learning 5S to make the mental link between 5S principles and their manifestation on an actual job site.
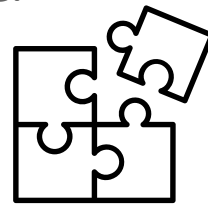
The 5S Puzzle game appears to overcome the limitations sometimes observed in the 5S Numbers game by providing a board on which pieces are actively moved.
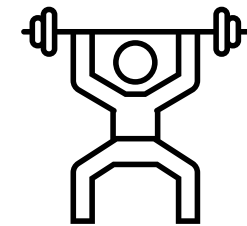
Examples of 5S in real life

Before 5S

After 5S

Image source: (McNew 2011; TD Industries)

Before 5S

After 5S

Image source: (McNew 2011; TD Industries)

Before 5S

After 5S

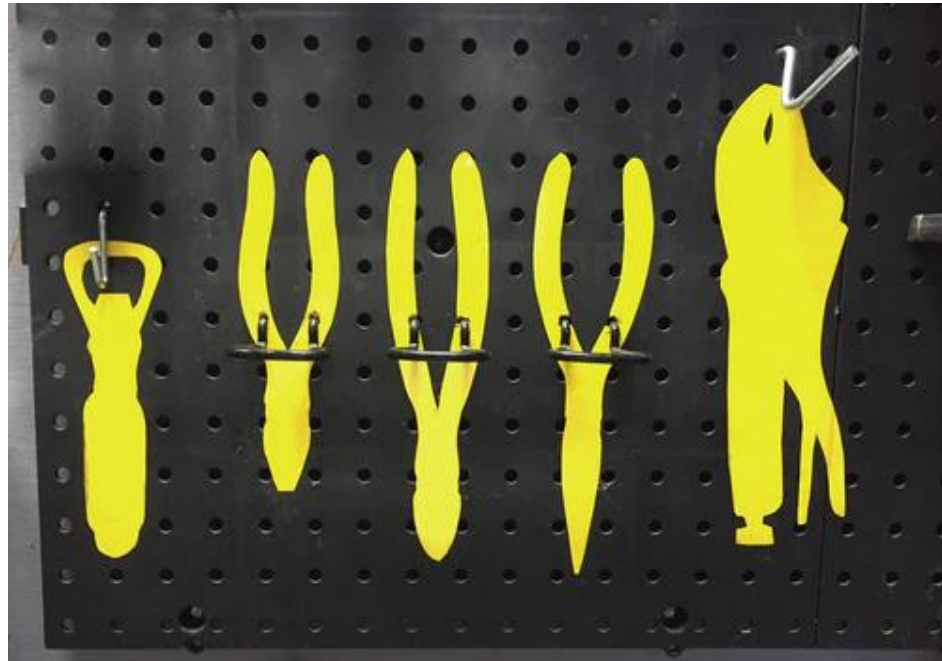Image source: (McNew 2011; TD Industries)

Image source: (Tool Outline Vinyl / Shadow Board Tape; https://www.creativesafetysupply.com/tool-outline-vinyl-shadow-board-tape/> (Feb. 24, 2021).)

REFERENCES

- "San Diego State University" by StuSeeger is licensed with CC BY 2.0. To view a copy of this license, visit https://creativecommons.org/licenses/by/2.0/.
- McNew, T. (2011). "TD Industries LEAN Transformation". Presentation.
- Osada, T. (1991), The 5-S: Five Keys to a Total Quality Environment, Asian Prod. Org., Tokyo.
- SuperTeams. (n.d.). "The 5S Numbers game." <http://www.superteams.com/new-site/wp-content/uploads/2016/04/SuperTeams5SGameHandout.pdf&gt.> (accessed Feb.15,2021).
- Link for puzzle creation: https://thejigsawpuzzles.com/
- "Tool Outline Vinyl / Shadow Board Tape." (n.d.). Creative Safety Supply, <https://www.creativesafetysupply.com/tool-outline-vinyl-shadow-board-tape/> (Feb. 24, 2021).

THANK YOU!

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