LAPLAND

STARGAZING MANUAL

Introduction into ‘Star Gazing’

This is the perfect activity for guests who are wanting to get lost in the stars and learn all things in the night sky. Star constellations, planets, solar system and the milky way are all areas the guests will explore directly through the Night Sky App. Rocket launches and the international space station should also be points of interests too.

There is also a fact sheet and an optional light hearted quiz for guests enjoyment to complete this activity.

Running the Event

Event Preparation

- Select a location for the event to take place, this needs to be somewhere with no light pollution and no buildings/trees to obstruct the view. The car park, frozen lake or somewhere with open space could be your best option.
- This is a hosted event however think calming, peaceful and a relaxing atmosphere. No PA system needed.
- Ensure guests know where to meet before the event, it might mean that you meet somewhere lit up and easily accessible before walking together e.g. Reception.
- Be at the meeting point/location 15 minutes before the start time.
- Make sure every guest has downloaded the App before the activity – Use the hotel Wifi. Help guests, don't assume they know how. Do not begin the event until everyone is ready.
- Have the Northern hemisphere map printed out and offer to hand these out to guests
- Have your quiz ready
- Promote activity throughout the day.

App Preparation

- Make sure your mobile phone is fully charged
- Check the App is updated
- Check location is activated on the phone or ipad
- Check if the international Space Station is due to pass over by using the Night Sky app or www.isstracker.com
- Check any rocket launches or major event which may be planned at www.nasa.gov in the MISSIONS, LAUNCHES AND LANDING section.

Format

Meet at the location and then walk everyone down to the chosen location (where its best to see the stars). Introduce the event, yourself and explain how the event works via the app.

- Start by encouraging guests to look up into the sky, allowing their vision to adjust. It will take approx., 3-4 minutes to adjust to the dark surroundings and the night sky.
- Go through the facts sheet to start off- getting the guests interested in what they are looking at.
- Now introduce the App- go through the star constellations on the fact sheet and hand out the northern hemisphere maps.
- Allow guests to enjoy the views, Ask if anyone knows of any other famous stars they would like to share with the group. Do not rush the experience. Invite Guests for the remaining 10 minutes of the event to take part in our light-hearted star gazing quiz – group activity to see what they have learnt in this experience.

Close the event by say thank you to who attended and promote the Entertainment program and what's happening next. Walk the guests back to the lit up areas.

Facts Sheet

- There are over 500 stars visible to the naked eye from Earth and It is easy to take the most prominent object in the northern hemisphere night sky for granted – Earth's nearest neighbour is so much brighter than everything else that you can't really miss it, The Moon!
- The Moon is Earth's only natural satellite, It orbits around our planet taking 27.3 days for the Moon to travel all the way around the Earth and complete its orbit. shaped like a slightly squashed circle known as an ellipse. The numerous 'seas" and craters give you a sense of the Moon's beautiful but barren landscape.
- Although the Moon shines bright in the night sky, it doesn't produce its own light. We see the Moon because it reflects light from the Sun.
- The temperature on the Moon varies from super-hot to super cold! When the Sun hits its surface, temperatures can reach a scorching 127°C. But when the Sun 'goes down', temperatures can plummet to around -153°C.
- Did you know that the moon is 4.5 billion years old and only 12 men have ever walked on it, all American.

Moving onto our brightest star in the sky….

- Venus can often be seen within a few hours after sunset or before sunrise as the brightest object in the sky (other than the moon). It looks like a very bright star. Venus is the brightest planet in the Solar System.
- Venus is the second planet from the Sun and is named after the Roman goddess of love and beauty due to its natural beauty.
- One day on Venus lasts for about 243 Earth days. This is the slowest rotation of any planet making it the most spherical object in the Solar System, after the Sun.
- Venus and Uranus rotate in the opposite direction than the other planets. They both move from East to West, clockwise.

Moving on to:

- Mars, also known as the 'Red Planet' because, well, it's red! This signature colour comes from the large amount of a chemical called iron oxide (or 'rust' as you might know it) in its rocks and soil.
- Mars is the fourth planet from the Sun and the second-smallest planet in the Solar System, being larger than only Mercury. In English, Mars carries the name of the Roman god of war
- Mars is home to the highest mountain in our solar system –– a volcano called Olympus Mons. Standing a whopping 24 kilometres high, it's about three times the height of Mount Everest!
- Mars has two moons! One is called Phobos and the other Deimos. In the next 20-40 million years Mars' largest moon Phobos will be torn apart by gravitational forces leading to the creation of a ring that could last up to 100 million years.

Using the App

Did you know there are 88 official star constellations?

- One being the Orion, this giant of the northern hemisphere night sky is one of the most prominent constellations. This representation of a legendary hunter boasts two of the brightest stars in the sky in Rigel and Betelgeuse, while Orion's sword contains the famous Orion Nebula. New stars are being born in this vast cloud of dust and gas, and even your binoculars can reveal some of its misty form. The three stars of Orion's belt are also useful pointers to finding the brightest star in the night sky. Simply follow them to the west (left) and you'll see Sirius in the constellation of Canis Major (the Great Dog).
- The Milky Way, The sun and all the planets around it are part of what is known as the Milky Way Galaxy. It is our home galaxy and one of the billions of galaxies in the universe. The term "milky" is derived from the galaxy's appearance from earth, a band of light in the night sky formed from stars. However, you can't see that with your naked eye so let us reveal it through the telescope.
- Did you know the milkyway consists of over 200 billion stars!
- The Big Dipper or the Plough is a large asterism consisting of seven bright stars of the constellation Ursa Major; six of them are of second magnitude and one, Megrez, of third magnitude. Four define a "bowl" or "body" and three define a "handle" or "head". The stars of the Big Dipper can be used to find Polaris, the North Star.
- The Big dipper has many names, most famous being "the great bear".

Quiz

1. How many official star constellations are there?

    A, 66 B,77 C, 88 or D, 99

    Answer C, there are officially 88 star constellations

2. How many men have walked on the moon?

    Answer: 12

3. what nationally were all of these men?

    Answer, American.

4. How many moons does Mars have?

    Answer: 2

5. which planet is names after the roman goddess of Love and beauty?

    Answer, Venus

6. The big dipper is also known as the great what?

    Answer, Bear

7. what is the Polaris better know as?

    Answer, The north star

8. which planet is also known as the red planet?

    Answer, Mars

9. The milky way contains how many stars?

    Over A, 200 b, over 200 million or c, 200 billion

    Answer, C, over 200 billion

10. How many days does it take the earth to travel around the earth and fully orbit?

    Answer, 27.3 days