PROJECT BASED UNIT DEVELOPMENT TEMPLATE

Unit Title: Renaissance Engineers

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Grade Level: 7-8 Allocated Time (Days): 16

Section I: Identifying Standards, Level of Application and Central Theme

Common Core	**UNIT THEME: Section I A:** What is the Essential Question in the Theme? How can science, technology, engineering, and mathematics be used to make a machine?
_x__ ELA _x__ Math _x__ Science _x__ Technical	**Section I B: Identifying Standards:** What content standards does this unit address? (Please include the all subject areas checked on the left.) Math: 8.EE.C.7, 7.NS.A.3 ELA: W.8.2, W.8.3, SL.8.4 Science: S.8.2B.1.1 Technology: ISTE1, ISTE4

Section I C: Define the instructional purpose for the unit of study in terms of relevance to real life applications.
*Real Life Problem Solving
*Cooperation

Section I D: Record below what students have to know and be able to do in order to meet selected targeted standards.

Students will know	**Students will be able to do**
• F=M/A • Law of Motions • Time Position, Velocity, and Acceleration	• Solve one-two step equations • Use measurements to find force and acceleration • Use transition words • Organize items

Section I E: Identify essential questions that will be used in gaining student interest.

- What is a variable
- How do I add, subtract, multiply and divide decimals?
- How do I measure using a balance?
- What is a machine?
- How are you going to use the 5 types of machines to make yours work?

Section II: Complexity of Learning Task and Technology Standards

<table>
<tr><td colspan="2">Section II A: Identifying the level of complexity for each task as matched to common core and NET standards.</td></tr>
<tr><td>Identify Depth of Knowledge</td><td>Identify the learning task that the students will be experience.</td></tr>
<tr><td>☐ 1 Awareness(Recall/Memorize)
☐ 2 Comprehension
☐ 3 Application(Demonstrate Understanding)
☐ 4 Analyze/Hypothesize
☐ 5 Synthesize/Process Information/Investigate
☐ 6. Evaluation (Make Connections)</td><td rowspan="4">1. Screen Chomp Lessons
2. Blog
3. Prezi
4. Make a Machine
5. Practice</td></tr>
<tr><td>Identify Level of Application</td></tr>
<tr><td>☐ Quadrant A: Acquisition
☐ Quadrant B: Application
☐ Quadrant C: Assimilation
☐ Quadrant D: Adaptation</td></tr>
<tr><td>Select matching NETS for Students</td></tr>
<tr><td>☐ 1.Creativity/Innovation
☐ 2.Communication/Collaboration
☐ 3. Research/Information Fluency
☐ 4. Critical Thinking, Problem Solving, /Decision Making
☐ 5. Digital Citizenship
☐ 6. Technology Operations/ Concepts</td><td></td></tr>
<tr><td colspan="2">Section II C: What content language will be included in this unit? Content language will be a part of the ELL component of summer school.
Pulley, Lever, Wedge, Wheel & Axle, Inclined Plane, Screw, Machine, Force, Energy Potential/Kinetic, Laws of Motion, Acceleration</td></tr>
<tr><td colspan="2">Section II D: Identifying technology tools as resources to methods and types of presentations that students will use to demonstrate their learning.</td></tr>
<tr><td colspan="2">iPads: Screen Chomp App
Mini Laptops
Lab Access</td></tr>
<tr><td colspan="2">Section II E: List non-related technology materials and resources needed to support unit standards.
*Notecards
*White boards/markers
*Paper/Pencil
*Playground</td></tr>
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Unit Developer Template

Section III: Identifying Summative and Formative Assessment Types

Identify methods of summative assessment • Final Machine • Blog	Identify the performance assessment content standards measured. Math: 7.NS.A.3 ELA: W.8.2, W.8.3 Science: S.8.2B.1.1
Develop Scoring Criteria • Rubric	Identify tools that will evaluate end of unit assessment. • Rubric • Demonstration of simple machine/project
Identify formative assessment types • Tickets Out • Class Response • White Board • Demonstrations • Self Assessment	

Assessment Type	Learning Target	Frequency
Anecdotal Records Final exams Quizzes Reports Surveys Observations Rubrics Quizzes Essays Questioning	Knowledge Reasoning Performance Product Development	Daily Assessment Weekly Assessment