

**Project 1.1.1 Aerospace Evolution**

Introduction

The aerospace industry was born with the transformation of ancient myth to the reality of powered human flight in 1903. The aerospace industry began modestly then developed rapidly into a multibillion dollar global industry through the work of inspired scientists, engineers, and dreamers. Today’s aerospace industry consists of both government and privet entities dedicated to the research, development, and production of systems relating to the travel of vehicles in earth’s atmosphere and surrounding space.

In this activity your class will work as a research team to gather information and create an aerospace evolution documentary, relating to the major advances within the aerospace industry. Research should begin with the first successful human powered flight in 1903 and conclude with current aerospace research and development.

Equipment

* Computer with video editing or Microsoft® PowerPoint® software
* Engineering notebook

Procedure

In this activity you will work within a research team lead by your teacher to develop an aerospace evolution documentary. Within the research team you will be responsible for the contribution of research artifacts relating to the cause and effect of a major aerospace industry milestone.

1. On your own, without conducting research, list ten major aerospace industry advances or accomplishments from 1903 to present day.

|  |  |
| --- | --- |
| 1. | 6. |
| 2. | 7. |
| 3. | 8. |
| 4. | 9. |
| 5. | 10. |

1. Form a research discussing group with 3 to 5 other classmates.
2. Within your research discussion group each member will discuss and explain their list of ten aerospace industry advances or accomplishments. During the discussion members of the group should ask the following questions:
   1. How did the aerospace advancement/ achievement occur – what were the driving factors that pushed for the advancement?
   2. What previous aerospace advances made the advancement / achievement possible?
   3. How did the aerospace advancement / achievement lead to future aerospace advancements and achievements.
3. As a research discussion group identify your group’s twenty most significant aerospace advances / achievements.

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| --- | --- |
| 1. | 11. |
| 2. | 12. |
| 3. | 13 |
| 4. | 14. |
| 5. | 15. |
| 6. | 16. |
| 7. | 17. |
| 8. | 18. |
| 9. | 19. |
| 10. | 20. |

1. Form a classroom discussion group.
2. Within the classroom discussion group each research discussion group will explain their list of twenty significant aerospace advances and achievements.
3. As a classroom discussion group a list of the top advances and achievements will be generated through open discussion with in the classroom discussion group. The finalized list should consist of a total number of advances equaling the total number of members with in the class discussion group.
4. From the classroom discussion group generated list select an advancement or achievement that interests you. No achievement or advancement can be selected twice.
5. Selected advancement or achievement: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. Individually conduct research on your selected advancement or achievement.  
   Research should include the following information:
   1. Date of advancement or achievement milestone
   2. Credited origination
   3. Credited individuals
   4. Detailed description of advancement or achievement
   5. Video or image of advancement or achievement
   6. Media coverage of advancement or achievement
   7. Description of world events at the time of advancement or achievement
   8. Description of major advancements relation to science, technology, and engineering that made the advancement or achievement possible.
   9. Description of how the advancement or achievement affected future aerospace advancement or achievement.
7. Combine research findings into a 5 minute video or Microsoft PowerPoint documentary illustrating the importance of the advancement or achievement. The documentary should contain all research findings.
8. As a classroom research group, create a video or Microsoft PowerPoint documentary by combining all individual achievement and advancement documentaries into a single format that allows for continues chronological viewing as well as selection of individual achievement and advancement viewing.
9. As a class view the aerospace evolution documentary in chronological order.

**Conclusion**

1. Does a common them or themes exist relating to the achievement and advancement of the aerospace industry?
2. List the major influences on the aerospace industry and explain their significance.
3. Explain the cause and effect relationship of the aerospace industry.