

CARD NAME	COST	MASS	POWER SUPPLY	POWER DRAW	SCIENCE RETURN	LIFT	JUSTIFICATION
MARS HABITAT MISSION							
Fuel Cell	8	15	60				Backup Power
Multi-Mission Radioisotope Thermoelectric Generator	20	20	50				Primary Power
Low-Gain Antenna	2	1		3	1		Backup Data Antenna
High-Gain Antenna	4	1		5	2		Primary Data Antenna
Main Memory Card	3	1		3	3		Required Data Storage
Robotic Arm	4	16		1	3		Habitat Initialization / Setup
Rotating Instrument Mount	4	5		1	0		Habitat Initialization / Setup
Advanced Microprocessor	5	2		4	5		Primary CPU
Main Bus	8	5		5	3		Main BUS for MARs Mission
Heimdall Camera	5	3		1	1		WHATS NEEDED FOR THIS MISSION
Infrared Spectrometer	8	3		3	4		WHATS NEEDED FOR THIS MISSION
Radiation Sensor	2	1		1	1		WHATS NEEDED FOR THIS MISSION
Laser Topography Mapper	7	5		2	3		WHATS NEEDED FOR THIS MISSION
CO2 Conversion Tool MOXIE	10	4		2	8		WHATS NEEDED FOR THIS MISSION
Sample Collection Device	6	5		1	5		WHATS NEEDED FOR THIS MISSION
Magnetometer	4	1		2	1		WHATS NEEDED FOR THIS MISSION
Navigation Cameras (NAVCAMS)	8	1		2	5		WHATS NEEDED FOR THIS MISSION
Weather Sensor	5	4		2	3		WHATS NEEDED FOR THIS MISSION
Habitable Mobility Platform (HMP)	10	15		10	8		Habitat
Surface Exploration Vehicle (SEV)	7	10		5	6		Rover (Required)
Tracks	12	10		12	2		Tracks for reliability / TIRES?
Retro Rockets	10	40		0	5		Rover / OTHER SUGGESTIONS TO CUT MASS
Hypersonic Parachute	8	20		0	3		Rover / OTHER SUGGESTIONS TO CUT MASS
Retro Rockets	10	40		0	5		Habitat / OTHER SUGGESTIONS TO CUT MASS
Hypersonic Parachute	8	20		0	3		Habitat / OTHER SUGGESTIONS TO CUT MASS
Aeroshell	20	20		0	5		Rover / OTHER SUGGESTIONS TO CUT MASS
Aeroshell	20	20		0	5		Habitat / OTHER SUGGESTIONS TO CUT MASS
Mars Mission Total	218	288	110	65	90	0	

REQUIREMENT

REDUNDANCY

NEED INPUT

MOON ROVER MISSION							
Medium-Power Solar Panel	3	8	40				Power
On-Board Battery	5	5	0				Power Storage
Low-Gain Antenna	2	1		3	1		Backup Data Link
High-Gain Antenna	4	1		5	2		Primary Data Link
Main Memory Card	3	1		3	3		Required Data Card
Standard Microprocessor	2	1		2	5		Moon Mission CPU
Main Bus	8	5		5	3		Moon Missionn BUS
Magnetometer	5	1		2	1		PLACEHOLDER
Radiation Sensor	10	1		1	1		PLACEHOLDER
Surface Exploration Vehicle (SEV)	7	10		5	6		Rover
Wheels	10	8		10	1		Cost Effective Solution
Heat Shield	5	20		0	3		Rover
Hypersonic Parachute	8	20		0	3		Rover
Airbags	5	10		0	2		Rover / CAN WE REMOVE
Moon Mission Total	77	92	40	36	31		

Heavy Lift Rocket	50					240	LIFT
Heavy Lift Rocket	50					240	LIFT
Rocket Nose Cone	5	5				0	REQUIRED
Lift Total	105	5	0	0	0	480	

COMPLETE MISSION PROJECT TOTAL	400	385	150	101	121	480	
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