

## ENGINEERING DESIGN PROCESS (EDP) RUBRICS OVERVIEW

### **PLAN:**

Students will quietly listen to presenter's directions, then complete the work to make the best possible product

### **CREATE:**

Students will exhibit careful attention during construction process, and successfully follow the models/examples/directions

### **TEST:**

Students will troubleshoot, test, and make refinements

### **ASK:**

Students will participate during any debrief, and continually ask questions while working with your teams  
What went well?, What could we do better next time?, Who, What, When, Where, and Why do we need this?

### **COLLABORATE: Exhibiting excellent TEAMWORK and respect is ALWAYS worth more points!**

Students will follow the rules during all presentations, show respect for all people, property, materials, and tools. Furthermore, students will go **all-out** to help others to work safely and equitably and **persevere** during all segments of each session

**NOTE: \*Consequences\*** A score of zero points may be given in any section of a rubric due to misuse of tools, or materials, or no attempt at construction.

If a student must have their materials taken away due to misuse or disregard for the S.T.E.M. Lab rules, they may earn zero points for the entire session.

\*Theft, vandalism, or deliberate misuse of any S.T.E.M. Lab property will result in a complete ban from using any hands-on materials either for the session, the quarter, or the school year.

# JediJill's

# S.T.E.M. lab

# K-3rd lesson Rubric

Needs Improvement/  
Areas of Concern:

Meets Grade Level Standards/  
Criteria/Standards for this Session:

Advanced or Above and Beyond  
Areas Demonstrating Excellence:



## PLAN = 20 pts.

I can listen carefully and follow the rules and directions so I will know how to do this project.

## CREATE = 20 pts.

I can do my best to make something good with this lesson or project.

## TEST = 20 pts.

I can keep trying to make my projects or ideas better.

## ASK = 20 pts.

I can talk to others about what I think I could change the next time I do this.

## COLLABORATE = 20 pts.

I can politely discuss projects and lessons with people and respect their time, ideas, and efforts.

# JediJill's

# S.T.E.M. lab

# 4th – 6th lesson Rubric

Needs Improvement/  
Areas of Concern:

Meets Grade Level Standards/  
Criteria/Standards for this Session:

Advanced or Above and Beyond  
Areas Demonstrating Excellence:



## PLAN = 20pts.

Student exhibits an honest effort to listen carefully and follow the rules as well as the directions.

## CREATE = 20pts.

Student completed the work and made the best possible product.

## TEST = 20pts.

Student provided clear evidence of troubleshooting, testing, perseverance, and making refinements, as necessary.

## ASK = 20pts.

Student discussed ways to make their project better after testing and helped their team to follow the rules and directions during all lesson segments.

## COLLABORATE = 20pts.

Student was successful in sharing work and materials with their team, while also following the rules, and treating everyone with care and respect.

# JediJill's S.T.E.M. Lab- **Engineering Design Process (E.D.P.) 7<sup>th</sup> – 12<sup>th</sup> Rubric: 15 points = 100%**

## Plan

1- The student had great difficulty doing their best to listen to and follow directions to complete the project

2- The student had some difficulty doing their best to listen to and follow directions to complete the project

**3- Student exhibits an honest effort to listen to and follow directions to complete the work and make the best possible product**

4- Student exhibits an intense effort to listen to and follow every direction to complete the work and make the best possible product and added an innovative addition to the plan

## Create

1- Construction appears careless or haphazard, numerous details need refinement for a strong or attractive product. The student refused to make changes after given suggestions

2- Construction accurately followed the plans, but 3- 4 details could have been refined for a more attractive product --and/or the student failed to make necessary changes after given suggestions

**3- Construction was careful and accurate for the most part. The structure is neat, attractive and follows the model/examples. 1-2 details may or may not require refinement for a more attractive or effective product**

4- Great care taken in the construction process so that the structure is neat, attractive and follows the model/examples precisely, and the student added an unexpected innovative or artistic addition

## Test

1- Little or no evidence of troubleshooting, testing, or refinement

2- Some evidence of troubleshooting, testing, and refinements

**3- Clear evidence of troubleshooting, testing, and refinements**

4- Clear evidence of troubleshooting, testing, and refinements based on researched or proven data, and/or was explained using scientific principles

## Ask

1- Student refused to participate in any kind of meaningful discussion during the Debrief

2- Student shows no interest in and/or does not try to contribute ideas for possible modifications during the Debrief

**3- Student offers ideas or agrees with partners' ideas for possible modifications during the Debrief**

4- Student offers innovative scientific principles and/or ideas for possible modifications during the Debrief

## Collaborate

1- Student was disruptive and/or did NOT follow rules and/or directions, or respect boundaries, or work well with others, or their partner/s did most of or all the work

2- Student had significant trouble following rules and/or directions, and/or working with others, and/or most of the responsibilities were placed on others

**3- Student was respectful and worked well while following the rules and directions during all lesson segments. Student was successful in working with others, and equitably shared responsibilities as well as materials**

4- Student was respectful and worked remarkably well during all lesson segments, while working with others, and equitably shared responsibilities. In addition, helped other students to find innovative ways to participate well beyond what was mentioned in the lesson

**JediJill's S.T.E.M. Lab Design Challenge 7<sup>th</sup> – 12<sup>th</sup> Rubric: 15 points = 100%**

**Researching & Generating Ideas**

**1** Refuses to contribute ideas or documented research. Produces incomplete sketches. Does not present a concept.

**2** Contributes one plausible idea but offers nothing further based on documented research. Produces marginally accurate pictorial and orthographic sketches of design concepts.

**3** Contributes multiple plausible ideas based on documented research. Produces accurate pictorial and orthographic sketches of design concepts.

**4** Contributes multiple plausible ideas based on documented research. Produces accurate pictorial and orthographic sketches of design concepts. Helps team member/s to complete research and gently offers ideas to team members who are "stuck".

**Exploring Possibilities**

**1** Refuses to analyze the pluses and minuses of a variety of possible solutions.

**2** Offers only one idea to analyze the pluses and minuses of a possible solution.

**3** Satisfactorily analyzes the pluses and minuses of a variety of possible solutions.

**4** Thoroughly analyzes the pluses and minuses of a variety of possible solutions. Waits patiently to share information when it is called for.

**Making a Prototype**

**1** Prototype does not meet more than 2 of the task criteria.

**2** Prototype meets the task criteria to a limited extent.

**3** Prototype meets the task criteria.

**4** Prototype meets the task criteria in insightful ways.

**Refining the Design**

**1** Refuses to make any refinements.

**2** Refinement based on testing and evaluation is not evident.

**3** Refinements made based on testing and evaluation results.

**4** Significant improvement in the overall design is made based on prototype testing and evaluation

**Performance**

**1** Finished solution (product) steps were not completed within the stated time constraints and was in no way ready for performance.

**2** Finished solution (product) still fails to meet specifications after team lead offered practical revision suggestions.

**3** Finished solution (product) meets specifications.

**4** Finished solution (product) exceeds specifications.