



Materials Organization Activity

Name:
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District:
Marinette School
District, Marinette, WI

2017

Overview:

Marinette Marine operates under a 5S Workplace Organization method from the Kaizen Institute. To learn more about the organization model, visit:

<https://us.kaizen.com/knowledge-center/what-is-5s.html>

A key component to the model is that everything has a place. When tools and materials are where we know to look for them and in an organized fashion, the workspace is safer and more efficient. In this lesson students will be completing a task where materials are organized and another simulation where materials are not organized. They will demonstrate efficiency through time trials.

Featured Externship Business:

[Fincantieri Marinette Marine](#)

Subject:

Life Skills/Job Skills, Math

Grade Level:

Various, most appropriate for middle school/high school

Learning objectives:

After doing this activity, students should be able to:

- Find the mean
- Understand the purpose of physical organization within a workspace

Workplace Readiness Skill:

- | | |
|--|---|
| <input type="checkbox"/> Social Skills | <input type="checkbox"/> Communication |
| <input type="checkbox"/> Teamwork | <input checked="" type="checkbox"/> X Critical Thinking |
| <input type="checkbox"/> Attitude and Initiative | <input checked="" type="checkbox"/> X Planning and Organization |
| <input type="checkbox"/> Professionalism | <input type="checkbox"/> Media Etiquette |

Type of Activity:

- Individual
- X Small Group
- Whole Class

Common Core Math Standards:

[CCSS.MATH.CONTENT.6.SP.B.5](#)

Summarize numerical data sets in relation to their context

[CCSS.MATH.CONTENT.6.SP.B.5.C](#)

Giving quantitative measures of center (median and/or mean)

(Extension Activity)

[CCSS.MATH.CONTENT.7.RP.A.3](#)

Use proportional relationships to solve multistep ratio and percent problems

Model Academic Standards for School Counseling:

Content Standard C: Students will understand the relationship of academics to the world of work, and to life at home and in the community.

- Core Performance Standard 1: Understand how to relate school to life experiences.

Time: 20-30 minutes:

Activity: 15-20 minutes

Wrap Up: 5-10 minutes

Materials:

- Stopwatch
- Assorted Legos
- Design Pictures

Directions:

1. Students should be assembled in groups of 4. Two students will replicate a design under organized conditions. Two students will replicate a design under unorganized conditions.
2. Set-up: Prior to the activity have lego pieces organized on a common table for students. Sort by color, shape and size. Materials for both designs need to be included. Add in extra pieces that are not needed, but still in an organized fashion.
3. Before starting the lesson, emphasize safety in the classroom environment. It is essential that students are walking at a normal and safe pace.

4. Have each of the two students who are building first partner with a student who is building second within their group. The non-building student will serve as the timer and design checker. They may not give input to the builder. There are two designs that will be used. One builder will have design one and the other design two.
5. Students are given a design print-out upside down. The timer needs to start the timer when they flip over the design. Students are to walk to the designated table and retrieve materials they need one piece at a time and construct the design. When the design is complete and the timer agrees that the design matches, time is recorded and the pieces are disassembled and the design flipped back over.
6. When both designs within the group have a recorded time, have students average the time it took.
7. The builder needs to return the pieces, but instead of returning in an organized fashion, they are to spread their pieces out within different locations in the classroom and not sort them in any way.
8. Now the roles change. The timer from design one will be given the design two card upside down. The timer from design two will be given the design one card upside down. The previous builders will now act as timers.
9. The timer needs to start the timer when they flip over the design. Students are to walk to the designated table and retrieve materials they need one piece at a time and construct the design. When the design is complete and the timer agrees that the design matches, time is recorded and the pieces are disassembled and the design flipped back over.
10. When both designs within the group have a recorded time, have students average the time it took.

Wrap-Up:

Think-Pair-Share on Key Questions

- Why is organization important?
- How much time was lost due to an unorganized environment?
- Why is a company concerned with organization to help them be profitable?

Extension Activity:

Have students repeat with a new design, but this time only one team member is able to see the design and must communicate to the other member building what supplies are needed and how to construct.

If one minute of productivity is lost every hour of a 40 hour work week 52 weeks a year, how much time is lost in a year? In minutes? In hours? If the employee earns \$15 an hour, how much does this cost the company? What if the company had 100 employees?

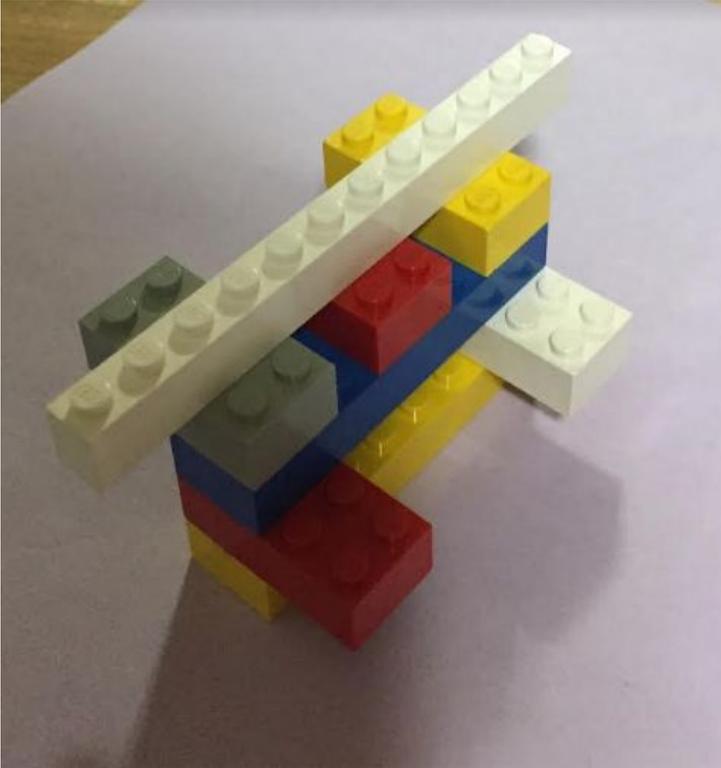


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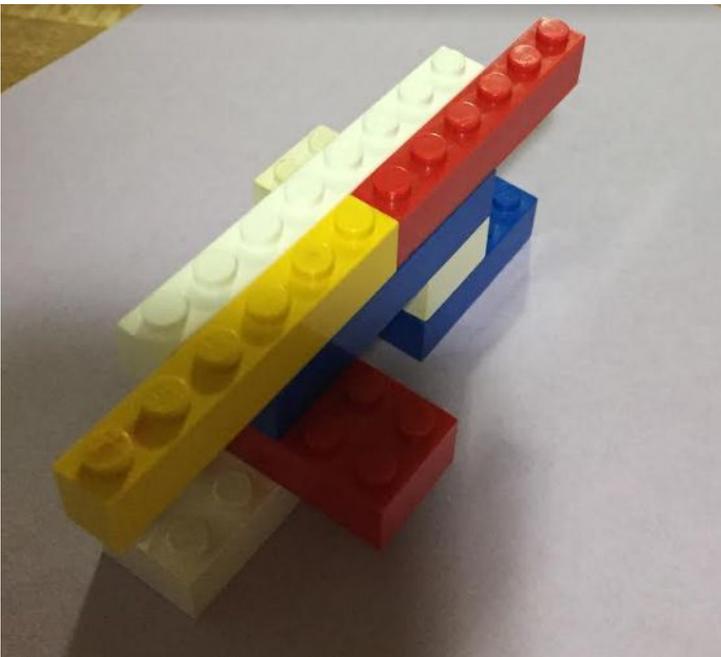
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**Although these designs are included in the lesson, you may use your own designs to fit the lego pieces you may have available to you.

DESIGN 1



DESIGN 2



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Teacher Resource: Materials used in each design. (Each set is needed for every group of four.)

DESIGN 1



DESIGN 2

