

Space Agency Roles and Responsibilities Sheet

Director

Name: _____

Agency: _____

Description: Congratulations on being hired as the Director of the first space agency in your nation. You were hired based on your leadership skills, organization, and efficiency. As Director, you are tasked with working closely with everyone in your agency to ensure their tasks are completed.

Objectives:

Work Day(s):

- Elect your professionals. Hold a quick vote of your agency members to assign each career in the agency; if they cannot decide, then assign each member a career yourself.
- Bring the group together to decide on a name for your space agency.
- Meet with the PR Team to provide feedback on a logo for your space agency.
- Meet with the Researcher(s), Engineer(s) and Economic Advisor(s) to decide on which material(s) to build with.
- Start working on a short presentation to give the class about your agency's payload. Talk with your experts, get photos from your PR Team and put together a short presentation that explains why your agency chose your specific materials and design.
- Talk about your agency.
- Meet with the PR Team and have them take pictures with members of your agency.
- Make sure people in your agency are staying on task.
- Elect a meteorologist for launch day.
- Deliver presentation front of both nations

Launch Day:

- Make sure everyone is ready for the launch!

The Director's Presentation

The Director's Presentation is an essential part to your nation's first launch into space. This presentation informs the world on your nation's progress on the payloads. Your presentation can be done through PowerPoint or Google Slides. It must include the following:

- At LEAST one photograph of each group/person in your space agency.
- A short description of what each group in the agency worked on.
- A short explanation of your space agency's payload design.
- The logo of your agency should be included somewhere in the presentation.

Tip: Work with your PR Team to create the presentation. They can also help you deliver it!

Managing a Space Agency

It won't be easy managing the nation's first space agency. The most important thing to remember is that, as Director, you'll be taking on a little bit of responsibility from every group. Make sure that:

- Groups consult you to make final decisions.
- You take part in making the space agency's logo.
- You talk with your R&D Team about potential materials.
- You review the payload design with the Engineer(s) and R&D Team.
- Talk to your Economic Advisor(s) about the budget, and work with them to make sure that the design won't cost too much.

These are just a few tips. Feel free to look at other groups' task sheets, and don't hesitate to contact the International Advisor (your teacher) for help. Just keep your agency on track!

Engineer

Name: _____

Agency: _____

Description: Congratulations on being hired as an Engineer for the first space agency in the nation. Your job is to construct the space-faring payload for your nation. As a member of the Engineering Team, you will work closely with the Research and Development (R&D) Team and the Computer Scientist(s) from your agency.

Objectives:

Work Day(s):

- Decide which material(s) to use to build your payload. Base your decision on the R&D Team's research and recommendations.
- Work with the Economic Advisor(s) to see which materials would work at the best cost.
- Start designing the payload. You are the Engineers, so although you work with the R&D Team and Computer Scientist(s), the Engineer(s) will complete the building and testing.
- Ask any questions you may have regarding the construction of your payload.
- Build the payload to the specifications laid out by you and your agency.
- Test your designs with the help of an International Advisor (your teacher). Go through drop tests, shake tests, etc.
- Refer to the payload technical manual for help and step-by-step instructions about one way to go about designing and building your payload.

Launch Day:

- Make sure the payload is securely strapped in and ready for launch.



Public Relations Expert

Name: _____

Agency: _____

Description: Congratulations on being hired as a Press Relations (PR) Expert on the PR Team for the first space agency in the nation. As a PR Expert, it is your job to handle public relations, including the agency's own social media page, where you will keep the world updated on the progress of the agency's first space-faring mission.

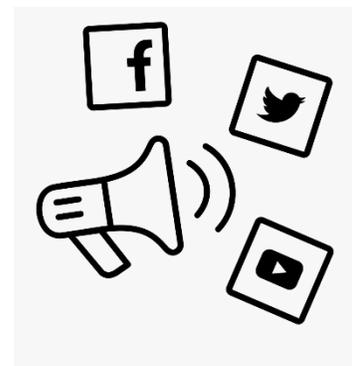
Objectives:

Work Day(s):

- Start designing the logo. Once you have a draft, ask for feedback from the other groups in your agency. Submit the designed logo to your Director and the International Advisor (your teacher) for feedback.
- Make your logo digital for your social media presence.
- Start your agency's Instagram and/or Twitter page dedicated to the mission.
- Take pictures of the initial stages of project.
- Start updating social media with initial agency pictures of the groups at work.
- Start making a poster for your agency's launch. Feel free to recruit the artistic help of people in other groups in **your** agency for assistance.
- Meet with the International Advisor for any questions you may have.
- Take pictures of each group as they work with each other and with other groups.
- Take pictures of your payload as it is being built; update your social media accounts.
- Take pictures of your final payload design and upload them to your nation's Instagram page.
- Frequently update your agency's social media sites.
- Help the Director with the Director's Presentation.
- Complete your nation's poster.

Launch Day:

- Take pictures!
- Update your agency's social media sites with launch updates and results.
- (Optional) Create a video of launch day that can be eventually released via social media.



Computer Scientist

Name: _____

Agency: _____

Description: Congratulations on being hired as a Computer Scientist for the first space agency in the nation. It is your job to code and operate the Arduino, the electronics platform that will be recording data for the project. You will also test the payload prior to launch.

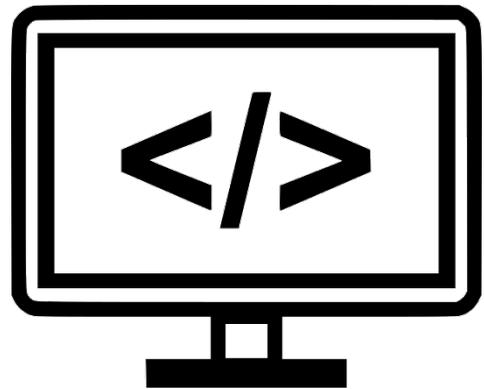
Objectives:

Work Day(s):

- Research some basic operations and code of Arduinos.
- Get to know the wiring and the Arduinos.
- Work with the Engineer(s) and the R&D Team to design a payload.
- Consult with the Engineer(s), R&D Team, and Economic Advisor(s) to work out a payload that is the best price for the best design. Refer to the payload manual for step-by-step instructions and sample code. The International Advisor (your teacher) should have suggestions about useful tutorials to look at to gain familiarity with Arduinos and programming.
- Meet with the International Advisor for any questions you may have.
- Code and wire the Arduino to collect data for the payload. (Remember: refer to the payload manual for help with code).
- Try to find different ways to upgrade/improve your coding skills.
- Test the payload unit and computer code prior to launch day.

Launch Day:

- Make sure the payload is secure and activated!



Research and Development

Name: _____

Agency: _____

Description: Congratulations on being hired as a Research Scientist on the Research and Development (R&D) Team for the first space agency in the nation. It is your task to research which materials may be beneficial to protecting your astronaut from dangerous cosmic radiation in the upper atmosphere.

Objectives:

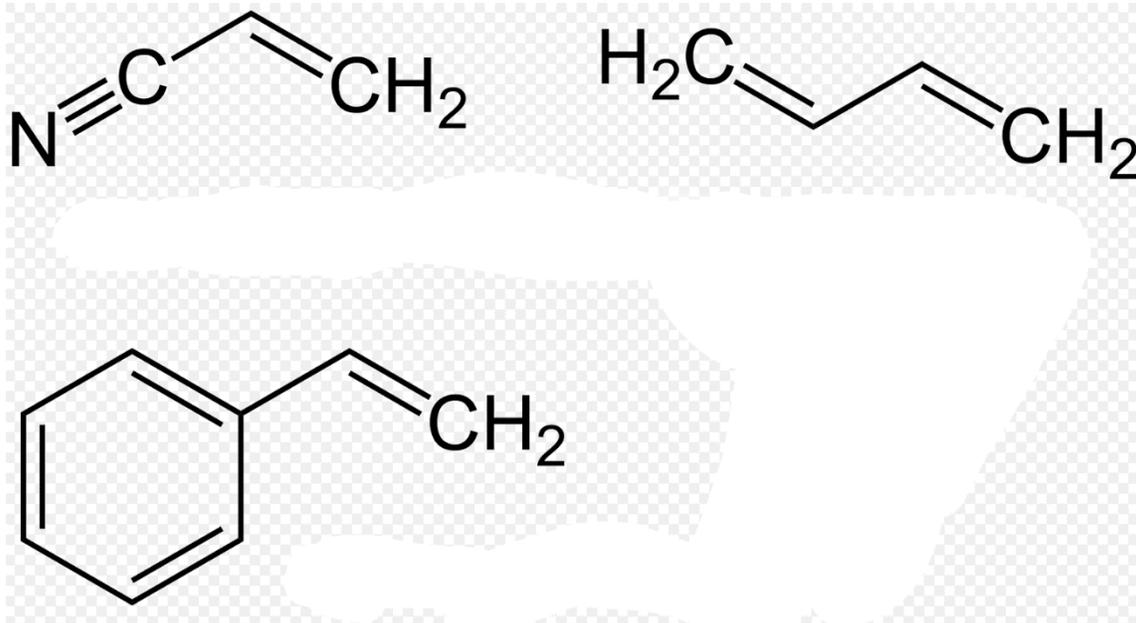
Work Days(s):

- Look over the materials that are available. Research them to see which materials would be best to keep your astronaut safe from cosmic radiation.
- Consult with the Economic Advisor(s) on costs of available materials.
- Lead the discussion to determine which materials should be used to shield with the Engineer(s), Computer Scientist(s) and Economic Advisor(s).
- Help decide on a shielding design with the Engineer(s), Computer Scientist(s), and Economic Advisor(s).
- Research the best ways to keep your payload secure. For example, do zip ties work better than hot glue? Is duct tape secure? How will materials perform at low temperatures? All of these things are essential to know. Consult with Engineer(s) on your findings.
- Research the **mystery element**.
- Research how to keep the payload from freezing in near-space. Consult with Engineer(s) on your findings.
- You can also work with the PR Team to research the best ways to optimize your nation's marketing campaign.



The Mystery Element

A new element has been discovered. If the R&D Team can decode this compound, it could be of use to the nation.



Economic Advisor

Name: _____

Agency: _____

Description: Congratulations on being hired as an Economic Advisor for the first space agency in the nation. It is your task to keep the agency within its budget. Work with the Director to ensure your agency is **not** overspending. Keep track of your nation's budget!

Objectives:

Work Day(s):

- Meet with the rest of the agency to decide on a name for the space agency.
- Set up the agency's budget sheet.
- Find out the costs associated with all of the available materials.
- Work with the Engineer(s), R&D Team, and Computer Scientist(s) to determine the best materials to use for the optimal cost. Your job is to keep the other teams from running out of money. Be smart with your nation's money and hold on to the **budget sheet!**
- If the marketing campaign led by the PR Team is successful, your space agency might earn some more money for materials. Work with the PR Team if you can!
- Continue helping the PR Team.
- Work with the Director on the Director's Presentation. Add statistics about your agency, for example – how much money you started with and how much you spent.
- Feel free to trade with the other nation; just make sure you're not getting swindled.
- You and the Director have final say on the materials purchased.



The Hoswar States
Stats Sheet

This sheet will be in the hands of the agency's Economic Advisor(s) who will make final payments.

Starting Budget: \$300,000,000

| Material | Cost of (Millions \$) /sheet | # of sheets |
|-----------------|-------------------------------------|--------------------|
| Steel | 80 | 4 |
| Galv. Steel | 75 | 6 |
| Aluminum | 70 | 8 |
| Space Blanket | 30 | 18 |
| Balsa Wood | 15 | 20 |

Sales on materials are **final**. Buyback prices are 25% of the original cost.

The Dufra Empire
Stats Sheet

This sheet will be in the hands of the agency's Economic Advisor(s) who will make final payments.

Starting Budget: \$300,000,000

| Material | Cost of (Millions \$) /sheet | # of sheets |
|-----------------|-------------------------------------|--------------------|
| Steel | 80 | 4 |
| Galv. Steel | 75 | 6 |
| Aluminum | 70 | 8 |
| Space Blanket | 30 | 18 |
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