

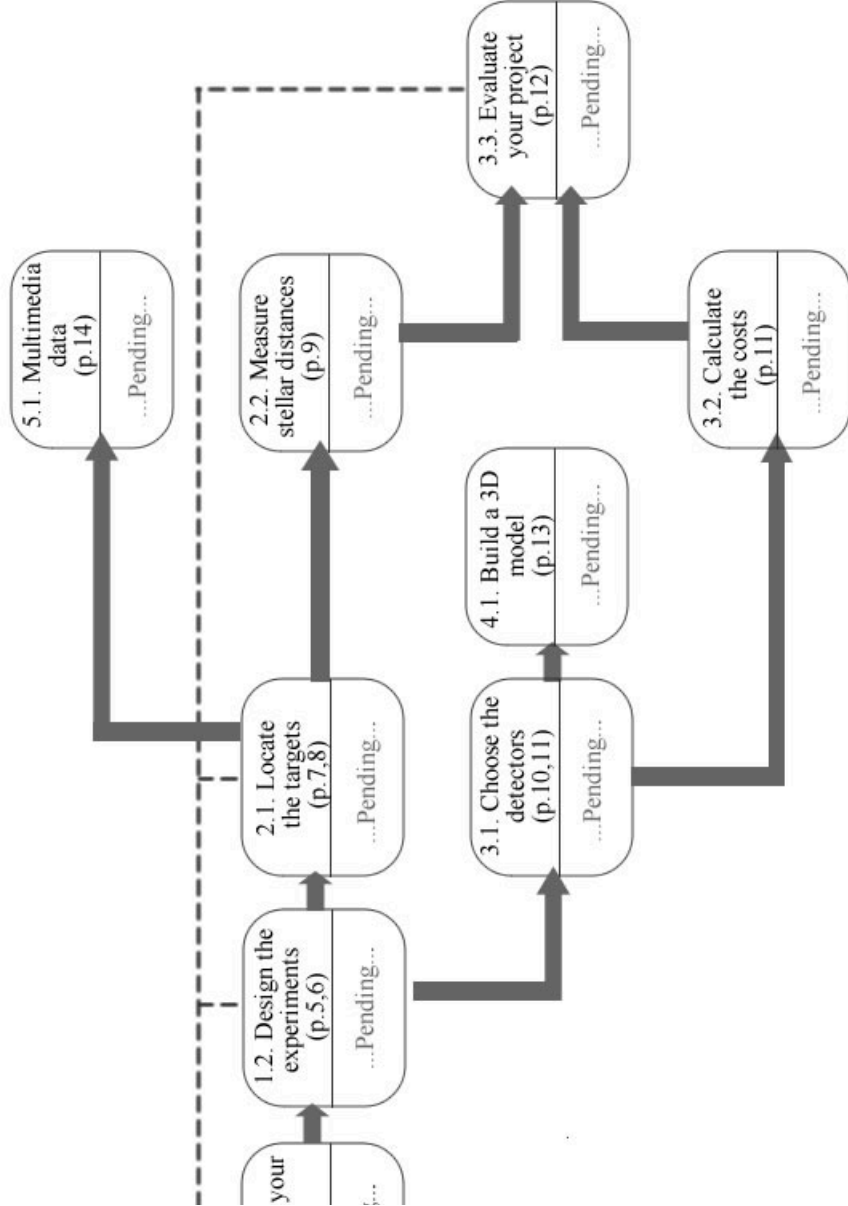


Ship's Log

Crew

Name	Post

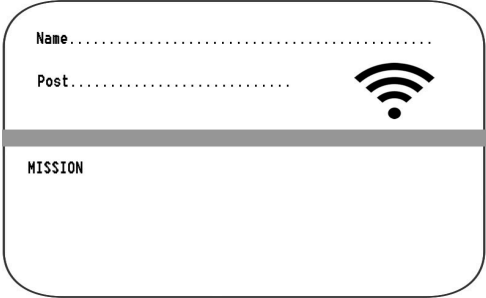
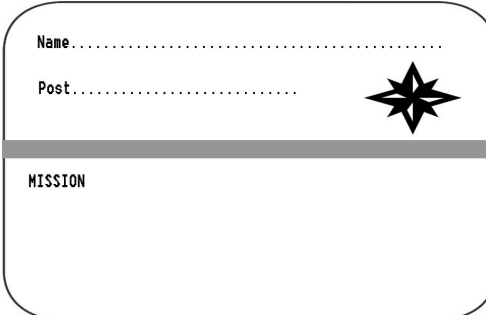
--> Keep this and fill these materials along your project and present it at the end. <--





6.1. Prepare your Presentation (p.15)

Experiments ...Pending...	Targets: Locations and Distance calculations, Multimedia ...Pending...	Detectors and Costs 3D Model ...Pending...	Project Evaluation ...Pending...
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0. Your project Team. Name your mission and distribute your functions.

Mission Name	Mission Logo
<p>Communications Officer</p> <p>Your responsibility is to promote all the aspects related with communication: assure that the Oral Presentation is being prepared in parallel with the project, and that the materials your team is preparing are well-presented and of good quality.</p>	 <p>A mission logo template for the Communications Officer. It consists of a rounded rectangle divided into three horizontal sections. The top section contains the text 'Name.....' followed by a dotted line. The middle section contains the text 'Post.....' followed by a dotted line and a Wi-Fi signal icon. A thick grey horizontal bar separates the top two sections from the bottom section. The bottom section contains the word 'MISSION' in all caps.</p>
<p>Navigation Officer</p> <p>Your responsibility is to promote all the aspects related with localization and identification of celestial bodies and the use of emulation programs to present your mission.</p>	 <p>A mission logo template for the Navigation Officer. It consists of a rounded rectangle divided into three horizontal sections. The top section contains the text 'Name.....' followed by a dotted line. The middle section contains the text 'Post.....' followed by a dotted line and a compass rose icon. A thick grey horizontal bar separates the top two sections from the bottom section. The bottom section contains the word 'MISSION' in all caps.</p>

<p>Commander</p> <p>Your responsibility is to promote the work of the group as a team and to assure that the Ship's Log is kept actualized.</p>	<div style="border: 1px solid black; border-radius: 15px; padding: 10px;"> <p>Name</p> <p>Post</p> <div style="text-align: right;"></div> <hr style="border: 1px solid gray;"/> <p>MISSION</p> </div>
<p>Engineer Officer</p> <p>Your responsibility is to promote the construction of the 3D model of your Space Telescope and the correct calculations and selection of Detectors.</p>	<div style="border: 1px solid black; border-radius: 15px; padding: 10px;"> <p>Name</p> <p>Post</p> <div style="text-align: right;"></div> <hr style="border: 1px solid gray;"/> <p>MISSION</p> </div>

You should cut off the ID Cards and wear it while you are preparing your mission. Step 1. Select your goal and design your experiments.
List of E.S.A. Goals and Milestones

1.1. Select your goals

Exoplanets

Do smaller exoplanets contain more Potassium? (+1000)

Is the presence of water related with the size of an Exoplanet? (+750)

Is the presence of hydrocarbures associated to the presence of water? (+1200)

Is the presence of atmosphere associated to the presence of water in Exoplanets? (+1300)

Supernovas

Is there a relationship between the amount of Oxygen and Iron in Supernovas? (+900)

Black Holes

Is there a decrease in temperature when you get closer to a Black Hole? (+300)

Asteroids vs Centaurs

Which are the richest in Iron content? (+900)

Which are the richest Water content? (+800)

Do asteroids from Solar System have the same content in Potassium and Iron as ExtraSolar Centaurs? (+1300)

Stars being part of a Constellation

Which is their real size? (+600)

Choose your goals and calculate the *value of the project*, according to the benefits for ESA.



1.2. Design your experiments

GOAL 1.

To work on the goal....

we will compare the following celestial bodies (Targets).

And we need to measure:

GOAL 2.

To work on the goal....

we will compare the following celestial bodies (Targets).

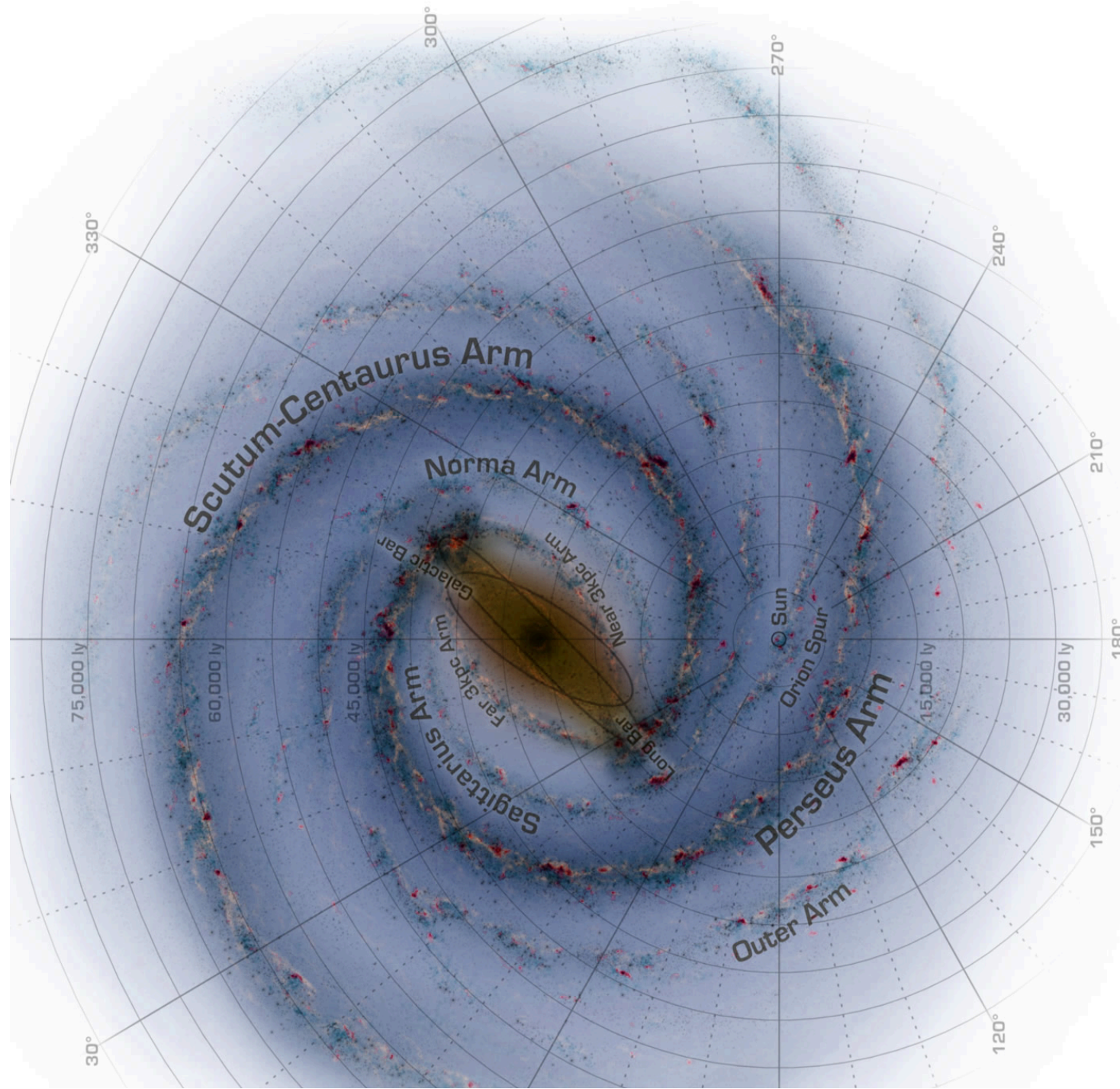


And we need to measure:



Step 2. Locate and measure the Target distances on these maps (you can Zoom In the images in its digital version at <https://sites.google.com/site/missiontostars/step-2>).

2.1. Locate your Targets



2.2. Calculate the distances. Measure from the map the distances from Earth and transform from millimeters to Light years, according to the scale of the map.

	Distance in mm in the map	$\times \frac{(\text{_____ L. y.})}{(\text{_____ mm})}$	= Distance in L.Y in the Galaxy
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

11				
12				
13				
14				
15				
16				

Step 3. Design your spacecraft

You have to choose from the following list which detectors will need your space telescope.

Detectors, equipments and requirements

Detector	Energy Requirements (per L.y. of distance)	Cost (in euros)
Potassium detector	3 Kj	40.000
Water detector	40 Kj	20.000

Iron detector	3 Kj	6.000
Oxygen detector	5 Kj	30.000
Hydrocarbures detector	2 Kj	30.000
Gas compounds detector	1 Kj	10.000
Celest bodies size detector	5 Kj	13.000
Temperature detector	2 Kj	30.000

Energy Panels

Solar Panel	Energy Power	Cost (in euros)
SP1	2.000 Kj	30.000
SP2	5.000 Kj	40.000

3.1. Select the detectors and energy requirements.

Detectors and Solar Pannels requirements: Note here the detectors you will need and their price and energy requirements. Calculate in each case, the number of solar pannels

Cost (in Euros)	DETECTOR	Energy requirements (per L.y. of Distance)	Distance of the Milestone (in L.y)	Energy (in Kj)			
	TOTALS						
	How Many panels, and which kind of pannels, will you need to get the energy requirements of the detectors?						

	ENERGY PANELS (name)	(Cost per panel	Number of Pannels		
	TOTAL COST OF THE SPATIAL TELESCOPE				

3.2. Calculate at the table above the total cost of the spatial telescope.

To know how will the E.S.A. Evaluate your project, calculate with the following formula:

$$\text{Index of your project} = (300 \times \text{Value of your project}) - \text{cost of your project.}$$

Index of your project= (300 x _____) - (_____) = _____

YOU HAVE THE OPPORTUNITY TO EDIT YOUR MISSION TO GET A BETTER PROJECT INDEX:

- **Could you get a better index by sharing goals with another mission?**
- **Changing one of your goals?**
- **Looking for a closer Milestone for one of your goals?**
- **Working on just two goals instead of three?**

If you have modified your project, describe here your corrections and how it has improved your project.

We have changed..... Because.... In the new version....



4.1. Construct a 3D model of your Spatial Telescope. Be sure represent all the required detectors and Solar Pannels.

Inspire your self:

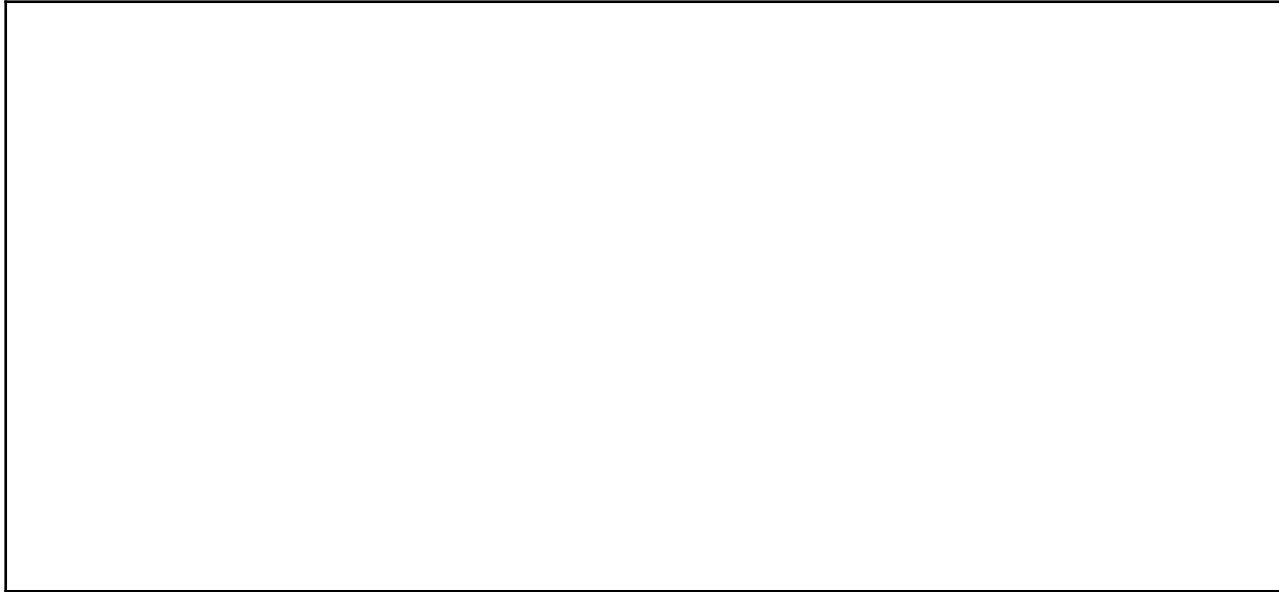


Hubble



Spektr-R

Make here a drawing of your spatial telescope:



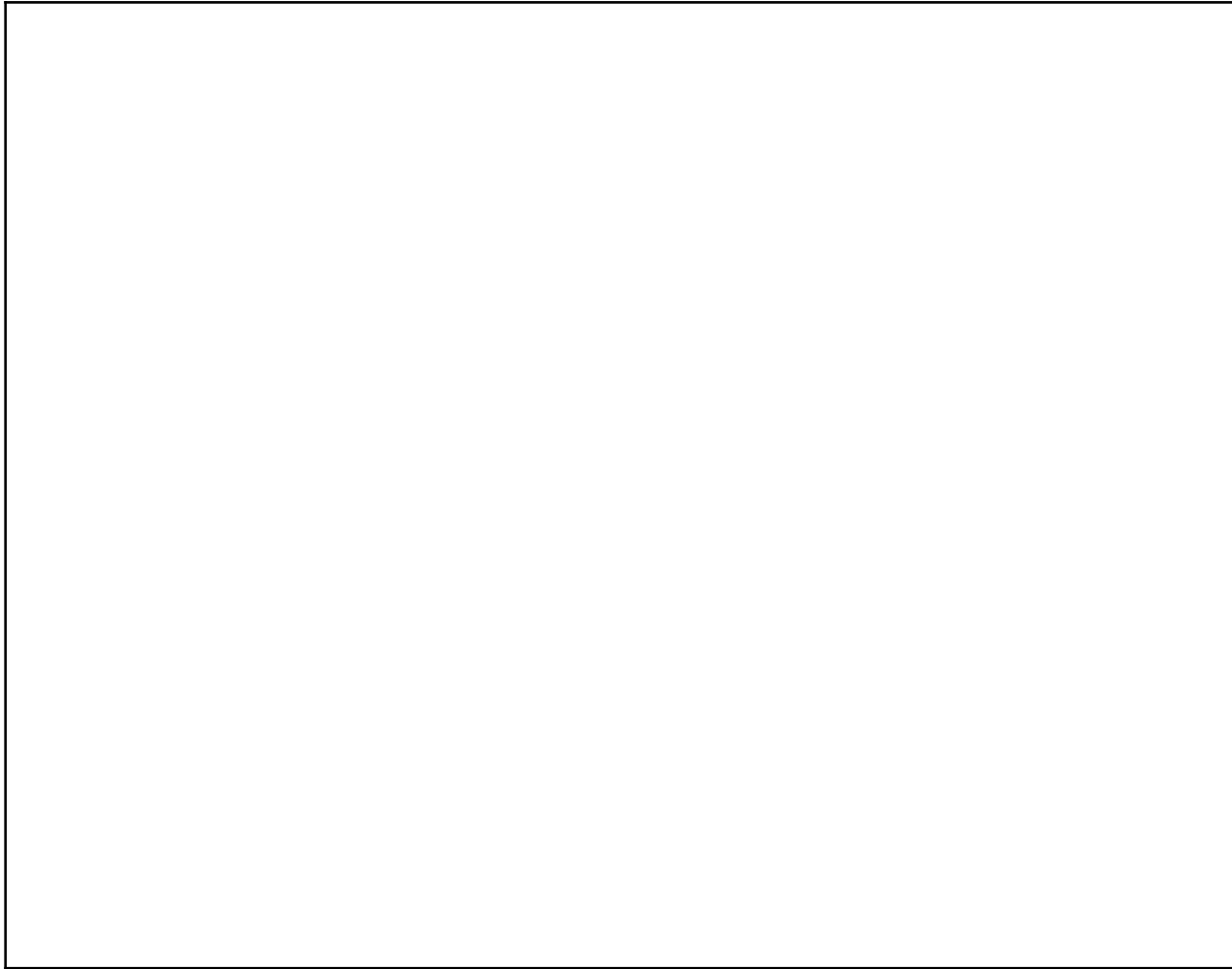
5.1. Prepare Multimedia materials for your presentation

Complete your data with visual materials of your targets to be able to do a better presentation of your mission. Choose one of the following options.

Tasks

1. OPTION 1.-Make a digital collection of images of the targets (celestial bodies) of your mission. Include at least 8 images, collecting the following data for each image:
 1. Represented object.
 2. Kind of image (artistic representation, real image, spectral representation).
 3. Original web direction.
 4. Author (or responsible Institution).
2. OPTION 2.-Make a video with Google Earth* where you show the targets of your mission. *Google Earth is a free, downloadable program. It may present some difficulties in its usage.
3. OPTION 3.-Make a video with Celestia* where you show the targets of your mission. *Celestia is a free, downloadable program. It may present some difficulties in its usage.

Describer here your Muldimedia materials



6.1. Prepare a 5 min oral presentation about your mission.

Use an Impress (Open Office presentations program) to prepare 5-min oral presentation on your project. You can download a Frame from the project's WebPage.

Tasks

Your presentation must have the following sections, with the following Title and Contents.

1. Introduction: Who are you (0) and which are your goals (1.1).
2. Experiments: Which experiments do you want to do (1.2).
3. Mission presentation and Targets: Location of the targets. Distance Calculations. (2.1, 2.2).
4. The Spatial Telescope: Detectors, Costs and 3D Model (3.1, 4.1).
5. Multimedia demonstration (5.1)
5. Evaluation and Conclusions: Calculation of the costs, Evaluation of the project (3.2).

Describer here your notes for the presentation





AUTOASSESSMENT. Tripulant:

	Brought tasks and materials (2,5 p)	Worked hard (2,5 p)	Respected my mates (2,5 p)	Proposed ideas or strategies (2,5 p)	MARKS	TASKS
Day 1						
Day 2						
Day 3						
Day 4						
Global Mark						

Comments, Tasks Accomplishment

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Ship's Log

Day 1. What we did

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.....

What we program to do next day, what we will need, and who is in charge:

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.....

Day 2.What we did

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What we program to do next day, what we will need, and who is in charge:

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.....

Day 3.What we did

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What we program to do next day, what we will need, and who is in charge:

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Day 4.What we did

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What we program to do next day, what we will need, and who is in charge:

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Day 5.What we did

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What we program to do next day, what we will need, and who is in charge:

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Day 6.What we did

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What we program to do next day, what we will need, and who is in charge:

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