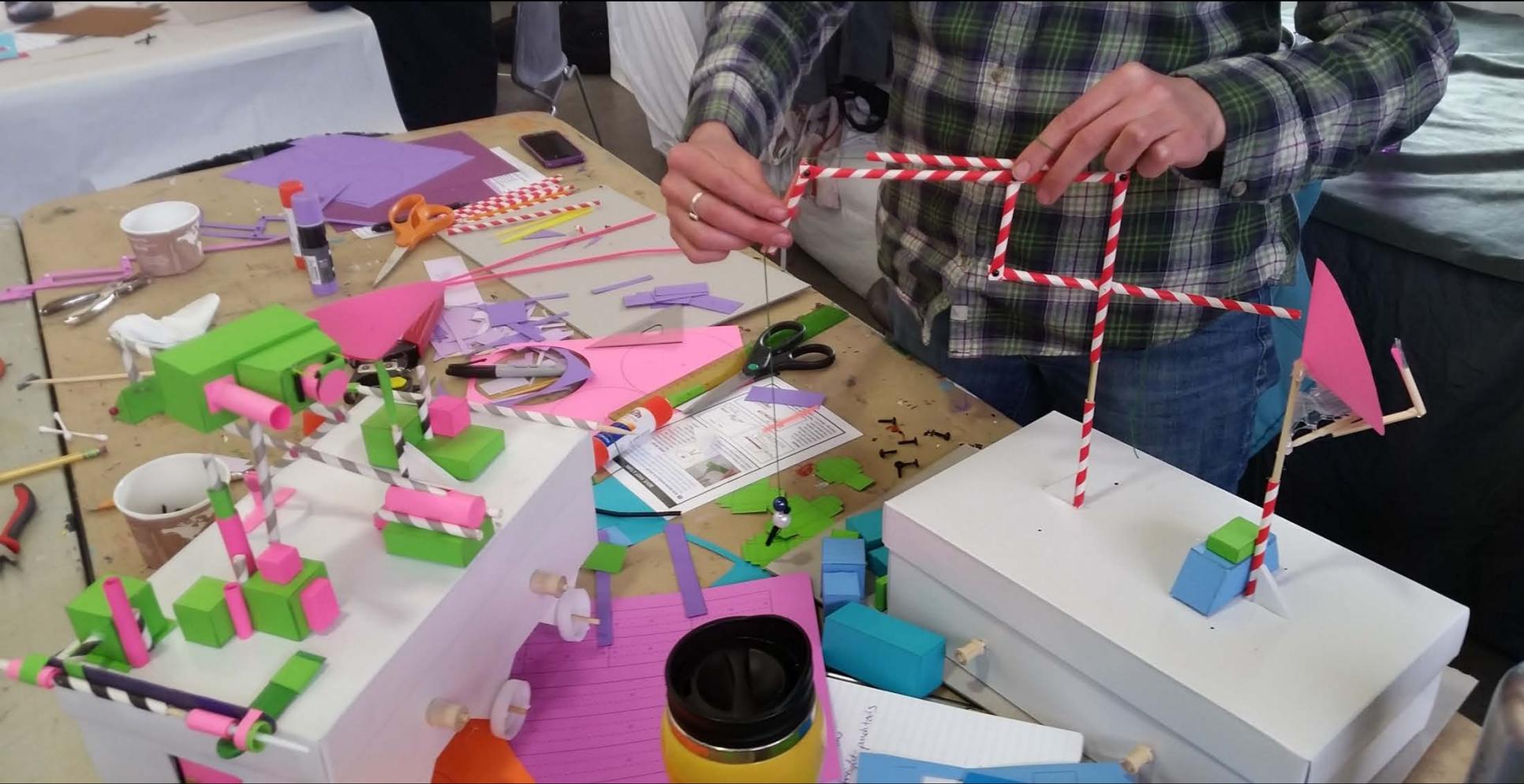




MISSIONMakers



NASA Discovery and New Frontiers Programs

discovery.nasa.gov



MISSIONMakers SUITE



- **Learner Guides**
 - Visually rich
 - Unpack and model concepts
- **Inspiration Image Decks**
 - NASA mission inspired
- **Maker Videos**
 - Show how it's done
- **Leader Resources**
 - Guides & Annotated PowerPoint
 - Standards Alignment
- **Guided to Open Challenges**
 - Simple to Complex Machines
 - Scaffold Investigation

Transform STEM learning through Art & Making experiences!



MISSIONMakers: Shoebox Rovers

TIP 1: WE ARE ALL EXPLORERS & ENGINEERS!



Create, Share, Celebrate

TIP 2: BECOME A CO-LEADER, CO-LEARNER



Transform teaching to transform learning

TIP 3: ANY PLACE CAN BE A “MAKER SPACE”



Build knowledge through problem and maker-based learning

TIP 4: PROCESS, PROCESS, PROCESS



Unite design, engineering and artistic practice

TIP 5: FAILURE IS OPPORTUNITY



Collaborate to Find Solutions

SIMPLE MACHINE SHOEBOX ROVER



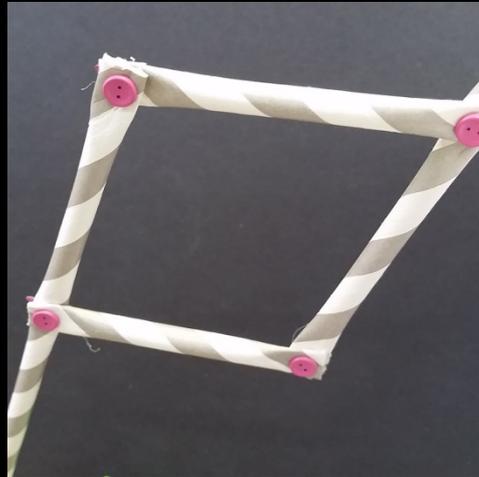
HIGHLIGHTS

- NASA Mission Inspired
 - Build Engineering Literacy
 - Apply Math Skills
- Scaffolds Investigation
 - Simple to Complex Machines
 - Guided to Open Challenges
- Learner-led
 - Process Focus
 - Collaborative
- Scalable for Any Age, Any Space
 - Inexpensive & Up-cycled Materials

SIMPLE MACHINES



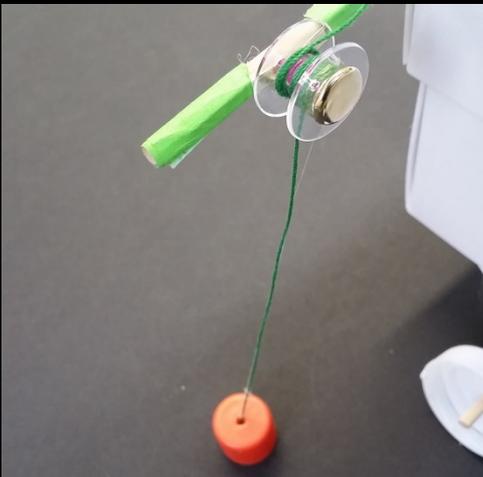
Wheel & Axle



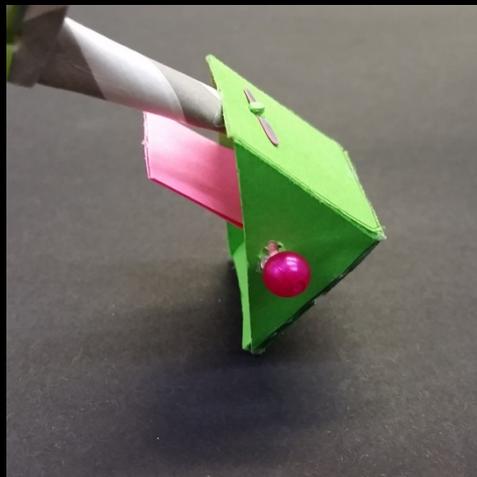
Lever



Inclined Plane



Pulley



Wedge



Screw

SHOEBOX ROVER



YOUR MACHINE SYSTEMS

1. Automata Instrument Mount - Cameras & Communications
2. Locomotion System
3. Robotic Arm
4. Sample Collector
5. Pulley Arm
6. Ramp & Mini Instrument
7. Drill Arm
8. Other Science & Engineering Instruments