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| **Course:** Introduction to Engineering | | | | | | |
| **Unit:** Kick out the Ladder | | | | **exercise:** Discussion | | **Time Frame:** 1 Hour |
|  | Preparation: *Summary of “to do’s” that the teacher should understand and prepare before bringing this lesson to the classroom.* | | | | | |
| **Information**  Each exercise will list information students should have before starting the exercise here.  **Materials**  Each exercise will list the appropriate materials needed in this section.  **Tools**  Each exercise will list the appropriate tools needed in this section. | | | | | | |
|  | Safety: *Summary of safety strategies in the lesson.* | | | | | |
| Please use this space to describe safety procedures or highlights for this lesson. | | | | | | |
|  | Desired Results: | | | | | |
| Established Goals: | |  | Transfer: | | | |
| *Problem Solving Techniques and Applications Standards:*  Teachers should use the STEM Academy Standards Correlation System available in the STEM Connections area of a unit to extract specific standards and insert these standards here. | | *Students will be able to independently use their learning to…*   * Set goals to achieve in their lives; * Discuss what it means to be challenged. | | | |
| Meaning: | | | |
| Understandings  *Students will understand that...*   * Setting goals and looking to the future is vital to becoming successful in the future. | | Essential Questions  *Students will keep considering...*   * What different goals they can set for themselves that are obtainable but challenge each student | |
| Acquisition OF KNOWLEDGE AND SKILL: | | | |
| *Students will know...*   * Why it is important to set goals; * What it means and why it is important to be challenged. | | *Students will be skilled at...*   * Setting goals for themselves; * Goal monitoring; * Progress monitoring. | |
|  | Evidence: | | | | | |
| Evaluative Criteria: | |  | Assessment Evidence: | | | |
| * Engaged | | | *Performance Task(s):*  Discussion | | | |
|  | Learning Plan: *Summary of Key Learning Events and Instruction* | | | | | |
| 1. **Set Introduction**   Before starting the video in today’s lesson, challenge your students with these questions:   * What does it mean for something to be impossible? * 30 years ago there were no desktop computers, no cell phones and a different war in the east. Can we even begin to image what the next 30 years will hold? The next 100 years? * How do you achieve the impossible? Does it help to challenge yourself, or just “go with the flow”?  1. **Play the Video** 2. **Discussion**   After the video, open your classroom up to discussion. Give the students time to first formulate their own responses and questions they may have.   1. **Questions**   If a discussion of the video does not develop use some questions and statements to guide them:   * Talk to students about some of the challenges you faced in your life. These might include a high school class you didn’t understand, a college project that was difficult, moving away from family and friends for school or a job, etc. * What does kicking out the ladder mean? Have you ever felt like someone kicked the ladder out from under you? How did you deal with that challenge? * “Achieving the impossible is what sets apart the great leaders of our society. In 1961 it was impossible for a black man to do much of anything in America. Parts of the country still had segregated schools and racism was highly prevalent. Some universities were just starting to allow black students in to heir classrooms, but in 2008 Barack Obama achieved the impossible and became the first ever black president.” What other famous persons can you think of that achieved the impossible?  1. **Conclusion**   In conclusion, give your students a writing assignment. Ask them to write about something they think is impossible in their own lives.   * Making all As in school * Graduating from college * Becoming president * Going to the moon, or even living on the moon   Afterwards have them write what they plan to do in order to achieve the impossible   * Study more * Applying themselves in high school * Working on their leadership skills * Becoming an engineer   Have your students keep their paper in their folder to remind them that with the right mindset and tools they can achieve their impossible.  **Progress Monitoring:**   * The instructor will need to monitor the classroom, checking student’s work and ensuring students are on task and following directions. * Ensure students store their projects at the end of class and leave all materials in the room. * At the end of the activity, post student projects in the room and provide appropriate feedback. | | | | | | |
|  | Differentiation: *Summary of Key Differentiation Techniques* | | | | | |
| Please use this space to insert your differentiation techniques. Depending on the needs of students, various techniques might be needed in a classroom, therefore use the information below and experts in the area needed to design your plan for differentiation.  The ASCD Study Guide for Integrating Differentiated Instruction and Understating by Design: Connecting Content and Kids.  by Carol Ann Tomlinson, Jay McTighe  Integrating Differentiated Instruction and Understating by Design: Connecting Content and Kids.  by Carol Ann Tomlinson, Jay McTighe  ISBN-13: 978-1416602842  ISBN-10: 1416602844  Differentiating Reading Instruction  *by Laura Robb.*  ISBN13: 9780545022989  A Teacher's Guide to Differentiating Instruction  The Center for Comprehensive School Reform and Improvement | | | | | | |

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|  | career Connections: *Summary of Career Opportunities Associated with this Lesson* |
| Please use this space to insert careers that might be connected to this lesson. This section will need continuous updating as new careers and emerging technologies change the opportunities available in the workforce.  Good sources for career connections:  Occupational Outlook Handbook  <http://www.bls.gov/ooh>  The National Career Clusters® Framework  <http://www.careertech.org/career-clusters> | |
|  | Keywords: *Please Insert Keywords from this Lesson with their Definitions* |
| Please use this space to insert keywords and their definitions  Use resources like [dictionary.com](http://dictionary.reference.com/) to find definitions to your keywords | |