

BIG BANG DIGITAL ACTIVITY SPACE RACE

You have **40 minutes** to consider the information given to you and navigate your way through space, the clock is ticking, good luck!

You are part of a specialist group of Thales researchers who have been selected to join Astronauts on an international space expedition to discover new star systems.

Individually or in small groups of 4-6 you must work together to discuss each of the four scenarios in order to navigate your way through space.

You will need access to the internet in order to research some of your theories and a pen and paper to take notes. Each decision will affect your journey so choose wisely, good luck!!

THALES
Building a future we can all trust

****NOTE FOR TEACHERS**

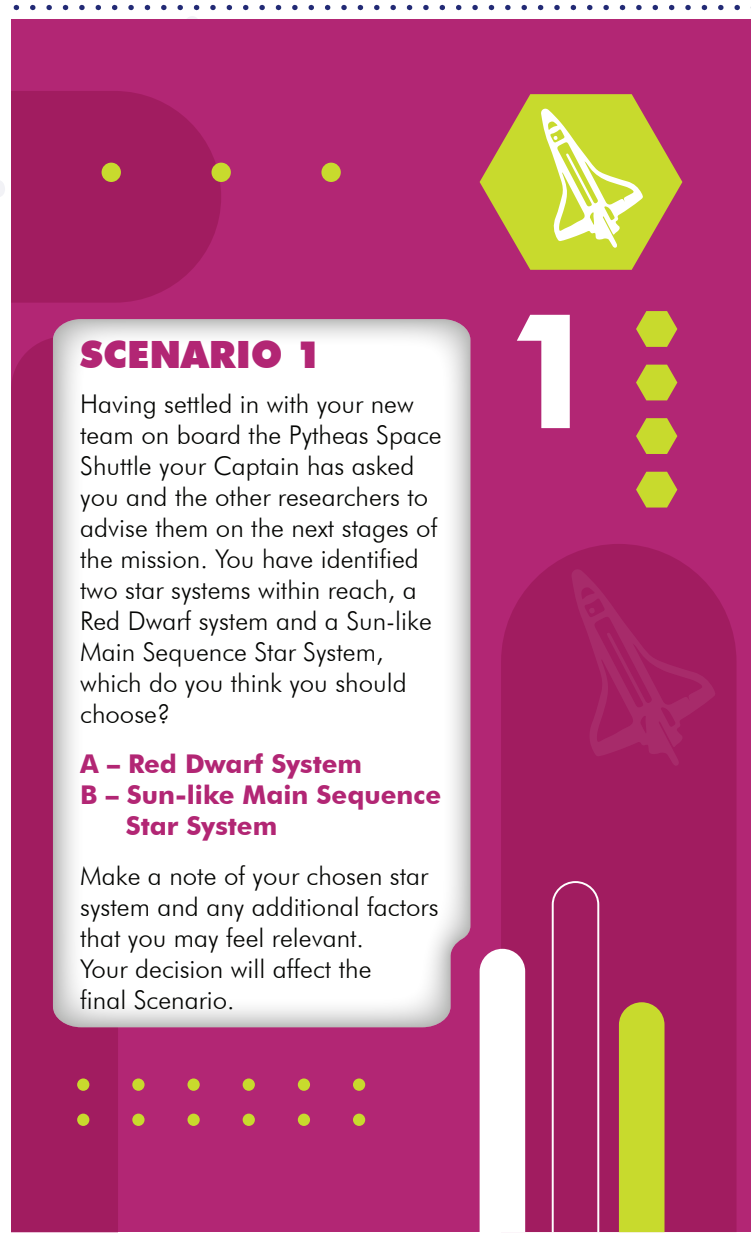
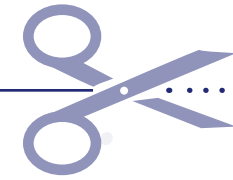
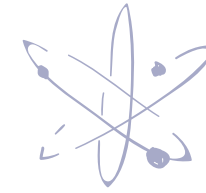
You can either read each scenario aloud to your class or for more peer directed study cut out the cards below and assign a Team Leader in each group the job of reading them to the group. You will need to assign each card at a time (**do not give all the Scenario cards out together**).

POINTS TO CONSIDER:

You will need access to the internet in order to research some of your theories and a pen and paper to take notes.

BIG BANG DIGITAL ACTIVITY SCENARIO CARDS

Please use this sheet provided, by printing out each of the **four scenarios** below.

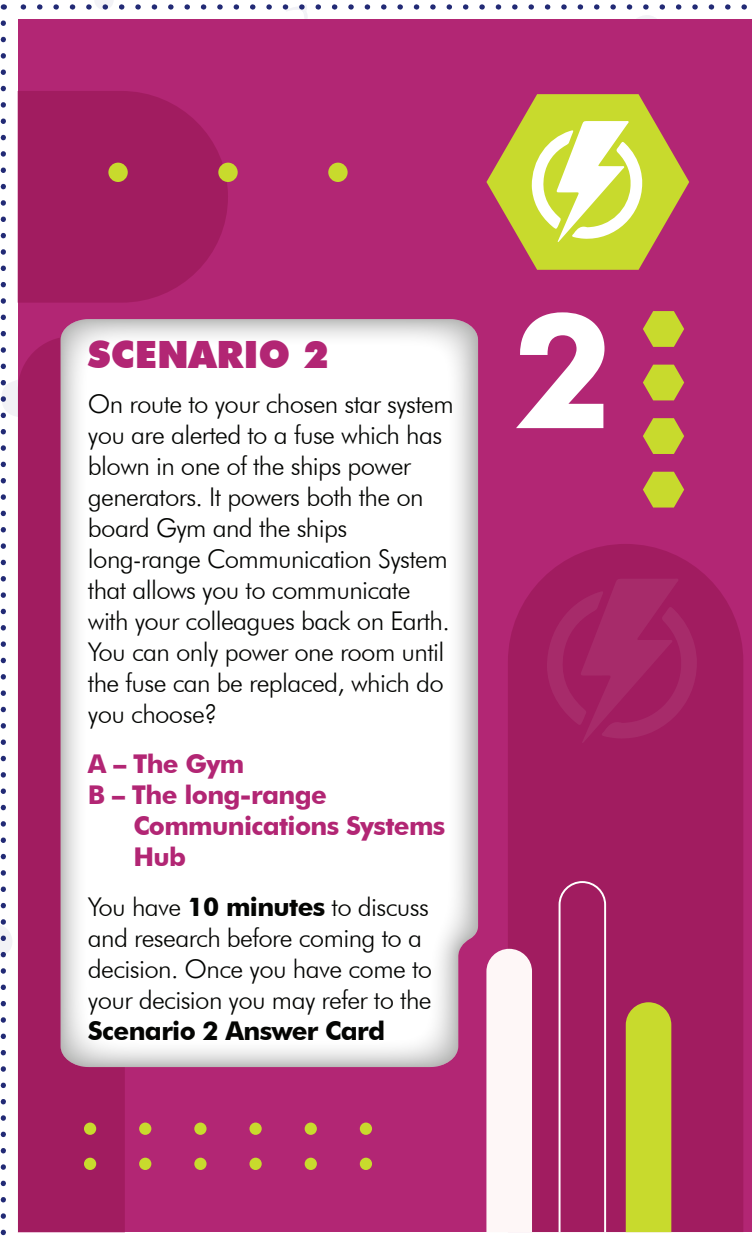


SCENARIO 1

Having settled in with your new team on board the Pytheas Space Shuttle your Captain has asked you and the other researchers to advise them on the next stages of the mission. You have identified two star systems within reach, a Red Dwarf system and a Sun-like Main Sequence Star System, which do you think you should choose?

A – Red Dwarf System
B – Sun-like Main Sequence Star System

Make a note of your chosen star system and any additional factors that you may feel relevant. Your decision will affect the final Scenario.

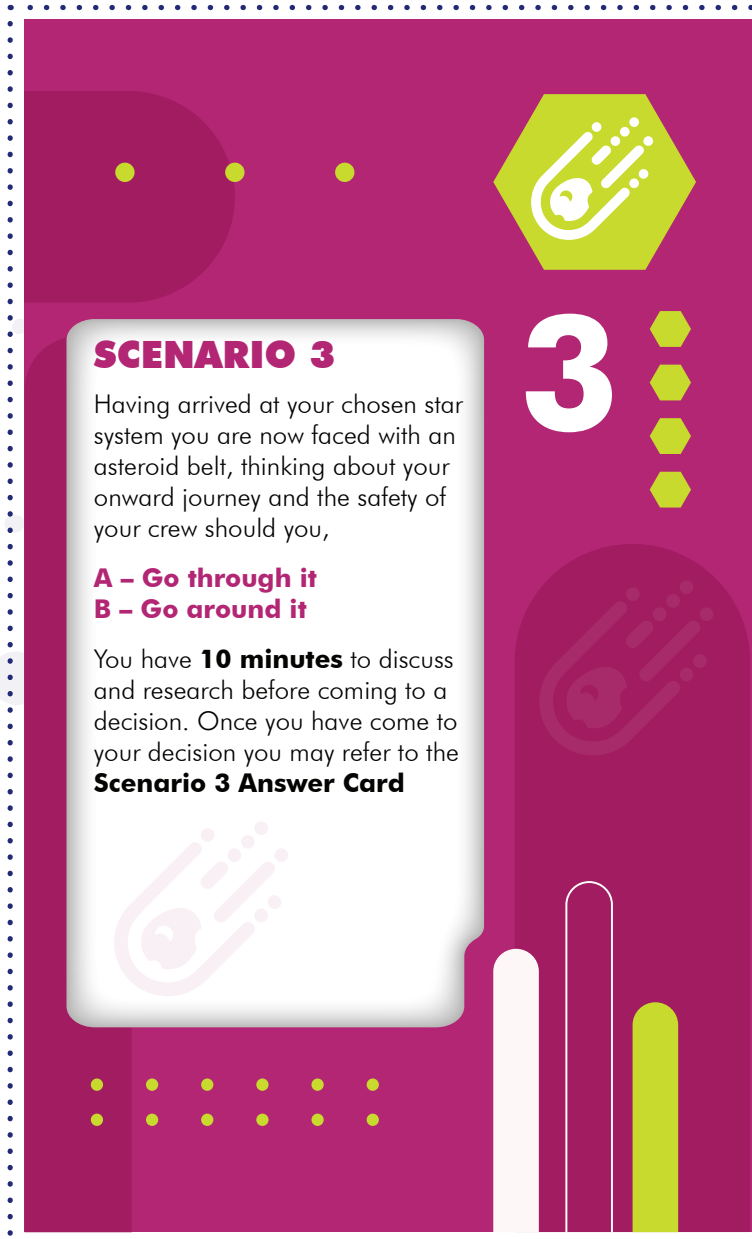


SCENARIO 2

On route to your chosen star system you are alerted to a fuse which has blown in one of the ships power generators. It powers both the on board Gym and the ships long-range Communication System that allows you to communicate with your colleagues back on Earth. You can only power one room until the fuse can be replaced, which do you choose?

A – The Gym
B – The long-range Communications Systems Hub

You have **10 minutes** to discuss and research before coming to a decision. Once you have come to your decision you may refer to the **Scenario 2 Answer Card**

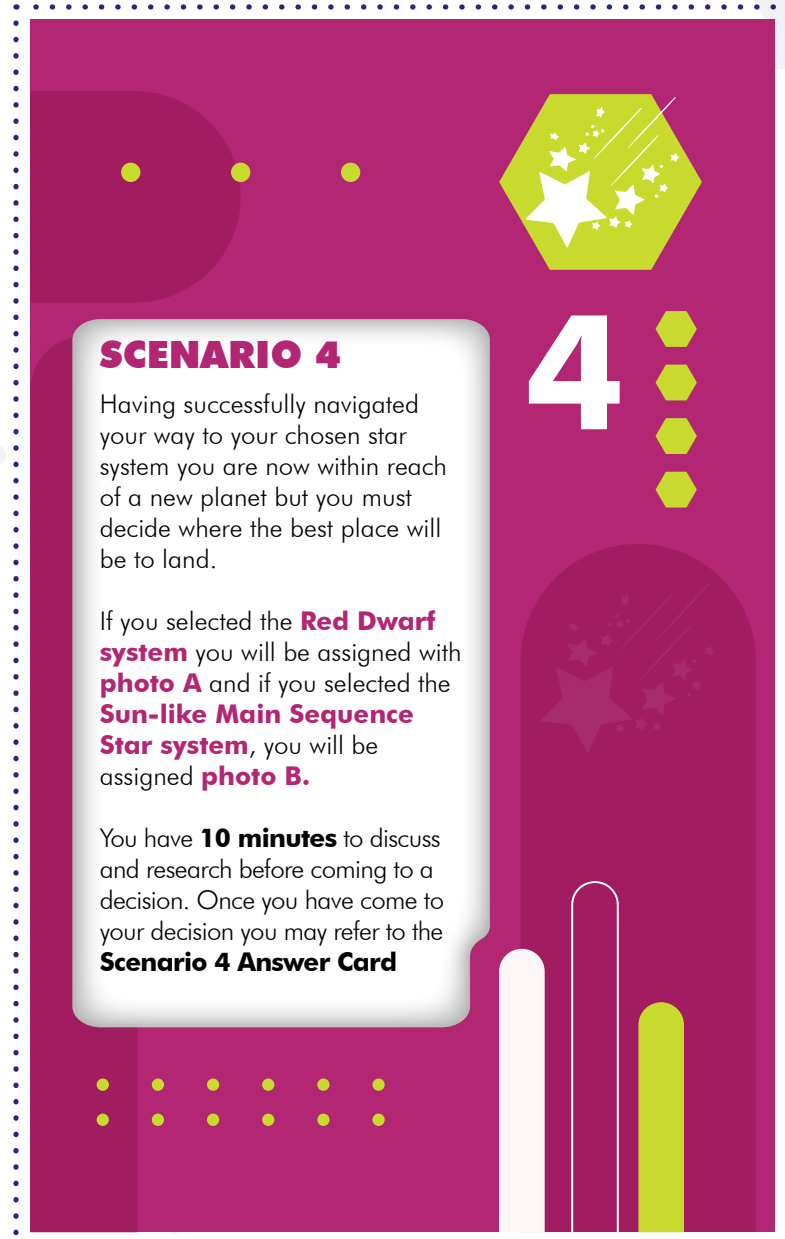


SCENARIO 3

Having arrived at your chosen star system you are now faced with an asteroid belt, thinking about your onward journey and the safety of your crew should you,

A – Go through it
B – Go around it

You have **10 minutes** to discuss and research before coming to a decision. Once you have come to your decision you may refer to the **Scenario 3 Answer Card**



SCENARIO 4

Having successfully navigated your way to your chosen star system you are now within reach of a new planet but you must decide where the best place will be to land.

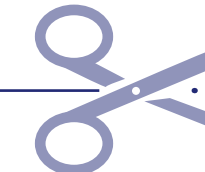
If you selected the **Red Dwarf system** you will be assigned with **photo A** and if you selected the **Sun-like Main Sequence Star system**, you will be assigned **photo B**.

You have **10 minutes** to discuss and research before coming to a decision. Once you have come to your decision you may refer to the **Scenario 4 Answer Card**

BIG BANG DIGITAL ACTIVITY ANSWER SHEET

Please use this sheet provided, by printing out each of the **four answer cards** below.

****Note for Teachers, you might want to look through the advice on the answer cards in advance of the activity if you feel your students may need any additional support. Please note there is no Scenario 1 Answer card as this scenario asked them to select a Star System. The photo cards provided on page 4 give them a visual of their Star System planet which will help them with Scenario 4.**



2

SCENARIO 2 ANSWER CARD

If your group decided to continue to power **the Gym** this was the right thing to do! To maintain muscle and bone density Astronauts must exercise for at least 2 hours a day, not doing this would be seriously detrimental to your health.

Due to the massive distance between your ship and Earth it would take a long time to send any message (it takes 1 year to send a message 1 light year away). So with this in mind you could safely afford to stop powering your **Communication System Hub**.

• • •

ANSWER

3

SCENARIO 3 ANSWER CARD

There is no straight forward answer with this scenario...If you decided to go for option A, **go through it**, you risk your hardware and electronics being damaged from asteroid particles*, however it would be the shorter route. If you chose B, **go around it**, this would be the safer option however your fuel supplies would be hugely depleted as well as resources on board such as food supplies. I think you should have taken the risk and gone through it!

***NB:** - Asteroid belt's tend to be made of mm-cm scale asteroid particulates separated by cm-m, unlike what is in Star Trek and Star Wars.

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ANSWER

4

SCENARIO 4 ANSWER CARD

RED DWARF PLANET

Things to suggest if they struggle:

The land on the hot side of the planet

- Too hot.
- Can immediately get out and walk around, no need to swim.
- Light all the time. – can see where to land (but also, always daytime? When/how to sleep?)

The water/green part of the planet

- Quite a small area, so quite difficult to land there.
- Likely to be just the right temperature.

The cold/icy part of the planet.

- Too cold.
- Dark all the time. – can't see where to land

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ANSWER

4

SCENARIO 4 ANSWER CARD

SUN-LIKE PLANET

Things to suggest if they struggle:

Land (close to storm)

- Close to storm, might get damaged in storm
- Lots of beaches, close to the sea – fishing?

Land (far from storm)

- Further away from storm, safer
- Quite small islands – might miss the landing zone and accidentally land elsewhere?

Water

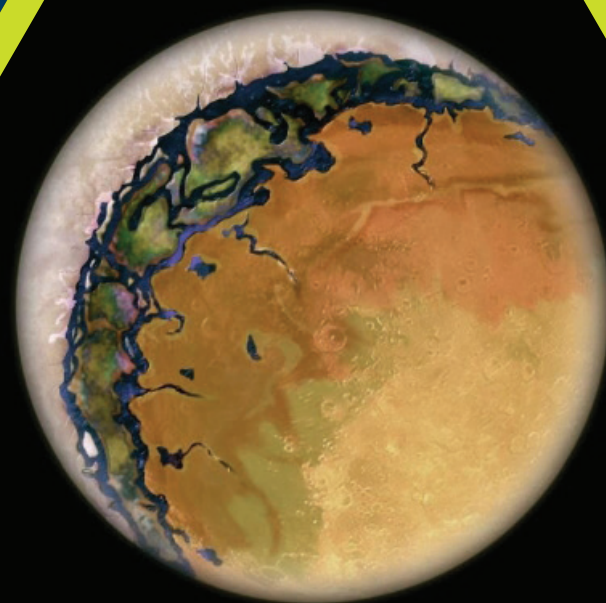
- Quite a large area. Likely to land in the sea if aiming for it.
- Have to swim to land – might be a long swim!

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ANSWER

BIG BANG DIGITAL ACTIVITY PHOTOGRAPHS

Please use this sheet provided, by printing out each of the **planet photographs** below.



**PHOTO A –
RED DWARF SYSTEM**



**PHOTO B –
SUN-LIKE MAIN
SEQUENCE
STAR SYSTEM**