

# Flying Start Challenge



## Rocket Launcher Challenge – Teacher Guide

**AIRBUS**

**ATKINS**  
Member of the SNC LevelIn Group

**BAE SYSTEMS**



ROYAL NAVY  
**FLEET AIR ARM**  
MUSEUM



 **LEONARDO**  
HELICOPTERS

**MBDA**  
MISSILE SYSTEMS



 **SAFRAN**

# Information

All of the information needed to complete the activity, including relevant theory info, is included in the other document.

The activity includes questions as well as a competition at the end. An example mark scheme is included below but it may be up to the marker to adapt this depending on the class's ability. (/30 marks)

1. Did you succeed in creating a rocket launcher?  
*1 mark for yes*
2. Which materials did you use for your rocket launcher?  
*1 mark for detailed list*
3. If you could have had access to materials that were different than those provided, what would you have requested? Why?  
*2 marks for material ideas (stronger and lighter materials)*  
*2 marks for why (more power and less gravity)*
4. Do you think engineers have to adapt their original plans during the construction of products? Why might they?  
*1 mark for yes*  
*1 mark for suggestions that things aren't the same in theory as reality or changes in requirements during construction*
5. If you had to do it all over again, how would your design change? Why?  
*1 mark for any improvements*  
*2 marks for logical reasons (or stating no and with valid explanation)*
6. What designs or methods did you try that you thought worked well?  
*1 mark for any evidence of using various designs*  
*1 mark for any evidence of different methods*
7. Do you think you would have been able to complete this project easier if you were working in a team?  
*1 mark for good reasoning*  
*1 mark for relating team work to 'real life' or engineering*

This gives a total of 15 marks for the written section

We would then suggest an additional 15 marks for the rocket itself using the table below:

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Marking Criteria	Choose between 1 (weakest) to 5 (strongest) – base on level of effort				
	1	2	3	4	5
Visual Design	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Build quality (followed the guide well)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Distance Rocket Travelled*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

\* Teacher will need to scale marks according to class's results

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