

Mission Points Worksheet

NAR/Team # _____

General Guidelines ~ these apply to all Mission elements

Least Points

Mid-Range Points

Most Points

	* Vague emulation of the function * Unchallenging function to emulate * Poor documentation of the function * Poor operation or outcome	Award points in this range unless there are specific reasons to award less or more points	* Accurate emulation of the function * Challenging to realistically emulate * All aspects are well-documented * Successful operation or outcome																																																																																																																																											
	Category-Specific Guidelines/Examples			Flight 1 / 2																																																																																																																																										
Staging 15-30 points per staging event 50 points maximum all stages	~ 15 points Short booster with tumble recovery Non-scale staging location (5-10 pts)	~ 20-25 points	~ 30 points Upper stage stability augmentation (e.g. pop-out fins) Delayed upper stage ignition	Stage 2 ___/___ Stage 3 ___/___																																																																																																																																										
Jettisoned Assemblies 5-20 points per assembly 50 points maximum	~ 5 points Non-scale op (e.g. ejects with chute) Non-scale sequencing of jettison	~ 10-15 points	~ 20 points Scale-like and visible jettison of assembly Proper sequencing of jettison per documentation	1 ___/___ 2 ___/___ 3 etc ___/___																																																																																																																																										
Payload Operation 5-25 points 50 points maximum	~ 5 points Unrepresentative payload or operation No result from payload (0 pts)	~ 15 points Altimeter, air sampler, accelerometer, camera, etc	~ 25 points Extra realism (e.g. "scale" view from camera) Well-documented outcome	1 ___/___ 2 ___/___ 3 etc ___/___																																																																																																																																										
Glide Recovery 15-50 points per gliding part 50 points max all gliding parts	~ 15 points Poorly trimmed glide (stalls, etc) Unrealistic glide path angle	~ 35 points Minor trim problems	~ 50 points Proper trim, no "unscale" oscillations or motions Realistic glide path angle	1 ___/___ 2 ___/___ 3 etc ___/___																																																																																																																																										
Deployment Operation 5-20 points 20 points maximum	~ 5 points Barely representative operation Poor result (e.g. incomplete deployment)	~ 15 points	~ 20 points Accurate implementation of complex deployment Realistic, visible deployment	1 ___/___ 2 ___/___ 3 etc ___/___																																																																																																																																										
Active Guidance 10-50 points 50 points maximum	~ 10 points Poor or minimally visible control Unrealistic flight path	~ 25 points Somewhat emulates the prototype's flight path	~ 50 points Precise emulation of prototype's documented flight path/attitudes during boost, transition & recovery	___/___																																																																																																																																										
Minor Effects/Functions 5 points per function	5 points each Examples: Rocket spin, chaffe ejection, tracking smoke/flare, non-vertical "scale" launch angle			1 ___/___ 2 etc ___/___																																																																																																																																										
Clustering 60 points maximum Primary Motor = Within two impulse categories of largest motor in a stage Secondary Motor = More than two impulse categories smaller than the largest motor in a stage	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> Points for Ignited Clustered Motors </div> <table border="1" style="margin-top: 10px;"> <thead> <tr> <th colspan="2"></th> <th colspan="11">Secondary Motors (all stages combined)</th> </tr> <tr> <th colspan="2"></th> <th>0S</th><th>1S</th><th>2S</th><th>3S</th><th>4S</th><th>5S</th><th>6S</th><th>7S</th><th>8S</th><th>9S</th><th>10S</th><th>11S</th> </tr> </thead> <tbody> <tr> <td>1P</td><td>Primary Motors (all stages combined)</td> <td>0</td><td>12</td><td>15</td><td>18</td><td>21</td><td>24</td><td>27</td><td>30</td><td>33</td><td>36</td><td>39</td><td>40</td> </tr> <tr> <td>2P</td><td></td> <td>16</td><td>19</td><td>22</td><td>25</td><td>28</td><td>31</td><td>34</td><td>37</td><td>40</td><td>40</td><td>40</td><td>40</td> </tr> <tr> <td>3P</td><td></td> <td>20</td><td>23</td><td>26</td><td>29</td><td>32</td><td>35</td><td>38</td><td>40</td><td>40</td><td>40</td><td>40</td><td>40</td> </tr> <tr> <td>4P</td><td></td> <td>24</td><td>27</td><td>30</td><td>33</td><td>36</td><td>39</td><td>40</td><td>40</td><td>40</td><td>40</td><td>40</td><td>40</td> </tr> <tr> <td>5P</td><td></td> <td>28</td><td>31</td><td>34</td><td>37</td><td>40</td><td>40</td><td>40</td><td>40</td><td>40</td><td>40</td><td>40</td><td>40</td> </tr> <tr> <td>6P</td><td></td> <td>32</td><td>35</td><td>38</td><td>40</td><td>40</td><td>40</td><td>40</td><td>40</td><td>40</td><td>40</td><td>40</td><td>40</td> </tr> <tr> <td>7P</td><td></td> <td>36</td><td>39</td><td>40</td><td>40</td><td>40</td><td>40</td><td>40</td><td>40</td><td>40</td><td>40</td><td>40</td><td>40</td> </tr> <tr> <td>8P</td><td></td> <td>40</td><td>40</td><td>40</td><td>40</td><td>40</td><td>40</td><td>40</td><td>40</td><td>40</td><td>40</td><td>40</td><td>40</td> </tr> </tbody> </table>			Secondary Motors (all stages combined)													0S	1S	2S	3S	4S	5S	6S	7S	8S	9S	10S	11S	1P	Primary Motors (all stages combined)	0	12	15	18	21	24	27	30	33	36	39	40	2P		16	19	22	25	28	31	34	37	40	40	40	40	3P		20	23	26	29	32	35	38	40	40	40	40	40	4P		24	27	30	33	36	39	40	40	40	40	40	40	5P		28	31	34	37	40	40	40	40	40	40	40	40	6P		32	35	38	40	40	40	40	40	40	40	40	40	7P		36	39	40	40	40	40	40	40	40	40	40	40	8P		40	40	40	40	40	40	40	40	40	40	40	40	Points Awarded for Cluster Realism: Starting from 10 points, deduct for deviations from the "scale" locations of the motors. 0 points if locations can't be determined from the substantiation data. Points Awarded for Air-Start: 10 points for air-start ignition of motor(s). Deduct up to 5 points for out-of-sequence ignition. 0 pts if not documented.	Ignited Motors: ___/___ Cluster Realism: ___/___ Air-start: ___/___
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Additional Notes: * Failure of a function (e.g. a cluster motor misfire) doesn't result in deduction of Mission points, though it may impact the General Flight score. * All of the attempted Mission elements must be documented in the scale substantiation data. Exceptions: Staging (if the prototype is obviously a multistage vehicle); Vehicle spin (if the prototype is an unguided sounding rocket); Glide recovery (in the case of winged vehicles). * Deployment Operation is a change in the external configuration of the airframe by parts which remain attached to the airframe (e.g. landing gear deployment, drag flap deployment, scale spring-loaded fins). Also includes a sequenced recovery system (e.g. drogue chute/main chute).				Mission Points ___/___ (add to General Flight score to get Flight Points score)																																																																																																																																										