# Aviation Career Day

<table>
<thead>
<tr>
<th>Prep Time:</th>
<th>Lesson Time:</th>
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</thead>
<tbody>
<tr>
<td>10 minutes</td>
<td>55 minutes</td>
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## Essential Questions:
- How many different jobs and careers and stages go into building a plane from design to rollout?
- What are potential careers in the aviation industry?

## Objectives:
- Students will be able to explain the different areas of employment in the aviation industry.

## Standards:
- MS-ESS1-3. Analyze and interpret data to determine similarities and differences in findings.
- CCSS.ELA-Literacy.RI.6.7: Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue.

## Lesson Prep:
- Select several of the ISTAT careers in aviation videos and cue them to play.
- Print a copy of the 3,2,1 worksheet for each student.
- Print out and prepare enough sets of the game cards for the entire class.

## Teacher Notes/Background:
- Read through all lesson materials, including handouts, before the lesson begins.
- Students who need extra assistance can be paired during any portion of the lesson.
- Watch and select videos from the ISTAT Foundation- Careers in Aviation page: [https://foundation.istat.org/Careers-in-Aviation](https://foundation.istat.org/Careers-in-Aviation)
## Aviation Career Day

**Engage (5 minutes)**

“Today we are going to talk about different aviation careers. What are some of the basic things you think about when I say or mention aviation or jobs in the aviation industry?”

Draw a KWL chart on the board or on a piece of chart paper (chart paper is preferred so that it can remain in the classroom for reference). Ask students to contribute what they “know” about aviation careers. Complete the “K” section of the chart. When answers have been exhausted, ask students what they want to learn about the different aviation careers, fill out the “W” section of the chart. At the end of the lesson, fill out the “L” section of the chart as part of the evaluation piece.

**Materials:**
- Chart paper
- KWL Chart

**Explore (10 minutes)**

“Now that we have brainstormed what we already know and what we’d like to learn, let’s watch a couple of short videos from people who do this everyday as their full-time jobs! Answer your 3-2-1 sheets as you watch the different videos.”

Pass out the 3-2-1 worksheet before the video so students can write things down as they watch.

Play several of the videos. The selection is entirely up to you and your students’ needs. The following videos are recommended:

https://www.youtube.com/watch?v=f394dlS6jR8&feature=youtu.be
https://www.youtube.com/watch?v=FwwAVEGhZlc&feature=youtu.be

Give students a few minutes after each video to take notes and write down ideas on their 3,2,1 worksheet.

Have students share what they learned with a neighbor or small surrounding group.

**Materials:**
- 3,2,1 worksheet
- Videos
**Aviation Career Day**

| Explain (15 minutes) | “Now that you have a better understanding of the different careers in aviation, we are going to play a game that focuses on using that knowledge to build your own commercial aviation company! What are some of the different industry areas you might need?”

Divide the students into groups of 2-4.

Pass out the rules sheet and a stack of printed playing cards. Be sure to print the playing cards out single sided.

Model one round as a class to ensure student understanding.

Give the students 15 minutes to play as many rounds of the game as possible.

Circulate to check for understanding. |
|---|---|
| Materials: | • Sets of playing cards for all students (Each game supports 2-4 students)
• Rules for card-based board game |

| Elaborate (20 minutes) | “What were some of the different areas of the airline industry that were important when you were playing the aviation careers game? Now that we’ve seen the wide range of careers in the industry, let’s talk about what skills you would need to be successful in these areas.”

Open the PowerPoint that showcases all of the different career videos available via the ISTAT Foundation. We recommend focusing on a couple of careers, rather than all of them, if you are short on time. The PowerPoint can also be printed out as a packet.

Ask students what skills might be useful for someone applying for each of these different positions. (Sample questions: Would you need a college degree? How much experience would someone like this need, etc.) |
|---|---|
| Materials: | • Different aviation career job postings
• PowerPoint and handout |

| Evaluate (5 minutes) | Review and fill out the “L” section of the KWL chart.

Have students fill out a job application for three different aviation careers they want to explore in the future.

Make sure to have students highlight the skills that they have, or potentially will have, when they apply for a job like this in the future. |
|---|---|
| Materials: | • Job summary sheet (paper or projected)
• KWL Chart
• Job Application |
Extensions and Enrichment

• If time allows, have students do mock interviews for the positions to which they applied.
• Have students reflect on what other industries might have similar support structures to the aviation industry. Are there other potential career fields for students to explore in the future?

Additional Resources

• Aviation Career Videos: https://foundation.istat.org/Careers-in-Aviation
<table>
<thead>
<tr>
<th>3,2,1 Sheet</th>
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<tbody>
<tr>
<td><strong>3 interesting facts:</strong></td>
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<td></td>
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<td></td>
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<tr>
<td><strong>2 things I learned:</strong></td>
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<td></td>
</tr>
<tr>
<td><strong>1 question I still have:</strong></td>
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</table>
Aviation Careers Game

The Scenario:
You are attending a job fair as a recruiter from an aviation company. Your goal is to recruit and hire multiple people for the wide range of careers within the aviation industry. Like most job fairs, you will not be the only company there so you will need to compete against other companies to get as many qualified candidates as possible.

Game Setup:
1) Shuffle the career fair cards and arrange them, face-up, in a 6 x 6 square.
2) Read the instructions carefully.
3) Locate the recruiter card in the deck.
4) The youngest player goes first.

Gameplay:
On your turn, you will move the RECRUITER card in any of the four cardinal directions (up, down, left or right—NO DIAGONALS) and collect the career cards of your choice. In any given turn, you may only collect one type of career card (ex. Airline Dispatcher OR First Officers), but may collect as many of that card as are in your directional path. Pick up all cards of your career choice from that turn and place the RECRUITER card in the furthest position of the career cards you collected. Your turn is over.

Players take turns collecting career cards, rotating clockwise, until there are no more possible moves on the board or you run out of cards.

How to Win:
At the end of the game, count the number of each career card that you have in your hand. The player with the most career cards for any given career gets to collect ALL those career cards from the other player; officially making the hire. In case of a tie, a coin toss will determine who wins the cards for that career. The player with the most career hirers wins the game.
Product Development Engineer

The Product Development Engineer implements and creates models from the aircraft blueprints and designs.

Accounting Department

The Accounting Department is responsible for all finances in the aviation company. This includes everything from advertising to leasing airplanes to other companies.
**Accounting Department**

The Accounting Department is responsible for all finances in the aviation company. This includes everything from advertising to leasing airplanes to other companies.

**Airline Dispatcher**

The Airline Dispatcher selects possible flight paths for all flights. They track storms and turbulence throughout the flight and work with the flight crew to help solve potential problems.
Airline Dispatcher

The Airline Dispatcher selects possible flight paths for all flights. They track storms and turbulence throughout the flight and work with the flight crew to help solve potential problems.

Aviation Attorney

The Aviation Attorney focuses on specific areas of aviation law. This ranges from legal proceedings to international airplane sales.

Airline Dispatcher

The Airline Dispatcher selects possible flight paths for all flights. They track storms and turbulence throughout the flight and work with the flight crew to help solve potential problems.
Airline Mechanic

The Airline Mechanic checks all parts of the airplane before and after each flight. They look for potential issues with the engines as well as the internal gauges and electronics.
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The Airline Mechanic checks all parts of the airplane before and after each flight. They look for potential issues with the engines as well as the internal gauges and electronics.

ISTAT Aviation Careers Board Game – Playing Cards
Aviation Attorney

The Aviation Attorney focuses on specific areas of aviation law. This ranges from legal proceedings to international airplane sales.
**Customer Service Manager**

The Customer Service Manager manages all individuals in the airport lobby from customers to employees. They ensure all customer complaints are dealt with accordingly.

**Aviation Attorney**

The Aviation Attorney focuses on specific areas of aviation law. This ranges from legal proceedings to international airplane sales.
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Customer Service Manager

The Customer Service Manager manages all individuals in the airport lobby from customers to employees. They ensure all customer complaints are dealt with accordingly.
First Officer

The First Officer works with the Captain to properly prepare the airplane for each flight. They check all gauges and electronics.

First Officer

The First Officer works with the Captain to properly prepare the airplane for each flight. They check all gauges and electronics.

Recruiter

The Recruiter scouts career and job fairs for the best potential employees for their company.
Careers In Aviation

A Snapshot of Several Careers in Aviation
Day-to-Day Aviation
# First Officer

<table>
<thead>
<tr>
<th>Description</th>
<th>Skills/Education Needed</th>
<th>Hear from a Professional</th>
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</table>
| The First Officer works closely with the Captain to fly the airplane. The First Officer focuses on the more immediate aspects of flight, while the Captain focuses more on long-term details. | • 4 year degree (does not need to be in aviation)  
• Flight experience  
• Detail-oriented | [https://www.youtube.com/watch?v=6g1gdFJvHHM&feature=youtu](https://www.youtube.com/watch?v=6g1gdFJvHHM&feature=youtu) |
### Airline Mechanic

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| The Airline Mechanic checks the different components of the airplane before every flight to ensure the plane is safe and secure before leaving the hanger. | • Attention to detail  
• Aviation High School degree  
• Expertise in: Sheet Metal, Ground Operations, etc.  
• Aircraft Mechanics license | [https://www.youtube.com/watch?v=54eVLcraelQ&feature=youtu.be](https://www.youtube.com/watch?v=54eVLcraelQ&feature=youtu.be) |
<p>| Airline mechanics perform tasks such as engine installation and cabin electronics check, and are responsible for fixing all issues that may arise during their system checks. |                                                                                      |                                                                          |</p>
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<tr>
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| The Airline Dispatcher looks at potential flight paths for an aircraft and chooses the best options. To make this decision they look at other aircrafts’ paths, possible weather events in the path, and what type of fuel is needed in the plane. | • FAA Dispatch license  
• Bachelor’s degree in Aviation Flight Science  
• Commercial Pilot license  
• Flight experience  
• Ability to work in a fast-paced environment  
• Ability to remain calm through moments of intense stress | [https://www.youtube.com/watch?v=FwwAVEGhZIc&feature=youtu.be](https://www.youtube.com/watch?v=FwwAVEGhZIc&feature=youtu.be) |
Design and Manufacturing
### Aircraft Assembly Specialist

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</table>
| The Aircraft Assembly Specialist is responsible for all of the electrical wiring in the airplane. They need to be able to work with their hands and ensure that all wiring is done correctly, so the plane functions correctly. | • Electronics knowledge  
• Ability to learn on the job  
• Troubleshooting and problem-solving skills  
• Ability to work with your hands | [https://www.youtube.com/watch?v=Camzo1LN5l8&feature=youtu.be](https://www.youtube.com/watch?v=Camzo1LN5l8&feature=youtu.be) |
# Director of Asia Engine Business

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</table>
| The Director of Asia Engine Business is responsible for engine sales throughout all of Asia. | • Bachelor’s and Master’s degrees in Aeronautical Engineering  
• Customer management  
• Ability to travel frequently  
• Flexible | [https://www.youtube.com/watch?v=4T_3q7xJS30&feature=youtu.be](https://www.youtube.com/watch?v=4T_3q7xJS30&feature=youtu.be) |
# Vice President of Maintenance and Engineering

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</table>
| The Vice President of Maintenance and Engineering is responsible for the maintenance of every airplane in the fleet. While they do not directly work on the airplanes, they are responsible for every person who does. | • Team management  
• Strong leadership  
• Working knowledge of interconnectivity of airplanes | [https://www.youtube.com/watch?v=78FxprtsB3Y&feature=youtu.be](https://www.youtube.com/watch?v=78FxprtsB3Y&feature=youtu.be) |
**Interior Aircraft Specifications Coordinator**

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<tbody>
<tr>
<td>The Interior Aircraft Specifications Coordinator works with customers in</td>
<td>• Bachelor's degree in Business Administration</td>
<td><a href="https://www.youtube.com/watch?v=kUW0FvoV07s&amp;feature=youtu.be">https://www.youtube.com/watch?v=kUW0FvoV07s&amp;feature=youtu.be</a></td>
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<tr>
<td>the design and manufacturing of the interior of the plane. They guide</td>
<td>• Aeronautics background</td>
<td></td>
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<tr>
<td>customers through the design process, like choosing seats, colors,</td>
<td>• Working knowledge of many airplane designs</td>
<td></td>
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<tr>
<td>materials, and layout for the plane. They are like an interior designer</td>
<td>• Superior customer and vendor management</td>
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<tr>
<td>for airplanes.</td>
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</table>
## Product Development Engineer

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<tr>
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</tr>
</thead>
</table>
| The Product Development Engineer studies the blueprints of the plane’s design and turn them into a reality. Before the plane is built, the Product Development Engineer creates a 3D model (prototype) of the plane to ensure the design is feasible. | • Very creative  
• Ability to think on your feet  
• Strong math and science skills  
• Bachelor’s degree in Mechanical Engineering  
• Master’s degree in Space Systems | [https://www.youtube.com/watch?v=ccYw_BK5eDY&feature=youtu.be](https://www.youtube.com/watch?v=ccYw_BK5eDY&feature=youtu.be) |
# Vibration Analysis Engineer

<table>
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</table>
| The Vibration Analysis Engineer is in charge of testing vibration levels and checking for failures within engines. Their goal is always to minimize vibrations on engines to ensure the plane’s safety. They will often be out in the field observing and recreating field test failures to see what needs improved. | • Bachelor’s degree in Aerospace Engineering  
  • Pilot's license  
  • Strong math and science skills  
  • Ability to troubleshoot | [https://www.youtube.com/watch?v=f394dI56jR8&feature=youtu.be](https://www.youtube.com/watch?v=f394dI56jR8&feature=youtu.be) |
Customer-Facing and Logistics
# Accounting Department

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</table>
| A member of the Accounting Department is responsible for the finances for the entire company. They are in charge managing everything from the rental of planes to NFL teams to the advertising budget and staff salaries. | • Bachelor’s degree in Accounting  
• Strong math skills  
• Attention to detail | [https://www.youtube.com/watch?v=1rJRnFMcZdA&feature=youtu.be](https://www.youtube.com/watch?v=1rJRnFMcZdA&feature=youtu.be) |
# Aviation Attorney

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<tr>
<th>Description</th>
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</tr>
</thead>
</table>
| Aviation Attorneys focus on a specific area of Aviation Law, which ensures that the airline is following all legal procedures. This can range from oversight of sales and leases internationally, to providing legal advice to major aviation companies. | • Bachelor’s degree  
• Law degree  
• Attention to detail                                                                                                                      | [https://www.youtube.com/watch?v=OcUI9ZxFs&feature=youtu.be](https://www.youtube.com/watch?v=OcUI9ZxFs&feature=youtu.be) |
# Customer Service Manager

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</table>
| The Customer Service Manager is responsible for the management of all customers taking a flight. They are also responsible for ensuring that all customer complaints and issues are resolved in a timely manner. | • Customer management  
• Flexible  
• Ability to manage multiple employees | [https://www.youtube.com/watch?v=jVOQjTuqi58&feature=youtu.be](https://www.youtube.com/watch?v=jVOQjTuqi58&feature=youtu.be) |
Customer Advocate

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<th>Hear from a Professional</th>
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</thead>
<tbody>
<tr>
<td>The Customer Advocate works with the company’s customers to make sure that</td>
<td>• Bachelor’s degree</td>
<td><a href="https://www.youtube.com/watch?v=6ajEr3Ir_Wk&amp;feature=youtu.be">https://www.youtube.com/watch?v=6ajEr3Ir_Wk&amp;feature=youtu.be</a></td>
</tr>
<tr>
<td>the customers’ concerns are heard. They are responsible for taking these</td>
<td>• Master’s degree</td>
<td></td>
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<tr>
<td>concerns to the appropriate people to resolve the problem.</td>
<td>• Ability to work both independently and as part of a team</td>
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<tr>
<td></td>
<td>• Passion for aviation</td>
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</table>
# Airline Administrative Supervisor

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</tr>
</thead>
</table>
| The Airline Administrative Supervisor oversees gate and ticket attendants and, occasionally, works with customers directly. When they interact with customers, they typically answer customer concerns and questions, always maintaining a positive attitude. | • Positive attitude  
• Willing to adapt to change  
• Bachelor’s degree in Computer Science  
• Experience leading a team | [https://www.youtube.com/watch?v=OcUI9ZxHFts&feature=youtu.be](https://www.youtube.com/watch?v=OcUI9ZxHFts&feature=youtu.be) |
The Air Safety Specialist ensures that everything that coming off the production line is safe. They are always looking at ways to increase safety. They create pilot safety check programs during which they work with other engineers to find better solutions to potential problems. It is important that they are always proactive, rather than reactive.

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| The Air Safety Specialist ensures that everything that coming off the production line is safe. They are always looking at ways to increase safety. They create pilot safety check programs during which they work with other engineers to find better solutions to potential problems. It is important that they are always proactive, rather than reactive. | • Pilot's license  
• Attention to detail  
• Ability to work on a team | https://www.youtube.com/watch?v=5e6385wFiBo&feature=youtu.be |
Job Application

The 3 Aviation Industry jobs I am most interested in are...

Write a 1 next to your first choice, 2 for second, and 3 for third.

<table>
<thead>
<tr>
<th>Career</th>
<th>Ranking</th>
<th>Career</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Officer</td>
<td></td>
<td>Product Development Engineer</td>
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<tr>
<td>Airline Mechanic</td>
<td></td>
<td>Vibration Analysis Engineer</td>
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<tr>
<td>Airline Dispatcher</td>
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<td>Accounting Department</td>
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<tr>
<td>Aircraft Assembly Specialist</td>
<td></td>
<td>Aviation Attorney</td>
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</tr>
<tr>
<td>Director of Asia Engine Business</td>
<td></td>
<td>Customer Service Manager</td>
<td></td>
</tr>
<tr>
<td>Vice President of Maintenance and Engineering</td>
<td></td>
<td>Customer Advocate</td>
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<tr>
<td>Interior Aircraft Specifications</td>
<td></td>
<td>Airline Administrative Supervisor</td>
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<tr>
<td></td>
<td></td>
<td>Air Safety Specialist</td>
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</table>

Using the career your ranked as #1, answer the below application questions. Use complete sentences.

Why do you want to do this job?
_______________________________________________________________________
_______________________________________________________________________
_______________________________________________________________________
_______________________________________________________________________
_______________________________________________________________________

What skills do you have that will help you be successful in this position?
_______________________________________________________________________
_______________________________________________________________________
_______________________________________________________________________
_______________________________________________________________________
_______________________________________________________________________

Job Application