**Online Resources:**

**Lesson 1:Game Maker**

**For Class:**

* [Gravity Video Clip](https://www.youtube.com/watch?v=vKW-Gd_S_xc)
* [Wall-E Video Clip](https://www.youtube.com/watch?v=RmG5tUCrrsA)
* [Space Book Intro Video](https://vimeo.com/124972284)
* [Space Book Website](http://apps.agi.com/satelliteviewer/)
* [Group Consensus Protocol](https://docs.google.com/document/d/177LqoKfbhX1Z-pm4rQxDqIK8d0nbS3EvaKrBodps5uY/edit)
* [Discussion Diamond Documents](https://drive.google.com/open?id=1DBeUwYhtk6cuCQqe2MfYGYUlND6rbw7U)
* [Space Cadet Academy Guidebook](https://drive.google.com/drive/u/0/search?q=space%20cadet%20academy%20guide%20book)

**For Guidebook**

* [**http://universitylearningstore.org/blog/digital-badges-can-boost-linkedin-profile-recruiters/**](http://universitylearningstore.org/blog/digital-badges-can-boost-linkedin-profile-recruiters/)
* <https://www.yoyogames.com/get>
* <https://unity3d.com/unity>
* <http://www.rpgmakerweb.com/>
* <https://scratch.mit.edu/projects/18641/>
* <https://www.tynker.com/>

**Lesson 2: Researcher:**

**For Class:**

* [Space Debris 1957-2016](https://www.youtube.com/watch?v=O64KM4GuRPk)
* <http://easyscienceforkids.com/all-about-space-junk/>
* <https://www.natgeokids.com/nz/discover/science/space/space-junk-strange-things-in-space/#!/register>
* <http://www.bbc.com/news/world-us-canada-39521406>
* <https://www.popsci.com/technology/article/2010-07/cluttered-space>
* <https://www.nasa.gov/audience/forstudents/5-8/features/nasa-knows/what-is-a-satellite-58.html>
* <https://www.nasa.gov/audience/forstudents/5-8/features/nasa-knows/what-is-orbit-58.html>
* <http://www.esa.int/esaKIDSen/SEMESIXJD1E_Liftoff_0.html>
* <http://news.mit.edu/2017/space-junk-shards-teflon-0619>
* <https://www.nasa.gov/mission_pages/station/news/orbital_debris.html>

**For Guidebook**

* <http://apps.agi.com/satelliteviewer/>
* <https://www.sciencenewsforstudents.org>
* <https://spaceplace.nasa.gov/>
* <https://newatlas.com>
* [https://www.dogonews.com](https://www.dogonews.com/)

**Lesson 3: PhEt expert:**

**For Class:**

* [**https://phet.colorado.edu/en/simulation/legacy/gravity-and-orbits**](https://phet.colorado.edu/en/simulation/legacy/gravity-and-orbits)
  + ***Requires account set up:*** [https://phet.colorado.edu/en/register?dest=%2F\](https://phet.colorado.edu/en/register?dest=%2F%5C)
* [**https://phet.colorado.edu/en/contributions/view/3401**](https://phet.colorado.edu/en/contributions/view/3401)

**For Guidebook:**

* <https://phet.colorado.edu/>
* <http://www.google.com/sky/>
* <https://space.jpl.nasa.gov/>
* ***Youtube:*** [What the Physics?](https://www.youtube.com/channel/UCj1gfrsi8H8zTrmR0ft1Kjw)

**Lesson 4: Materials specialist:**

**For Class:**

* [**https://www.youtube.com/watch?v=cWx0vdoJ-qc**](https://www.youtube.com/watch?v=cWx0vdoJ-qc)
* <https://www.nap.edu/read/2351/chapter/7#48>
* [http://hpf.psu.edu/2014/09/29/mli-blankets/ https://www.nap.edu/read/2351/chapter/7#47](http://hpf.psu.edu/2014/09/29/mli-blankets/)
* <https://www.nasa.gov/centers/johnson/pdf/584733main_Wings-ch4g-pgs270-285.pdf>
* <https://www.nasa.gov/vision/space/gettingtospace/16sep_rightstuff.html>

**For Guidebook**

* <http://www.sciencekids.co.nz/gamesactivities/materialproperties.html>
* <http://tryengineering.org/become-an-engineer/materials-engineering>

**Lesson 5: Engineering design:**

**For Class:**

[**What Does an Engineer Do**](https://www.youtube.com/watch?v=a2zYEuIcLMA)

**For Guidebook**

* <https://www.engineergirl.org/>
* ***Youtube:*** [NASA - NASA for Kids: Intro to Engineering](https://www.youtube.com/watch?v=wE-z_TJyziI)
* ***Youtube:*** [Crash Course Kids - What is an engineer?](https://www.youtube.com/watch?v=owHF9iLyxic)
* <http://tryengineering.org/home>

**Lesson 6: Master builder:**

**For Class:**

# [Space Debris removal mission animation](https://www.youtube.com/watch?v=7CEH9V9psKY)

**For Guidebook**

* <https://www.onshape.com/>
* <https://www.lego.com/en-us/ldd>
* <https://www.sketchup.com/>
* <https://archkidecture.org/>

**Supplemental Resources**

* https://www.teachingchannel.org/videos/participation-protocol-ousd

**Lesson 7:Optimizer:**

**For Class:**

# ***Youtube***: [Elon Musk On What Went Wrong With SpaceX's Falcon Heavy Flight](https://www.youtube.com/watch?v=NwCsuAeamXE)

**For Guidebook:**

* <https://www.space.com/14379-apollo1-fire-space-capsule-safety-improvements.html>
* <https://www.sciencebuddies.org/science-fair-projects/engineering-design-process/engineering-design-process-steps>

**Lesson 8: Presenter:**

**For Class:**

* ***Youtube:*** [Design Presentation](https://www.youtube.com/watch?v=3wRWN3_u17k)

**For Guidebook**

* ***Youtube:*** [Physics Woman](https://www.youtube.com/user/physicswoman/featured)
* ***Youtube:*** [Design Presentation](https://www.youtube.com/watch?v=3wRWN3_u17k)
* ***Ted Talk:*** [9 talks by Impressive Kids](https://blog.ted.com/9-talks-by-impressive-kids/)

**Lesson 9:Analyzer:**

**For Guidebook**

* <http://www.agi.com/home>
* ***Youtube:*** [Crash Course Kids: The Engineering Process](https://www.youtube.com/watch?v=fxJWin195kU)

**Supplemental Resources**

* <https://www.nasa.gov/audience/foreducators/index.html>
* <https://www.teachingchannel.org/videos/students-reflect-on-learning-exl>