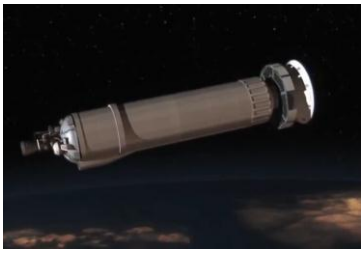
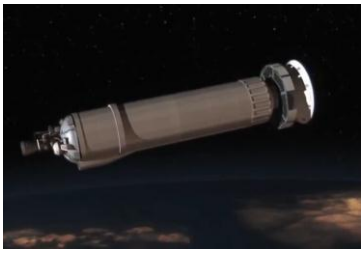


Centaur 50th Anniversary Engineering Design Challenge "Pushing the Limits"

Assessment Rubric (Tri-Fold Poster and Essay)

Team Name: _____ School: _____

	Developing (1)	Approaching (3)	Meeting (5)	Score
Poster Board				
Required Elements	Poster is missing one or more steps of the engineering design process.	All steps of the engineering design process are included, but one or more steps are missing ties to the group's design.	Each step of the engineering design process is highlighted sequentially and specifics of the design are clearly defined.	
Visual Aids (charts, tables, photos and illustrations)	Visual aids are absent, are confusing, or detract from the group's poster presentation.	Most visual aids contribute positively to the poster. One or more visuals seem to be placed haphazardly.	All visual aids are appropriately placed, and contribute positively to the design explanation	
Aesthetics	Poster is disorganized, sloppy, or falling apart.	Poster is organized and is understandable. It is neatly handwritten with minimal smudges or erasure marks.	Poster is expertly organized and very easy to follow. Poster is cleanly typewritten and uniform.	
			Total Poster Board Score	
Written Essay				
History/Significance of Centaur	Element is missing	Element is present but is minimally discussed.	Essay concisely explains the history of rocket.	
Uniqueness of Centaur	Element is missing	Element is present but is minimally discussed.	Essay concisely explains features of Centaur that were new and unique.	
Centaur-launched Mission Highlight	Element is missing	Element is present but is minimally discussed.	Essay highlights a NASA mission that used the Centaur rocket to launch.	
Relevance to Today's Society	Element is missing	Element is present but is minimally discussed.	Essay defines how the Centaur has contributed to everyday life.	
Writing Mechanics	Essay has many spelling and grammatical errors. It lacks structure or organization.	Essay has minimal spelling or grammatical errors. It lacks a strong introduction or conclusion, or it exceeds 500-word limit.	Essay has no spelling or grammatical errors. It has an introduction and conclusion supported by the body of the essay.	
			Total Written Essay Score	
Poster Presentation				
Evidence of Expertise	Presenters read directly from notes or slides. Students answered questions incorrectly or did not answer questions about the project.	Students presented investigation with notes or other visuals for support. Students answered questions with hesitation or uncertainty.	Presented confidently with little help from notes. Presenters were able to confidently and accurately answer questions about the investigation.	
Verbal Skills	Presenters mumbled or were otherwise inaudible. Presenters used filler words ("um", "like", "you know", etc.) enough to be distracting.	Presenters were mostly loud and clear; only one point was difficult to hear. Presenters resorted to filler words infrequently but it did not detract from presenting.	Presenters spoke clearly and loud enough to be heard. Presenters avoided the use of filler words.	
Eye Contact	Presenters spent most of the conversation looking down or away from those speaking with them.	Presenters, at one point, looked down or away at something distracting.	Presenters maintained eye contact with those speaking with them.	
			Total Poster Presentation Score	



Centaur 50th Anniversary Engineering Design Challenge "Pushing the Limits"

Assessment Rubric (Design Challenge)

Team Name: _____ School: _____

	Developing (1)	Approaching (3)	Meeting (5)	Score
Design Challenge Solution				
Rocket vehicle meets dimensional requirements	Entire vehicle (not including any balloons) does not fit within a 15-centimeter by 25-centimeter perimeter, and cannot hold a payload of 25 grams in a standard 3-ounce paper cup.	Entire vehicle (not including any balloons) does not fit within a 15-centimeter by 25-centimeter perimeter, or cannot hold a payload of 25 grams in a standard 3-ounce paper cup.	Entire vehicle (not including any balloons) fits within a 15-centimeter by 25-centimeter perimeter and can hold a payload of 25 grams in a standard 3-ounce paper cup.	
Vehicle capability to Start, Stop, then Start again	Vehicle does not start from launch area.	Vehicle effectively starts from the launch area and stops, but does not restart.	Vehicle effectively starts from the launch area, stops, then starts again	
Mid-Course Correction (bonus for autonomous)	No mid-course correction is completed.	Mid-course correction is completed before the vehicle comes to a complete stop.	Mid-course correction is completed after the vehicle comes to a complete stop and before it is restarted. ***Score double (10) if mid-course correction is completed without touching the vehicle.***	
Staying on Playing Field	Vehicle does not start completely within the launch area, **or** leaves the Challenge field **or** makes contact with Earth after launch (2+ violations)	Vehicle does not start completely within the launch area, **or** leaves the Challenge field **or** makes contact with Earth after launch (1 violation)	Vehicle starts completely within the launch area, does not leave the Challenge field and does not make contact with Earth after launch.	
Reaching Rendezvous Point	When the vehicle finally stops, any part of the payload sits outside of the outer-most ring of the Rendezvous Point. No score (0) if no part of the payload reaches the Rendezvous Point.	When the vehicle finally stops, any part of the payload sits over the second-outer-most ring of the Rendezvous Point.	When the vehicle finally stops, any part of the payload sits over the second-inner-most ring of the Rendezvous Point. *Score double (10) if any part of the payload sits above the center circle.*	
			Total Design Challenge Solution Score	
Design Innovation				
Good use of resources	Design solution demonstrates some effective use of resources.	Design solution demonstrates considerably effective use of resources.	Design solution demonstrates exceptionally effective use of resources.	
Originality	Solution utilizes a basic design to accomplish challenge goals.	Solution utilizes an enhanced design to accomplish challenge goals.	Solution utilizes a very novel design to accomplish challenge goals.	
Aesthetic	Design could use some improvement in terms of visual aesthetics.	Design is aesthetically pleasing.	Design is visually stunning and dramatic.	
			Total Design Innovation Score	
			Total From First Page	
			OVERALL SCORE	