The Tim Peake Primary Project

Resources to support the teaching of space from EYFS to KS2

25, 26 November 2015
4.30pm – 6pm

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Tim Peake's Mission to the ISS

LINK

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01. The scale of the Solar System 1 (distance) LINK

Planet	Distance from the Sun (20m string)	Distance from the Sun (10m string)	Distance from the Sun (5m string)
Mercury	27cm	13cm	7cm
Venus	47cm	23cm	12cm
Earth	67cm	33cm	17cm
Mars	1m	50cm	25cm
Jupiter	3.47m	1.73m	87cm
Saturn	6.33m	3.17m	1.58m
Uranus	12.67m	6.33m	3.17m
Neptune	20m	10m	5m

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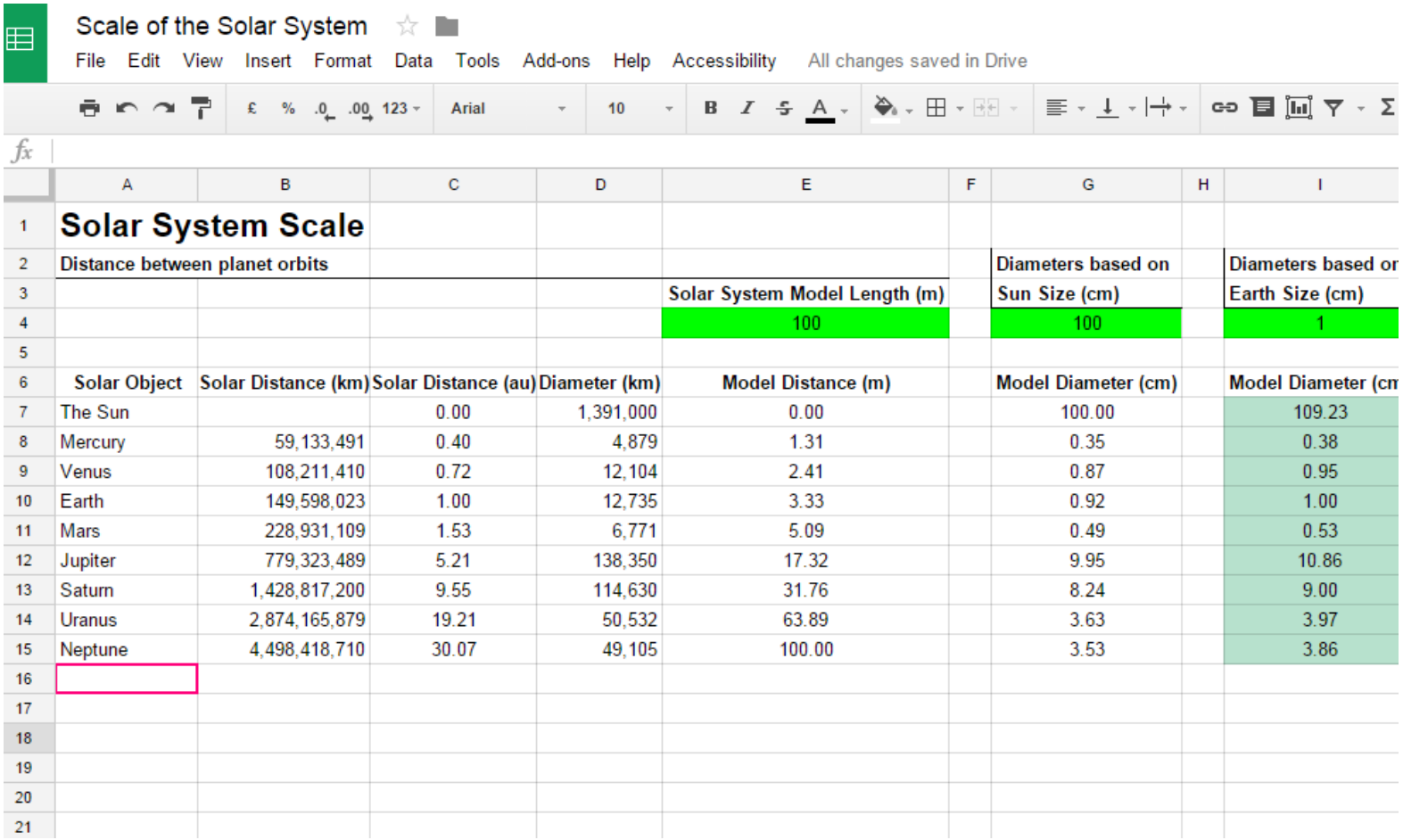
02. The scale of the Solar System 2 (size)

LINK



Scale of the Solar System

File Edit View Insert Format Data Tools Add-ons Help Accessibility All changes saved in Drive

	A	B	C	D	E	F	G	H	I
1	**Solar System Scale**								
2	Distance between planet orbits						Diameters based on		Diameters based or
3					Solar System Model Length (m)		Sun Size (cm)		Earth Size (cm)
4					100		100		1
5									
6	Solar Object	Solar Distance (km)	Solar Distance (au)	Diameter (km)	Model Distance (m)		Model Diameter (cm)		Model Diameter (cm
7	The Sun		0.00	1,391,000	0.00		100.00		109.23
8	Mercury	59,133,491	0.40	4,879	1.31		0.35		0.38
9	Venus	108,211,410	0.72	12,104	2.41		0.87		0.95
10	Earth	149,598,023	1.00	12,735	3.33		0.92		1.00
11	Mars	228,931,109	1.53	6,771	5.09		0.49		0.53
12	Jupiter	779,323,489	5.21	138,350	17.32		9.95		10.86
13	Saturn	1,428,817,200	9.55	114,630	31.76		8.24		9.00
14	Uranus	2,874,165,879	19.21	50,532	63.89		3.63		3.97
15	Neptune	4,498,418,710	30.07	49,105	100.00		3.53		3.86
16									
17									
18									
19									
20									
21									

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03. The scale of the Solar System 3 (size and distance) LINK

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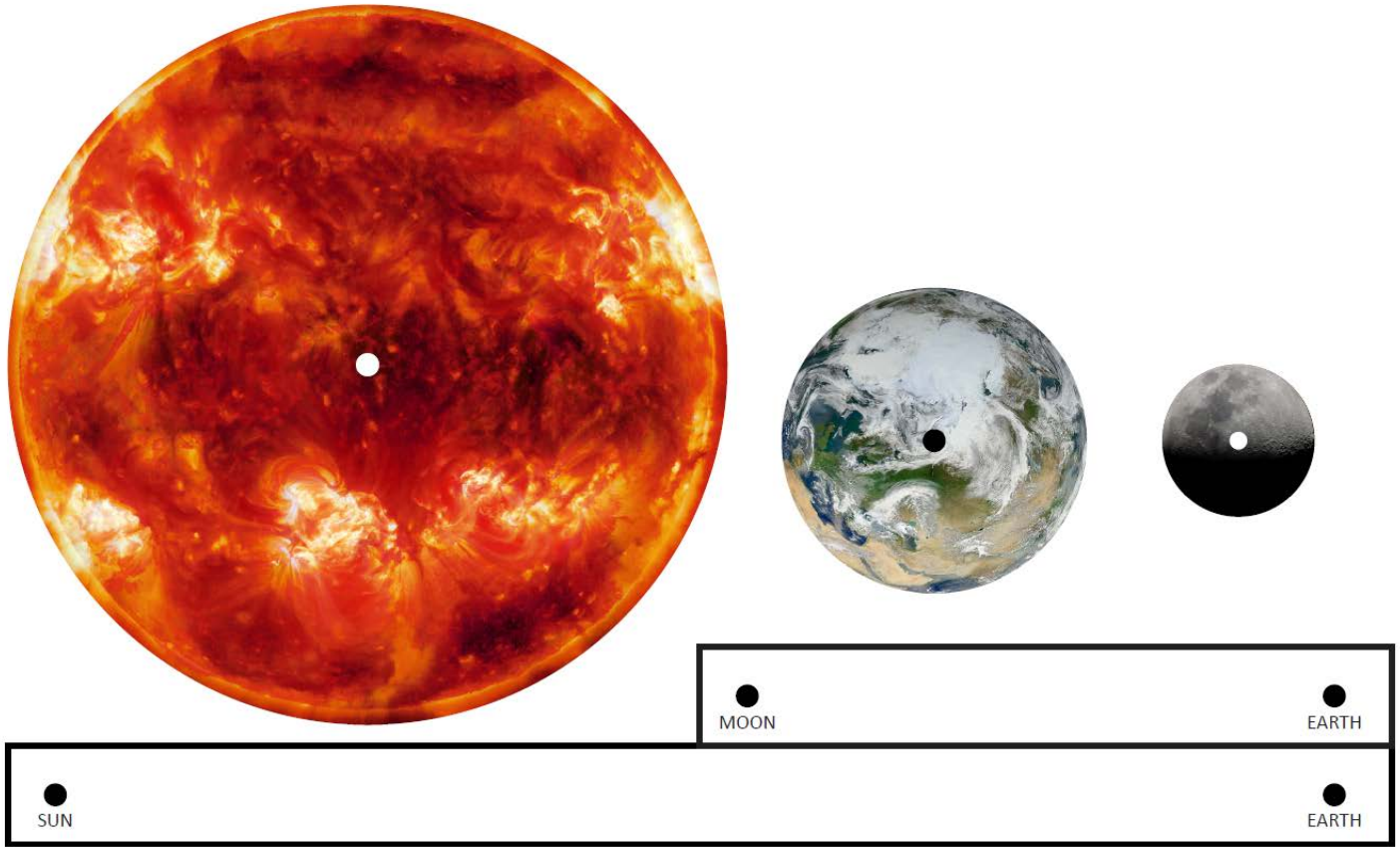
04. Modelling the Earth, Sun and Moon LINK



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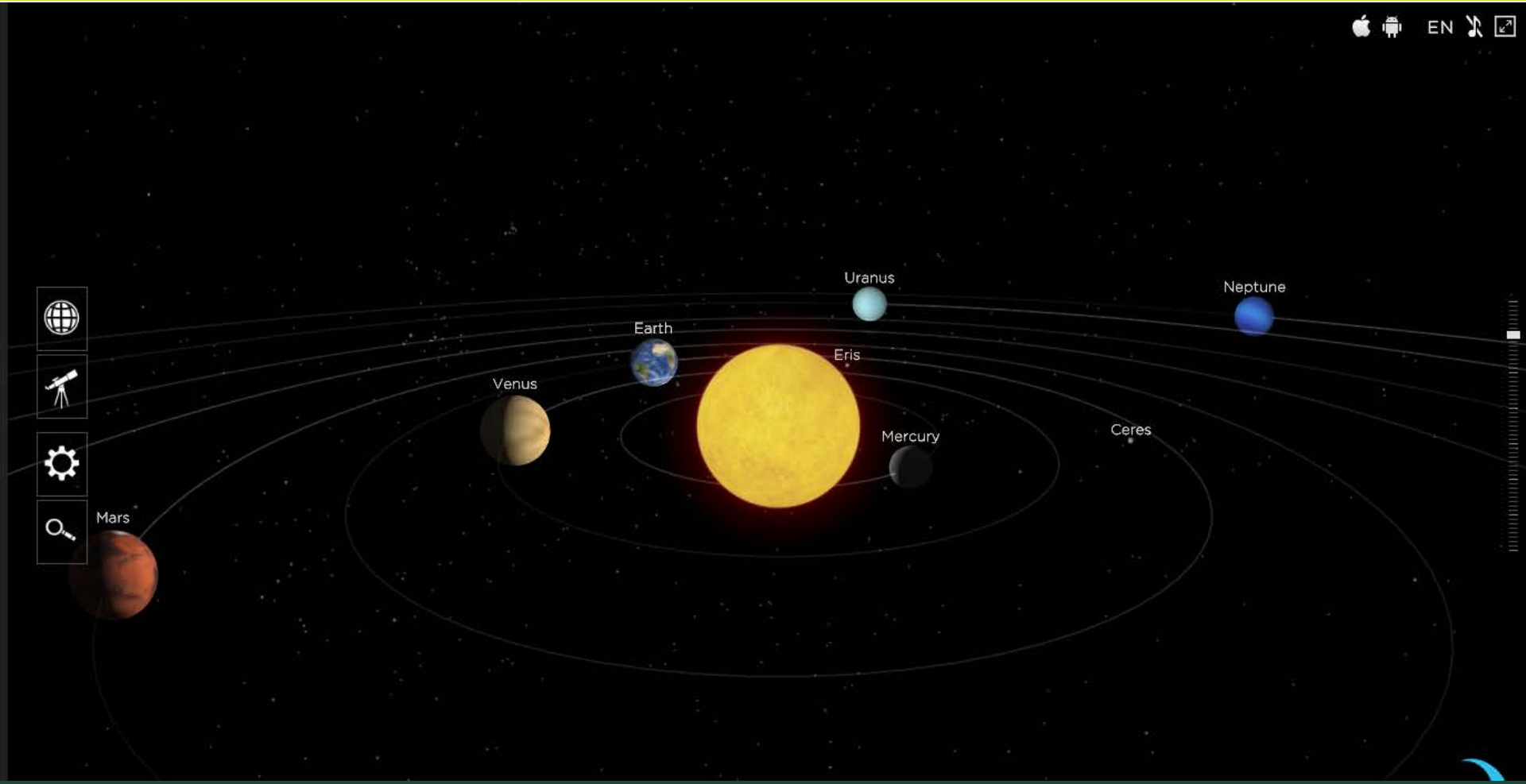
05. The Solar System Scope

LINK



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Action planning activities 01 - 05

01. The scale of the Solar System 1 (distance)
02. The scale of the Solar System 2
03. The scale of the Solar System 3 (size and distance)
04. Modelling the Earth, Sun and Moon
05. The Solar System Scope

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06. Astronauts on Twitter

LINK

@Cmdr_Hadfield

@StationCDRKelly

@Astro_Wheels

@AstroSamantha

@astro_Pettit

@TheRealBuzz

@Aki_Hoshide

@RichardGarriott

@astro_timpeake

@Astro_Suni

07. The International Space Station (video feed) LINK LINK

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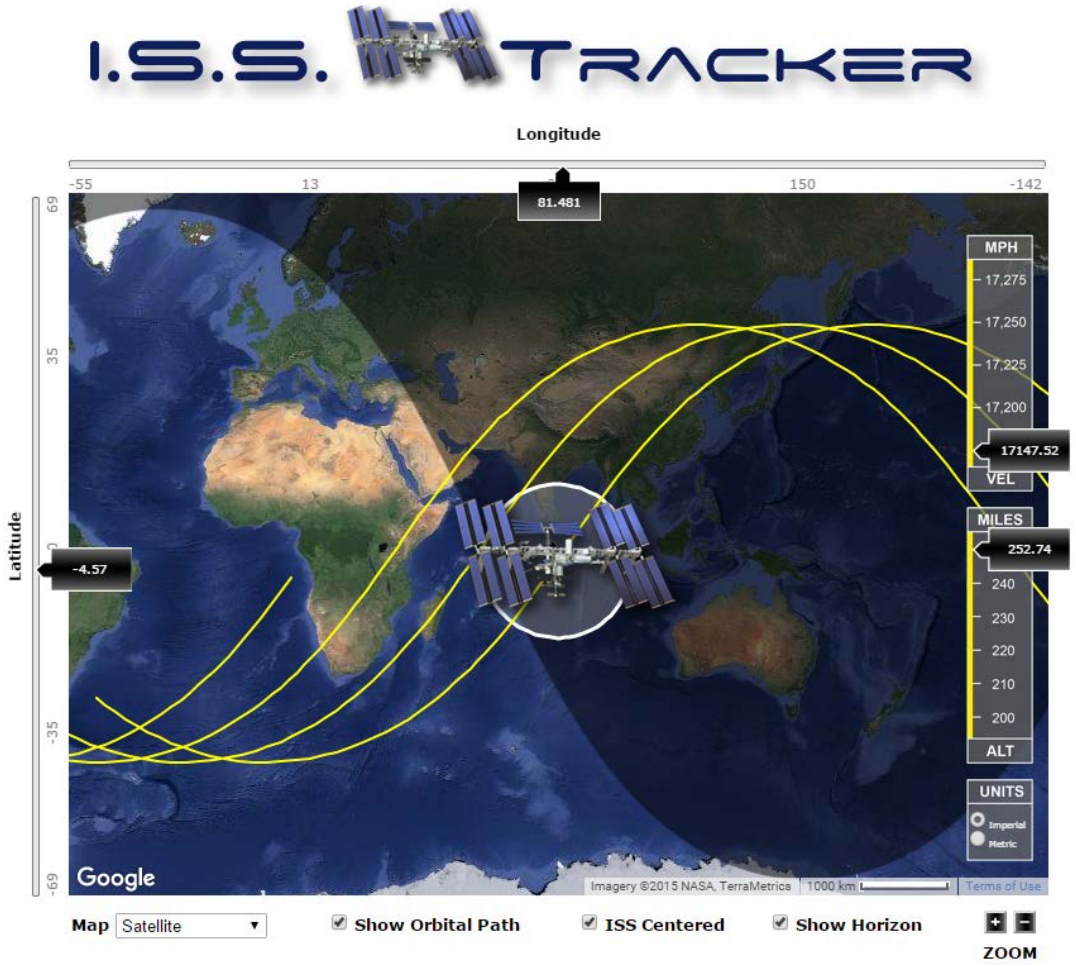
08. The International Space Station (tracker) LINK



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09. The Earth and the ISS

Earth diameter (cm) x 0.032 = Height of ISS above Earth

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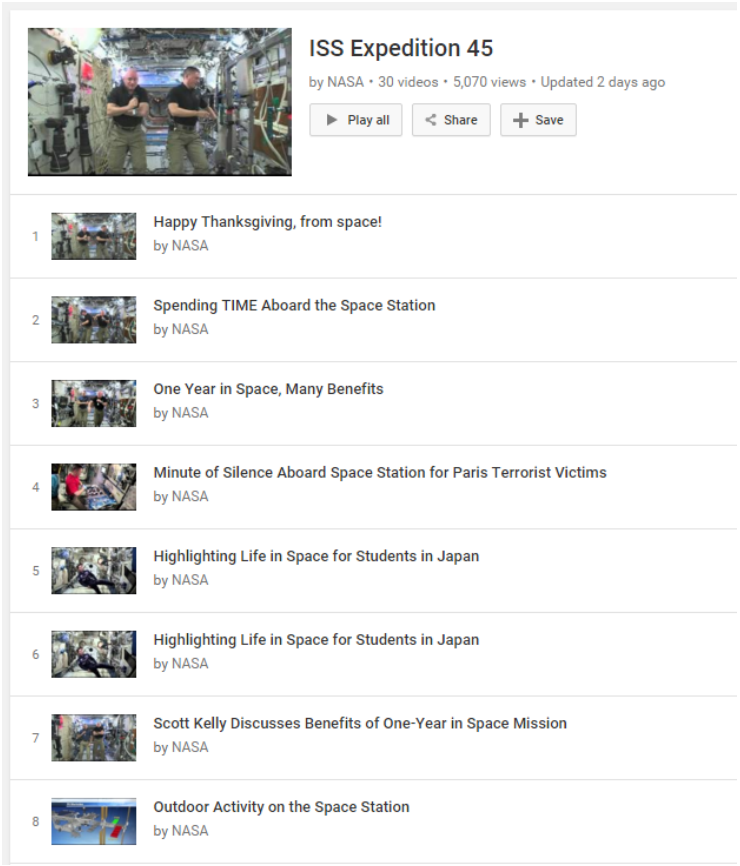
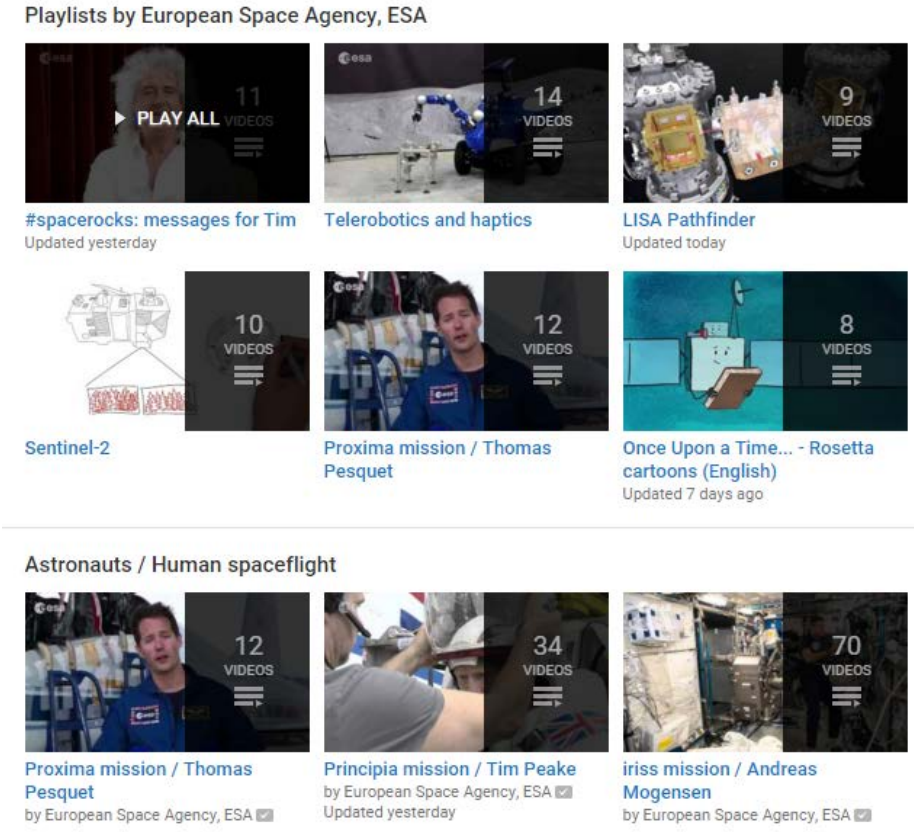
10. NASA and ESA videos of the ISS LINK LINK





Action planning activities 06 - 10

06. Astronauts on Twitter
07. The International Space Station (video feed)
08. The International Space Station (tracker)
09. The Earth and the ISS
10. NASA and ESA websites

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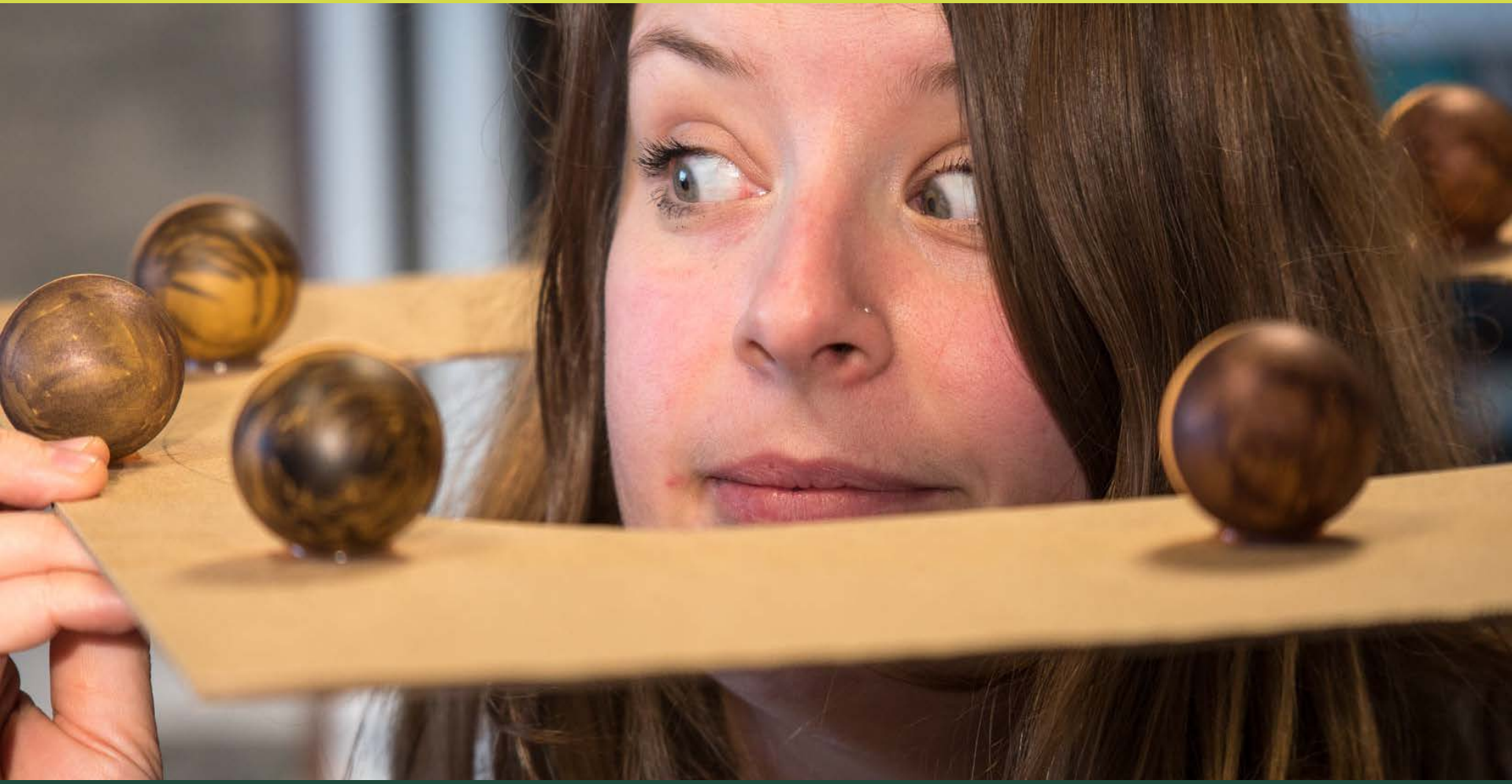
11. The phases of the Moon



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12. Lunar Diaries

LINK

Your Lunar Diary

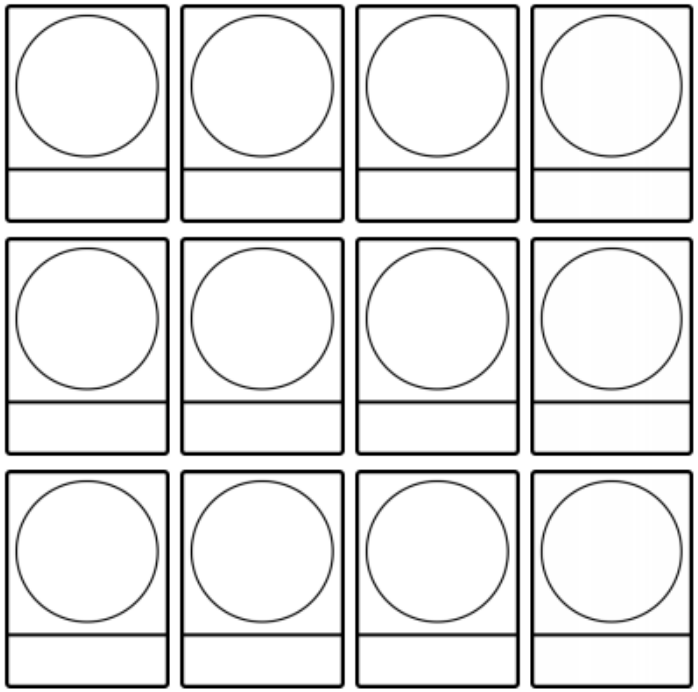
The moon is a natural satellite which orbits (spins around) the Earth. The shape we see is a result of the position of the moon relative to the sun. We see the brightly-lit part of the moon where light from the sun falls upon it. For more details, check out our website.

Unlike the sun, the moon is not dangerous to look at. Try using a pair of binoculars to take a closer look. You'll be able to see ancient craters from meteors that have hit the moon's surface over billions of years.

In 1969, the moon was visited by astronauts for the first time. Since then, a total of 12 astronauts have walked on the surface of the moon. 6 of them drove lunar vehicles!

Parents

The space sector is growing rapidly in the UK, with the Government planning major expansion from now until 2030. Careers in space include: aerospace engineering, the satellite industry, astrophysics, space programme development, astrobiology, geology, research, manufacturing spacecraft and satellite components, as well as working within data analysis



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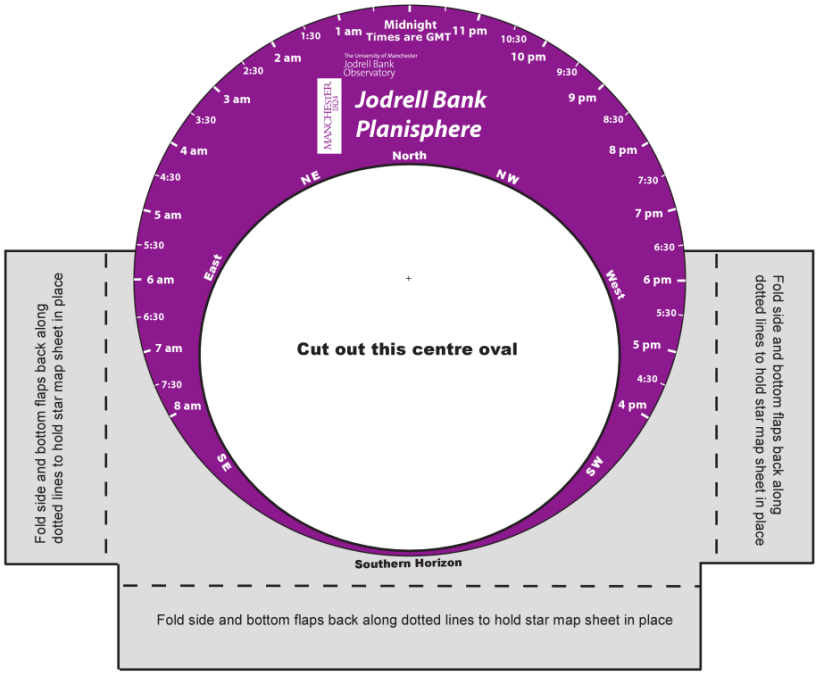
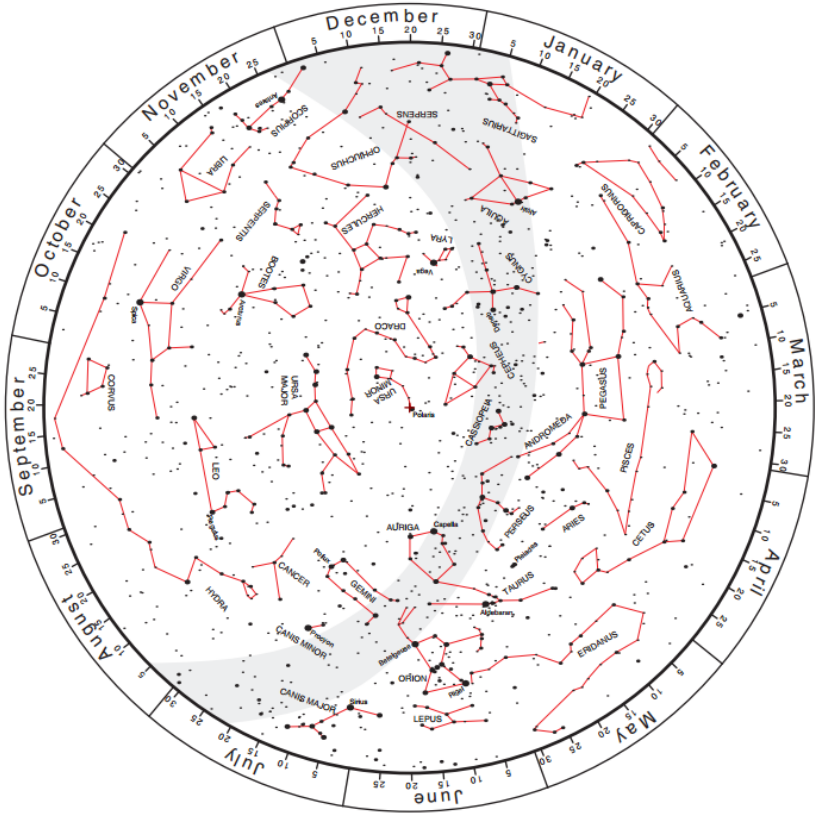
13. Planispheres

LINK





14. Celestia

LINK

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15. Stellarium LINK

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Action planning activities 11 - 15

11. The phases of the Moon
12. Lunar Diaries
13. Planispheres
14. Celestia
15. Stellarium

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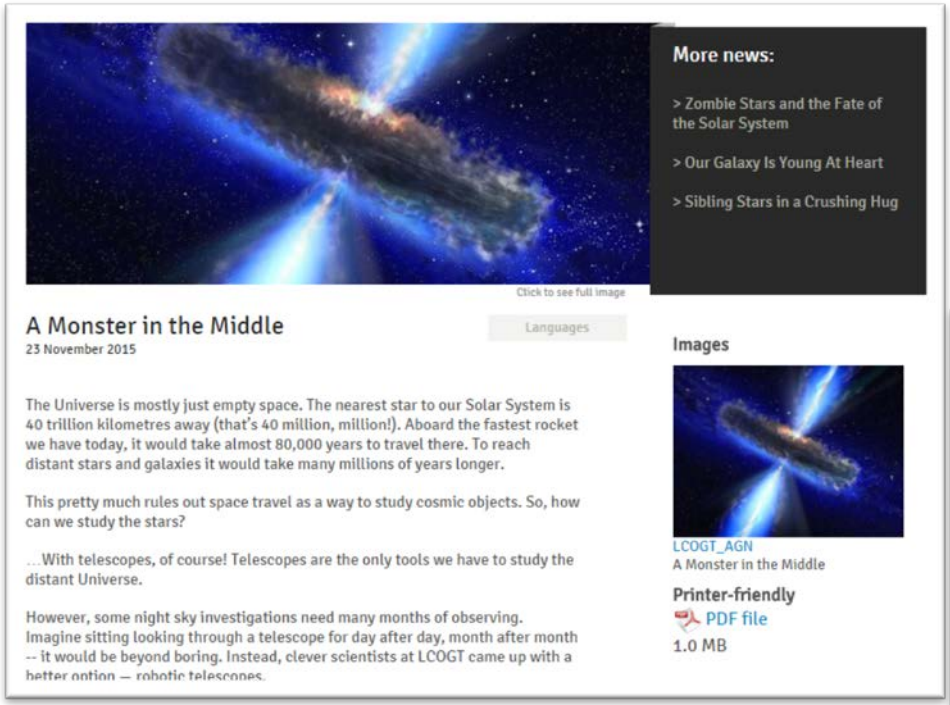
16. Space Scoop

LINK



More news:

> Zombie Stars and the Fate of the Solar System

> Our Galaxy Is Young At Heart

> Sibling Stars in a Crushing Hug

Click to see full image

A Monster in the Middle

23 November 2015

Languages

The Universe is mostly just empty space. The nearest star to our Solar System is 40 trillion kilometres away (that's 40 million, million!). Aboard the fastest rocket we have today, it would take almost 80,000 years to travel there. To reach distant stars and galaxies it would take many millions of years longer.

This pretty much rules out space travel as a way to study cosmic objects. So, how can we study the stars?

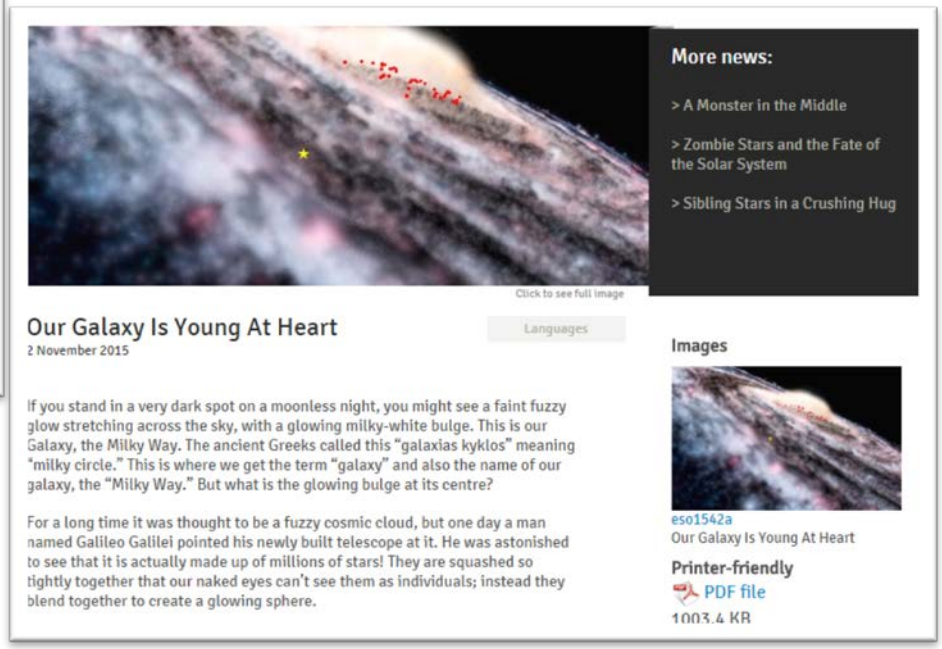
...With telescopes, of course! Telescopes are the only tools we have to study the distant Universe.

However, some night sky investigations need many months of observing. Imagine sitting looking through a telescope for day after day, month after month -- it would be beyond boring. Instead, clever scientists at LCOGT came up with a better option — robotic telescopes.

Images

LCOGT_AGN
A Monster in the Middle

Printer-friendly
PDF file
1.0 MB



More news:

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Click to see full image

Our Galaxy Is Young At Heart

2 November 2015

Languages

If you stand in a very dark spot on a moonless night, you might see a faint fuzzy glow stretching across the sky, with a glowing milky-white bulge. This is our Galaxy, the Milky Way. The ancient Greeks called this "galaxias kyklos" meaning "milky circle." This is where we get the term "galaxy" and also the name of our galaxy, the "Milky Way." But what is the glowing bulge at its centre?

For a long time it was thought to be a fuzzy cosmic cloud, but one day a man named Galileo Galilei pointed his newly built telescope at it. He was astonished to see that it is actually made up of millions of stars! They are squashed so tightly together that our naked eyes can't see them as individuals; instead they blend together to create a glowing sphere.

Images

eso1542a
Our Galaxy Is Young At Heart

Printer-friendly
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1003.4 KB

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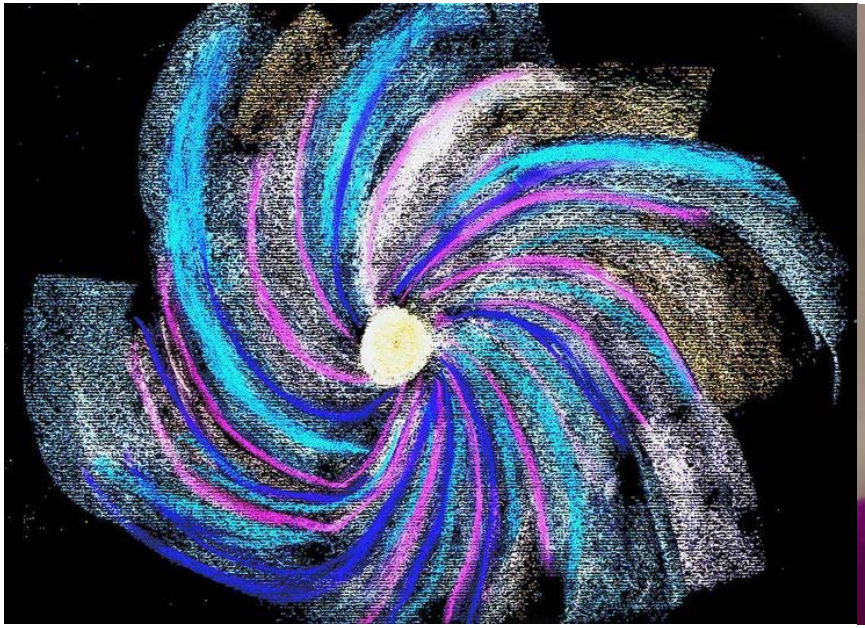
17. Galaxy inspired art

LINK



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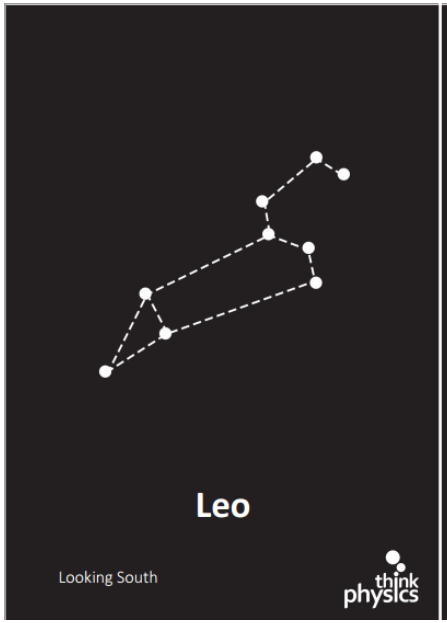
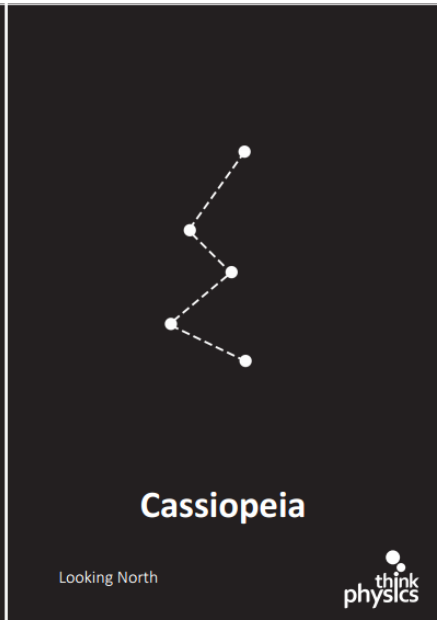
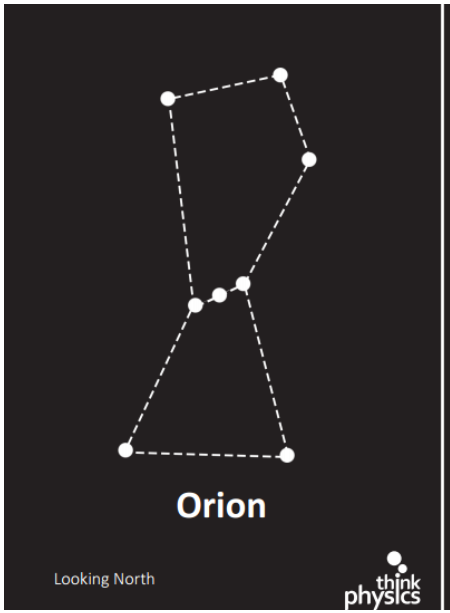
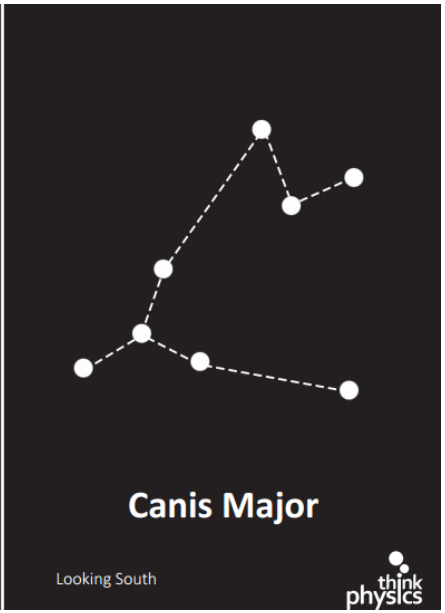
18. Constellation sewing cards

LINK









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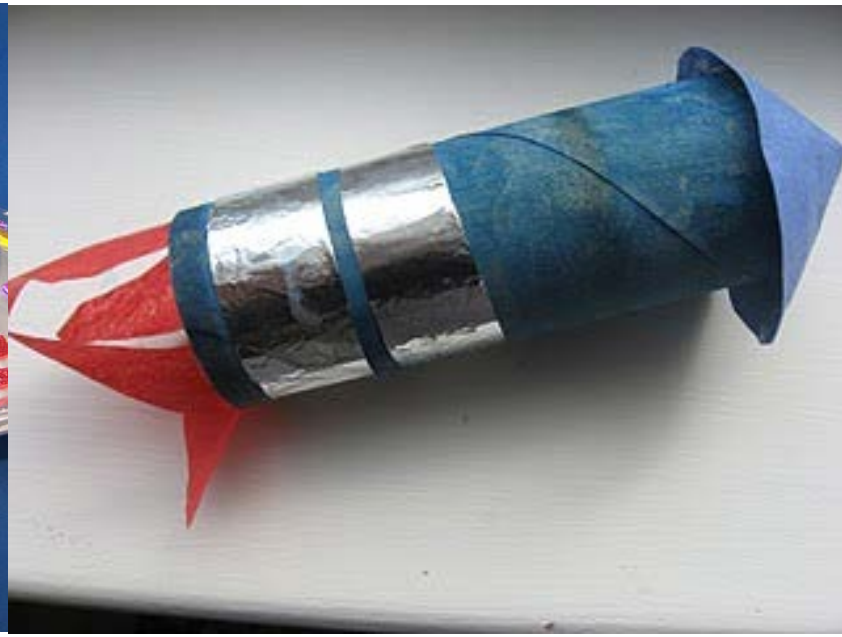
19. Space craft junk modelling

LINK



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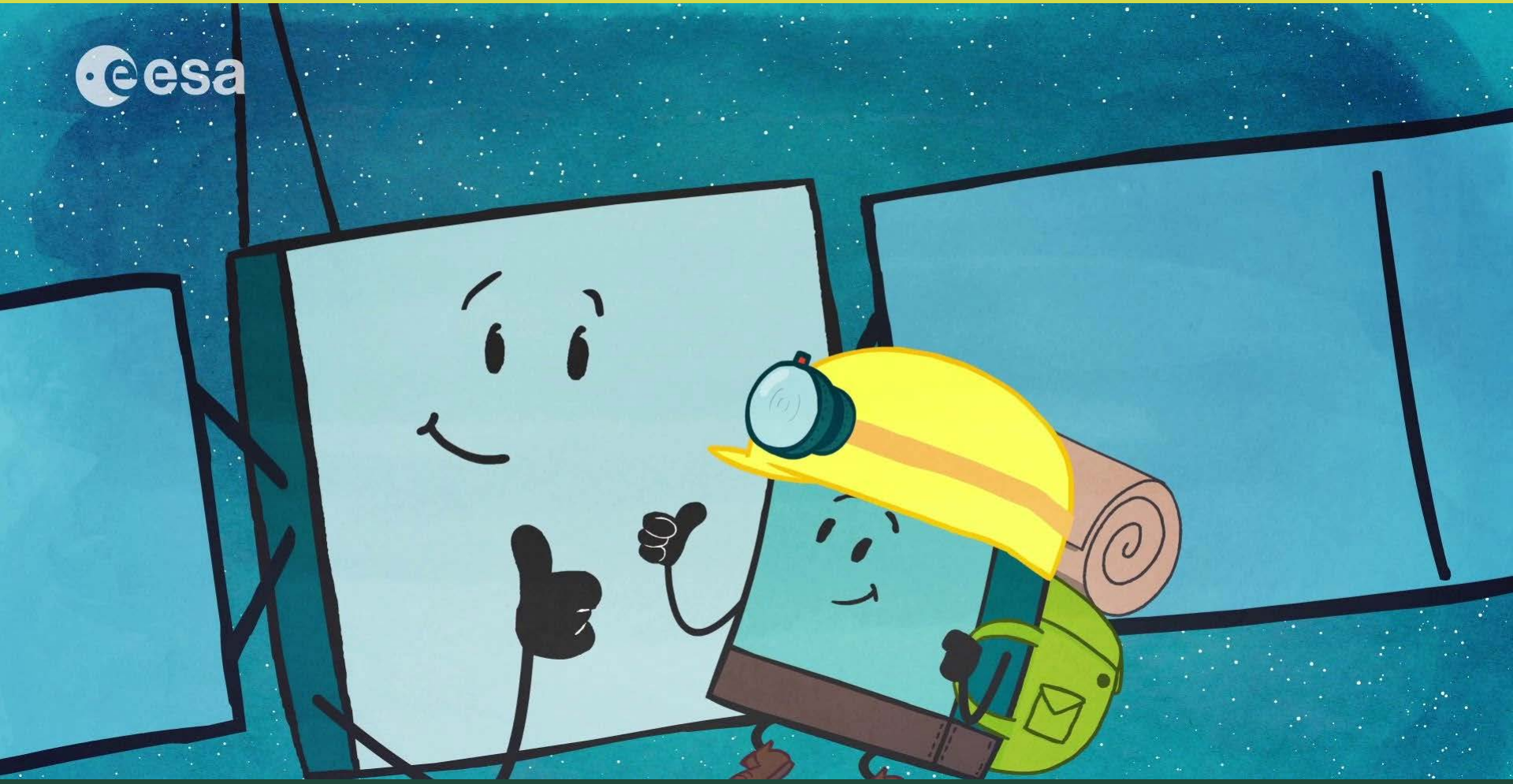
20. Rosetta, Philae and comet 67p

LINK



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Action planning activities 16 - 20

16. Space Scoop
17. Galaxy inspired art
18. Constellation sewing cards
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Think Physics

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