



Huntingdon District Space Challenge



Space Challenge

This is an activity pack for all guiding sections.

The activities in this challenge pack are broken into 4 sections. We suggest that to complete the badge, units should complete a range of activities from all of the sections but should complete at least:

Rainbows	1 activity from each section
Brownies	1 activity from each section + 2 from any section
Guides	1 activity from each section + 4 from any section
Senior Section and Adults	2 activities from each section + 2 from any section

You could use this badge as part of your unit meetings or for a camp or sleepover. Once you have finished, send off for your badges (see the order form at the back of the pack).

We hope you enjoy completing the challenge.

Sections

Rockets
Exploring Space
Stars & Planets
Satellites



Rockets

To get into space you need to use rockets, for this section you can either build and launch your own rockets or go visit some at either a museum or amateur rocket launch.

Build a Paper rocket

These are easy rockets to build and use just paper and straws. The girls get to blow hard to make them go high. (see resource pack)

Build a Film-pot rocket

These rockets use a simple chemical reaction to launch over the girls head, these can be done indoors if you have a high ceiling (see resource pack)

Make your own Aquajet

These rockets are powered by water and pressurised air, these need to be done outdoors on a reasonable sized field (see resource pack)

Make a Stomp Rocket

Build your own stomp rockets and launcher just like you get in the shops but lots cheaper (see resource pack)

Make a foam rocket

These rockets use the power built up in an elastic band (see resource pack)

Build and launch a Black Powder model rocket

These rockets use real rocket motors, they require some care and a reasonable sized field to launch. Please use the resources in the pack to get more details and links to shops who sell, safety codes and risk assessments. Alternatively some rocket clubs may be willing to run a starter session for you to build and launch a rocket.

Visit the National Space Centre in Leicester or London Science Museum to see their rockets.

- Which rockets did you see?
- Which was your favourite?

Visit a rocket launch

See <http://ukra.org.uk> for rocket launches held around the UK, please contact the club before attending.

Exploring Space



Since 1961 men and women have been going into space to both explore space itself and to do experiments in space. Man has had a space station since 1971 and we have continuously had people manning the ISS since Oct 2000. In this section we can learn a bit more about humans in space exploration.

Space History

Find out about our history in space from the first rocket to get to space to present day. Draw a timeline and find pictures to stick to it for some of the major events.

Man on the Moon

Find out about first man on the moon

- Who was the first man on the moon?
- When did it happen?
- How long did he stay?
- How many people have been on the moon?

then do one of these activities

- Make your own moon habitat - <http://www.spaceplace.nasa.gov/moon-habitat/en/>, younger girls can use chairs and sheets.
- Make a Model of the moon with a balloon and paper mache, make sure you get the craters

Space food

- View the video on eating and drinking on ISS or find out about space food (see resource pack)
- Discuss the food astronauts eat
 - rehydrated food - to keep weight of transporting down
 - stopping liquids floating
 - balanced diet
- Try some space food

Hold a Space Themed Campfire

Astronauts have to create their own entertainment: hold your own space themed campfire, make up and sing space themed songs - See sample songs in Space Challenge Song Pack at the end of the resource pack.

Design a mission patch

Every astronaut crew who fly to the ISS have their own mission patch. This mission patch is sewn onto their astronaut suits. It represents their specific mission.

In small groups (sixes, patrols etc.) get the girls to design and make their group mission patch

Find out about ISS

- How many countries participate in the ISS?
- What is it's main purpose?
- What Orbit is it in?
- Try to see ISS, it is sometimes visible from Earth, if this is not practical then just find out what times it will be above.

Build your own ISS (see resources in resource pack)

Make an alien

Is there any other life in space? Man has been looking for other lifeforms in space and have yet to find any. For this activity make your own aliens, what do you think they look like?

Trip to Space memory Game

The first person starts with I packed my rocket for a trip into space and took an [apple]
the next repeats it all and adds a 'b item ' etc

Stars & Planets



In this section we will find out about the solar system, what planets are in it, what size and how far apart they are. We'll also look at the stars and constellations.

Go Star Gazing

- Make a planisphere (template in resource pack)
- Find 2 constellations in the night sky
- Find the pole star.

Find about about the Mars rovers Spirit & Opportunity

- What sensors do they have?
- How long did it take them to get to Mars?
- How long have they been there?
- Rainbows can colour in Mars Curiosity (see resource pack)
- Make a Mars rover (see resource pack)

Scale Our Solar System

The Universe is huge! It is so big that it is difficult to imagine. If the whole unit works together, you can make a model of our Solar System to get an idea about the distances in the Universe.

You will need an open field, a tape measure and the table in the resource pack. Go outside and place yourselves at the correct distances.

You can also make models of the Sun and the planets. Use the table in the resource pack to find out how big the models should be (use balls, marbles, nuts or sand, for example).

Play Planet Mixup game (see resource pack)

This is a simple game to help the girls remember some of the planets

Make an Indoor Planetarium

- Make indoor planetariums and view some of the many constellations (see resource pack)
- Get girls to design their own constellations and see what they look like

Make star or planet cookies

Make either star shaped cookies or round cookies and decorate as planets.

Make a planet

See the resource pack for various ideas from paper plates and paint to paper mache planets

Make a solar system mobile

This activity is a little more fiddily so better for older girls or have some preparation done ahead of the meeting.

Visit a planetarium

A visit to a planetarium is a good way for girls to see the stars when either it's not dark enough during meetings or the weather is poor.



Satellites

Satellites orbit our planet and can either be man made or natural (the moon). Although we cannot often see satellites, they are incredibly important to our daily lives. They help us with forecasting the weather, finding our way, talking to people far away and even for watching TV.

Find out about satellites and what they are used for

1. When was the first satellite launched?
2. What was it called?
3. What country launched it?
4. Give examples of satellites currently in space which help us with
 - TV
 - Weather Predictions
 - Navigation
 - Communication
 - Stargazing

Find out how to make a satellite

Many of the satellites are for earth observation, to help predict weather and to see how we are changing the planet e.g. with global warming and deforestation. For this activity find out what goes into and how a weather satellite is built. The resource pack contains a leaflet on how a weather satellite is built.

Make rain, pressure and wind measuring devices.

Keep a log of the weather for 1 week and see how it compares with the forecast. (see resources for how to take measurements)

- Time (Choose same time each day)
- Temperature
- Directing of wind
- Pressure
- Amount of rain / snow (reset to 0 after you measure)
- Conditions i.e. cloudy, sunny, raining, snowing

Find out about a satellite and make your own model

- see resource pack for various models.

Learn about geocaching

- Find out about geocaching
- Find a geocache using a handheld GPS or mobile phone
- Create your own and hide a geocache

The moon is also a satellite which orbits Earth,

Create a moon phase dial and use it to find out what phase the moon is currently in, see resource pack for template.

Some satellites have communicated back to Earth using morse code

- Learn morse code (see resource pack)
- Send messages using either a buzzer or torch, for the girls to decode.

Space Challenge Resource Pack

More resources can be found on our website at
<http://www.spacechallenge.org.uk>

Rockets

Build a Paper rocket

To build paper rockets you'll need

- Printouts of the rocket templates (3 per A4 sheet)
- Straws
- Sellotape
- Sharpened pencils (Alternatively you can buy dowel from B&Q and cut it to pencil sized lengths and sharpen one side to a blunt point)

The templates and instructions on how to build can be found at
<http://www.spacechallenge.org.uk/paperrockets>

Build a Film-pot rocket

To build film pot rockets you'll need

- Printouts of the rocket templates
- 1 film pot per rocket
- Sellotape
- Effervescent vitamin C tablets
- Water
- Outdoor space or high roofed hall and ground sheet

Once rocket build, put 1/4 of a vitamin C tablet and 2 t/l spoons of water in the film pot and place on ground, ensure everyone is standing back and wait for it to launch.

The templates and instructions on how to build can be found at
<http://www.spacechallenge.org.uk/filmpotrockets>

Make your own Aquajet -

The launcher will need various bits from B&Q, since we use metric parts in uk substitute the closest metric size. The launcher is moderately difficult to make but once made fun be used lots so may be worth having 1 for a district. Detail on how to make are here:

http://www.nasa.gov/pdf/153405main_Rockets_Water_Rocket_Launcher.pdf

The rockets are much simpler, you need:

- 2 litre drinks bottle
- paper to make nosecone
- card for fins
- water

Instructions for building can be found here: http://www.nasa.gov/audience/foreducators/topnav/materials/listbytype/Water_Rocket_Construction.html

Make a Stomp Rocket

To build a stomp rocket launcher you will need:

- 3 garden canes (approx. 50cm long)
- Some string
- 1m length of tube, this can be bought in B&Q
- The nozzle from a silicon sealant tube (poundland do silicone sealant)
- 2 litre drinks bottle (you may need a few)
- Hot glue

1. Make a tripod using the string and garden canes
2. Make a hole in the bottle top
3. Attach the tube to the bottle top at one end
4. Attach the tube to the nozzle
5. Tie the nozzle to the tripod, with the nozzle pointing vertical
6. Attach the bottle to the bottle top

For rockets (1 rocket per girl):

- Lengths of pipe insulating foam from B&Q. Note if the slit goes all the way to the core you'll need to glue or tape this up, the foam I got didn't. (79p makes 4 rockets)
- Wide masking tape (2 rolls in a pack from poundland)
- Foam sheets or cardboard
- Glue

1. Cut the insulating foam into 4 equal lengths
2. Use masking tape to seal one end, this is the soft nosecone.
3. Cut fins out of foam sheet or card
4. Glue fins onto the back

To launch, slide rocket onto the nozzle, get girl to jump on the bottle and rocket will launch.

Make a foam rocket

To make a foam rocket you'll need

- Lengths of pipe insulating foam from B&Q. Note if the slit goes all the way to the core you'll need to glue or tape this up, the foam I got didn't. (79p makes 4 rockets)
- Sturdy cable ties
- Thick strong elastic bands
- Cardboard
- Glue

The instructions on how to make are here:

<http://www.wikihow.com/Make-a-Foam-Rocket>

BP Rockets

BP (Black Powder) rockets need some care, please visit the UKRA website (<http://www.ukra.org.uk/youth>) for more details on Model rocket construction, Risk assessments, and rocketry vendors from which you can buy the motors. You must follow the UKRA Safety Code - <http://www.ukra.org.uk/safetycode>

It may be easier to contact a local club who hold launches and see if you can go along to launch with them. <http://www.ukra.org.uk/clubs>

Visit the National Space Centre in Leicester or London Science Museum to see their rockets.

National Space Centre,
Exploration Drive,
Leicester,
LE4 5NS

<http://www.spacecentre.co.uk>

The Science Museum
Exhibition Road
South Kensington
London
SW7 2DD

<http://www.sciencemuseum.org.uk>

Visit a rocket launch - see <http://ukra.org.uk> for rocket launches held around the UK, please contact the club before attending.

Exploring Space

Space History

Notable Dates ...

- Satellite in Earth orbit: 1957 Soviet Union - Sputnik 1
- Living creature in space: 1957 Soviet Union - The dog Laika (died after ten days in orbit)
- Probe on the Moon: 1959 Soviet Union - Luna 2 (impact)
- Man in space: 1961 Soviet Union - Yuri Gagarin, "Vostok"
- Woman in space: 1963 Soviet Union - Valentina Tereshkova
- Spacewalk: 1965 Soviet Union - Aleksei Leonov
- Man on the Moon: 1969 USA - Neil Armstrong and Buzz Aldrin "Apollo 11"
- Space Station: 1971 Soviet Union - Salyut-1
- Space Station: 1986–2001 Russia - Mir
- Space Station: 1998–present International - ISS

Man on the Moon

Find out about first man on the moon - <http://www.nasa.gov/audience/forstudents/k-4/stories/first-person-on-moon.html> then do one of these activities

- Make your own moon habitat - <http://www.spaceplace.nasa.gov/moon-habitat/en/>, younger girls can use chairs and sheets.
- Make a Model of the moon with a balloon and paper mache, make sure you get the craters

Space food

Find out about food astronauts eat:

- See eating and drinking on ISS - http://www.esa.int/Our_Activities/Human_Spaceflight/Lessons_online/Life_in_Space - video
- <http://www.spacekids.co.uk/spacefood/>
- http://www.nasa.gov/audience/forstudents/postsecondary/features/F_Food_for_Space_Flight.html

- Discuss why astronauts can't just eat food like we do
 - rehydrated food - to keep weight of transporting down
 - stopping liquids floating
 - balanced diet
- Try some space food
 - Pot noodles,
 - http://www.amazon.co.uk/s/?ie=UTF8&keywords=space+food&tag=mh0a9-21&index=aps&hvadid=2978974978&ref=pd_sl_2x6a8pqtva_pp
 - Make birds or similar instant custard (just add warm water) in a ziplock bag for girls to drink with a straw.
 - Make a powdered drink in a ziplock bag for girls to drink with a straw.

Hold a Space Themed Campfire

See sample songs at end of this section.

Design a mission patch:

Every astronaut crew who fly to the ISS have their own mission patch. This mission patch is sewn onto their astronaut suits. It represents their specific mission.

In small groups (sixes, patrols etc.) get the girls to design and make their group mission patch

For low cos option to make badges look at - <http://www.bakerross.co.uk/self-adhesive-badge-pins-1>

or little more expensive option - <http://www.bakerross.co.uk/design-a-badge-1>

Some campsites and activity centres have badge making machines, check your local resources.

Find out about ISS

- <http://www.nasa.gov/externalflash/ISSRG/>
- http://en.wikipedia.org/wiki/International_Space_Station
- http://www.esa.int/Our_Activities/Human_Spaceflight/Lessons_online/Life_in_Space - videos
- http://www.nasa.gov/multimedia/nasatv/iss_ustream.html#.U4Elh9xWfwl - livestream video from ISS

To see ISS look up when it will be visible at - <http://heavens-above.com> and hope for a clear night.

Build your own ISS:

Work in groups and build your own space station.

Use cans and aluminium foil or other material that looks similar to the Space Station's modules and solar panels.

You need:

- Empty soft drink cans and crisp tubes
- Toilet roll tubes
- Wooden skewers (sticks)
- Aluminium foil
- String
- A4 white paper
- Felt-tip pens
- Glue
- Scissors

1. Modules

For the modules, like the European Columbus laboratory, you can use empty cans or crisp tubes. Use paper and coloured felt-tip pens to decorate each of your modules and give them a name.

2. Solar panels

The solar panels are long and flat. Use aluminium foil and cut it into strips that should be 12 cm wide and as long as the sticks (for the bigger solar panels). Put two sticks of

5 cm length in between and fold the aluminium round them. To attach the solar panels, put a stick through the panel and the toilet roll.

3. Nodes

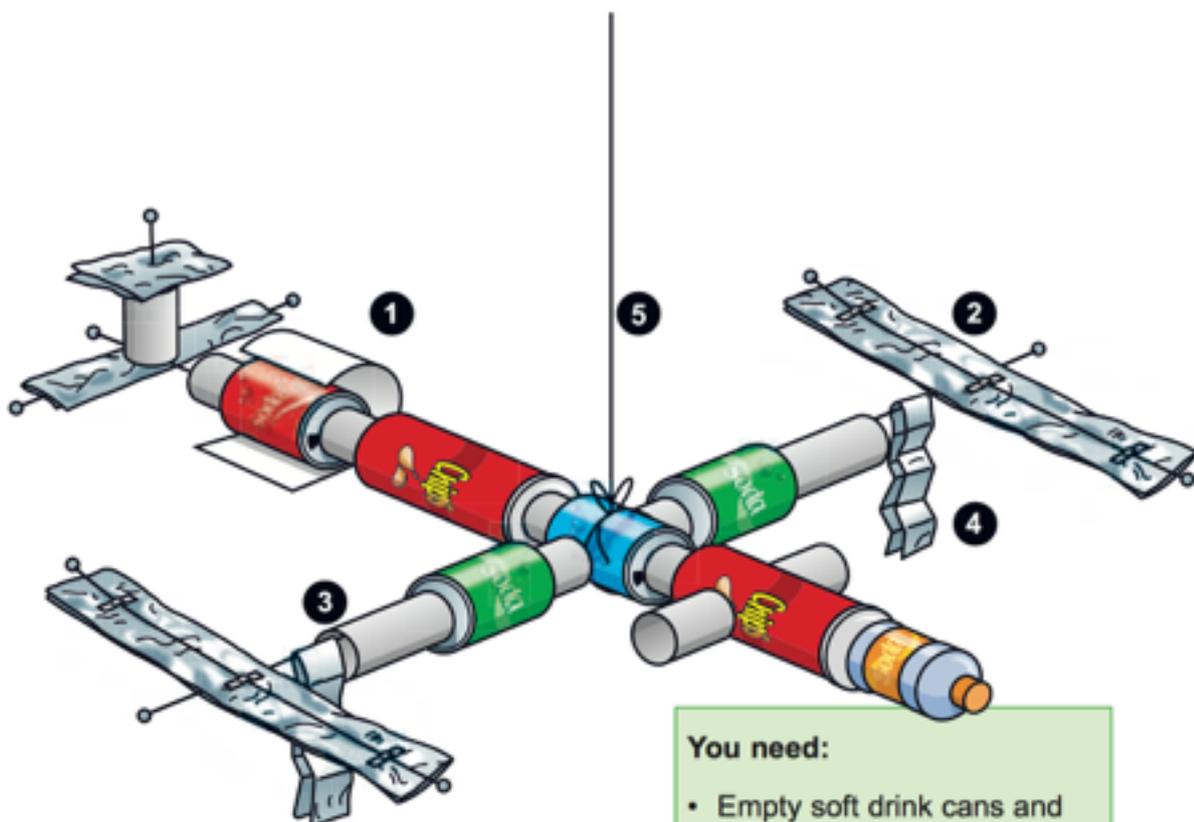
To connect two modules together, glue half a toilet roll in between. This makes it look like the corridor units (called nodes) that fix the different modules together.

4. Radiators

Cut two strips of white paper that should be 3 cm wide and 20 cm long. Fold the strips in half and make an “accordion”. Fold the “accordion” over a stick (you can secure it by putting tape around it). Let the radiators hang over the sticks and point downwards.

5. Let the station float in space

When you have fixed all the modules together, tie a string around the module in the middle so both ends are in balance. Then hang it up.



You need:

- Empty soft drink cans and crisp tubes
- Toilet roll tubes
- Wooden skewers (sticks)
- Aluminium foil
- String
- A4 white paper
- Felt-tip pens
- Glue
- Scissors

or you can print out and cut and stick this model together:
<http://www.dmns.org/main/minisites/spaceOdyssey/teachersGuide/gradesK3/pdf/buildSpace.pdf>

Make an alien

Here are some ideas:

Bottle top aliens - <http://www.se7en.org.za/2009/10/31/se7en-million-aliens-are-coming>

Make sock puppet aliens, these are particularly good if you have bright coloured socks.

Make alien bookmarks - <http://www.makeandtakes.com/crafty-monster-bookmark-perfect-for-fathers-day>

Make an alien in a flying saucer



Trip to Space memory Game

The first person starts with I packed my rocket for a trip into space and took a [apple] the next repeats it all and adds a 'b item ' etc

Stars & Planets

Go Star Gazing

- Make a planisphere
You can print templates and instructions from here.
http://www.skyandtelescope.com/letsgo/familyfun/Make_a_Star_Wheel.html
- Find 2 constellations in the night sky
- Find the pole star.

Find about about the Mars rovers Spirit & Opportunity

- What sensors do they have? Just looking for cameras, soil sampler etc. type answers here not the technical names.
- How long did it take to get there?
- When did they arrive on Mars?
- How long have they been there?
- Are they still working?

[http://en.wikipedia.org/wiki/Spirit_\(rover\)](http://en.wikipedia.org/wiki/Spirit_(rover))

[http://en.wikipedia.org/wiki/Opportunity_\(rover\)](http://en.wikipedia.org/wiki/Opportunity_(rover))

- Rainbows only, Colour in Mars Curiosity -
http://mars.jpl.nasa.gov/files/mep/FollowYourCuriosity_ColoringSheet.pdf
- Make a Mars rover
Some ideas of different rovers you could make
 - Made from juice carton, straws and card - <http://www.looledo.com/index.php/milk-carton-mars-rover.html>
 - Try making one using lego

Scale Our Solar System

The Universe is huge! It is so big that it is difficult to imagine. If the whole unit works together, you can make a model of our Solar System to get an idea about the distances in the Universe.

You will need an open field, a tape measure and the table in the resource pack. Go outside and place yourselves at the correct distances.

Distance from the Sun (in Million km)	Distance from the Sun Scale: 1:100 000 000 000
Sun	0
Mercury	0.58 m
Venus	1.08 m
Earth	1.49 m
Mars	2.28 m
Jupiter	7.78 m
Saturn	14.3 m
Uranus	29.0 m
Neptune	45.0 m
Pluto	59.0 m

Orbits

Point out that the eight planets do not stay in a straight line. They stay about the same distances from the Sun, but circle around it (counterclockwise as seen from the north).

They go around at various speeds. The inner planets not only have smaller circles to travel but move faster. Thus, Mercury goes around in about 3 months; the Earth, in a year; and Pluto in about 250 years.

The circling movements mean that the planets spend most of their time much farther apart even than they appear in our straight-line model. The distance between two planets can be up to the sum of their distances from the sun, instead of the difference.

Planet Sizes

You can also make models of the Sun and the planets. Use the table in the resources to find out how big the models should be (use balls, marbles, nuts or sand, for example).

Body	Approx. diameter (@ equator)	Diameter for model	
Sun	1 392 000 km	45 cm	- Large Beachball
Mercury	4880 km	1.6 mm	- cake topping sugar
Venus	12 100 km	4 mm	- small peppercorn
Earth	12 756 km	4.2 mm	- small peppercorn
Mars	6 790 km	2.2 mm	- cake topping sugar
Jupiter	143 000 km	47 mm	- bouncy ball
Saturn	120 500 km	40 mm	- bouncy ball
Uranus	51 100 km	16.8 mm	- marble
Neptune	49 500 km	16.2 mm	- marble

You could find pebbles and rocks the right size and use those instead of bouncy balls and marbles.

Planet Mixup game

Preparation:

- Chairs, or sitters if outside (one chair per person)

How to Play :

1. Have everyone sit in a chair, arranged in a circle facing inwards. Select one person to be in the middle and remove her chair from the circle.

2. Leader goes round the circle giving each girl the name of a planet e.g. Mars, Venus, Mercury, Jupiter (for larger groups use more planets). The person in the middle calls out a planet if it applies to someone sitting in the circle, that person has to move from her seat and sit in a different chair. If the person in the middle

says "Solar System", then everyone needs to move to a different chair.

3. The person in the middle tries to sit down. There'll be one person left without a chair- this person will be the next person in the middle of the circle. The standing person starts a new round by calling a different planet.

Note: People cannot move to seats on their immediate left or right. For example, a person is allowed sit two seats away, but they cannot move to the left or right of their current chairs.

Make an Indoor Planetarium -

<http://lifestyle.howstuffworks.com/crafts/other-arts-crafts/science-projects-for-kids-the-incredible-universe1.htm>

http://space.about.com/library/graphics/constellation_patterns.jpg, get girls to design their own constellations.

Make star or planet cookies

<http://www.spaceplace.nasa.gov/star-cookies/en/>

or use any recipe and make either star shapes or round biscuits and decorate.

Make a Planet

There are various things you can do for this activity, here are some examples,

Make a CD Saturn

For this you'll need:

- old CD's (2 per girl)
- Styrofoam balls (1 per girl)
- paint or pens to decorate

- thread and paperclip to hang it.

Instructions are here: <http://spaceplace.nasa.gov/saturn-model/en/>

Paper Mache Planets

For this you'll need:

- Balloons
- Newspapers
- Glue
- Paint
- String
- Sponges
- Pictures of the planets

Instructions are here: <http://faccidesigns.blogspot.co.uk/p/diy.html>

Push light planets

For this you'll need:

- push lights
- glass paints
- pictures of the planets

Instructions are here: <http://www.playathomemomllc.com/2012/05/push-light-planets/>

Paper Plate planets

For this you'll need:

- Paper plates
- Paint or colouring pens
- Hole punch & string if you want to hang them up
- pictures of the planets

For this get the girls to paint the plates in the colours of the planet they like best. Or you can cut the plates to scale and create a solar system and space the plates out at about the right scale distance.

Make a solar system mobile

For this you'll need:

- A round piece of cardboard about 1 ft across (the cardboard from a frozen pizza works well)
- Lots of colours of card (or construction paper)
- Scissors

- Tape
- String
- Pencil, crayons, or markers
- A compass (for making circles)

Instructions are here: <http://www.enchantedlearning.com/crafts/astronomy/solarsystemmodel/>

Visit a planetarium

The following website will help you find a Planetarium near you

<http://www.planetarium.org.uk/planetaria.asp>

Satellites

Find out what satellites are used for, give an example of each.

- TV
- Weather
- Navigation
- Communication
- Stargazing

How to make a satellite

A booklet here gives details of weather satellites - http://scijinks.jpl.nasa.gov/_media/en/downloads/booklet/weather_satellite_booklet.pdf

Make rain, pressure and wind measuring devices.

Make a barometer - http://www.sercc.com/education_files/barometer.pdf

Rain gauge - <http://createwithyourhands.blogspot.co.uk/2012/09/make-rain-gauge.html>

Wind Vane - <http://www.wikihow.com/Make-a-Wind-Vane>

Make a model of a satellite

Make a sputnik you'll need:

- Polystyrene Foam Balls (1 per girl) - see ebay - http://www.ebay.co.uk/itm/Polystyrene-Foam-Balls-50mm-20Pcs-/291012374199?pt=UK_Crafts_Children_s_Crafts_EH&hash=item43c1b06eb7
- Sellotape
- Thread
- Tinfoil
- BBQ Skewers, cut in half

How to make:

1. Tape thread to polystyrene ball (this is for hanging up the final model)
2. Cover ball with tinfoil
3. Colour skewers black or grey
4. Push skewers into the polystyrene ball
5. Hang up

Or try some of these examples

- Aeolus -

http://www.esa.int/esaKIDSen/SEMvZ46Y3EE_Earth_0.html

- Integral -

http://www.esa.int/esaKIDSen/SEMmXbXJD1E_OurUniverse_0.html

Learn about geocaching - <http://www.geocaching.com>

- Find a geocache using a handheld GPS
- Hide a geocache

The moon is also a satellite which orbits Earth, create a moon phase dial and use it to find out what phase the moon is currently in - <http://www.dmns.org/main/minisites/spaceOdyssey/teachersGuide/gradesK3/pdf/moonPhases.pdf>

Some satellites communicate back to Earth using morse code

- Learn morse code
- Send messages using either a buzzer or torch for girls to decode

A ● -
B - ● ● ●
C - ● - ●
D - ● ●
E ●
F ● ● - ●
G - - ●
H ● ● ● ●
I ● ●

J ● - - -
K - ● -
L ● - ● ●
M - -
N - ●
O - - -
P ● - - ●
Q - - ● -
R ● - ●

S ● ● ●
T -
U ● ● -
V ● ● ● -
W ● - -
X - ● ● -
Y - ● - -
Z - - ● ●

1 ● - - - -
2 ● ● - - -
3 ● ● ● - -
4 ● ● ● ● -
5 ● ● ● ● ●

6 - ● ● ● ●
7 - - ● ● ●
8 - - - ● ●
9 - - - - ●
0 - - - - -

Space Challenge Song Pack

Four Little Stars

Four little stars
winking at me.
One shot off,
then there were three!

three little stars
With nothing to do.
One shot off,
Then there were two!

Two little stars
Afraid of the sun.
One shot off,
Then there was one!

One little star
Alone is no fun.
It shot off,
then there was none!

Tune: I'm a Little Teapot

I'm a little rocket, Tall and thin,
Here is my nose cone. Here is my fin.
When I get all fired up, Launch begins.
Watch me rise, And see me spin!

Tune: Twinkle, Twinkle, Little Star

Twinkle, twinkle, little star, I know what you really are:
Giant ball of glowing gas, One of billions in a mass!
Twinkle, twinkle, little star, Oh, how big you really are!
Twinkle, twinkle, giant star, Larger than the Earth by far!
Since your distance is a lot, You look like a tiny dot.
Twinkle, twinkle, giant star, Very bright, yet very far!
Stars are twinkling, every one, Some are bigger than the sun!
Just a twinkle in the sky, Just because you're oh, so high!
Twinkle, twinkle, little star, Oh how big you really are.

Tune: Twinkle, Twinkle, Little Star

Rocket, rocket in the sky,
Flying fast and flying high,
Off to find the ISS,
What's in it? Can you guess?
Rocket, rocket in the sky,
Flying fast and flying high.

Tune: There's a hole in my Bucket

Did you ever see a rocket,
a rocket, a rocket?
Did you ever see a rocket
go this way and that?
Go this way and that way,
go this way and that way,
Did you ever see a rocket
go this way and that?

Useful Links

- <http://mars.jpl.nasa.gov> - NASA JPL site on MARS
- <http://www.nasa.gov/audience/foreducators/#.U4EHRtxWfwl> - NASA education site
- <http://www.esa.int/Education> - ESA Education site
- <http://www.teachspacescience.org/eds/tools/topic/solarsystem.php.p=Teaching+tools%40%2Ceds%2Ctools%2C> - About the solar system

Related To Girl Guiding Section Programmes:

Rainbows -

Weather Jigsaw - The barometer and rain gauge are similar to those in Rainbow Jigsaw Weather (January 2014)

Brownies -

Stargazer - <http://www.girlguiding.org.uk/brownies/badges/stargazer.asp>

Guides -

GFI Space - <http://www.girlguiding.org.uk/Guides/gfibadge/gfi/space.html>

This badge has been checked and been approved by Guiding HQ as meeting our brand.

From: Branding Matters <BrandingMatters@girlguiding.org.uk>

Subject: RE: Confirm Badge meets branding guidelines.

Date: 5 February 2016 15:37:22 GMT

To: 'Cath Bashford'

Hi Cath,

The attached badge is absolutely fine.

Thank you for checking

Mia

Mia Churcher
Marketing Officer

Badge Order Form

Thank you for taking part in the Space Challenge - we hope you enjoyed it!

The easiest and quickest way to order is via our online order form at:

<http://www.spacechallenge.org.uk/orderform>

Alternatively fill in the form below and email it to badges@spacechallenge.org.uk when we receive the order we will be in touch to arrange payment.

Unit

County

Number of badges at £1.25 each = £.....

Postage

1-2 badges - £0.75

3-25 badges - £1.00

26 - 80 badges - £1.50

more than 80 please contact so we can work out price.

Total = £.....

Contact name

Address

.....

Postcode

Email

Please email all these details to badges@spacechallenge.org.uk