**THINK TANK MESA MODEL OF INSTRUCTION**

**Identify Problem/Needs:**

 *Engage*

\*Set parameter of the focus (guiding questions)

\*Frame the idea - problem statement

\*Create interest and motivate - an example

**Research/Explore:**

 *Explore*

 \*Introductory activities/small scale investigations

 \*History of the problem - how technology has evolved

 Inquire, brainstorm - explore different designs

 \*Content Instruction - science/math concepts - depth based on grade

 Share ideas - team or class (tie back to Introductory activities)

**Develop Possible Solutions**

*Extend/Elaborate*

 Read [Rules](http://mesa.ucop.edu/staff/mesa-day-rules/)/Identify [constraints](https://drive.google.com/open?id=1NH_BFSXsIs3PPPf6S0xYQwVSV5_9LSzuK5_32pLuI2Y) - including [costs](https://drive.google.com/open?id=1_C9rxe3o-wRZiz24LBLgmR2AsqHyCx35edPbohaBMFQ)

 Apply Research to develop possible solutions

 \*Explain concepts being explored - science/math concepts

 Use prior knowledge to ask questions, and make judgments

**Choose Best Solution**

 *Explain* (at minimum, in their log book)

 \*\*Provide reasonable conclusions and solution

Communicate design ([blueprint included](https://docs.google.com/document/d/1QEB_3ypchTfIvDP3velQv2EJY0m-ZcqPd3nJ6T2uD80/edit)) choice based on previous findings/research

**Create Prototype:**

 Build project based on plans and cost analysis (itemized budget sheet)

**Test and Evaluate:**

 *Test*

 Compare prototype to specifications

 \*Test prototype, where applicable

*Evaluate*

\*Identify strengths and weakness of the design

 Assess knowledge gained from the experience - reflection

 Document and communicate results

**Redesign (Make it Better):**

 *Explain/Extend/Elaborate* based on findings of Test and Evaluate of Prototype.