Muslim Scout Fellowship

INTERNATIONAL DAY OF WOMEN AND GIRLS IN SCIENCE

11th February 2025

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To commemorate 2025 International Day of Women and Girls in Science, we will be exploring key female individuals through time, from Islamic History to Modern day. Their contributions have shaped modern science and their legacies are still prominent in todays world. The efforts of these inspiration women should inspire us all - girls and boys - to make positive contributions to society through science.

Take part in our activities and reflect on how you can make a difference to your community!

The Prophet SAW said: "He who calls others to follow the Right Guidance will have a reward equal to the reward of those who follow him, without their reward being diminished in any respect on that account." (Muslim)

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Water Engineering

Historical Engineer: Zubayda bint Abu Jafar al-Mansur

Origin

- Born in 766 AD
- Princess in Baghdad, Abbasid Empire
- It is said that Zubaidah's palace "sounded like a beehive" because she employed 100 women maids who had memorised the Qu'ran

Recognised for

- She constructed facilities for a route spanning from Baghdad to Mecca by improving the track, providing wells, clearing camping areas and even establishing Qiblah points.
- She ordered the digging of water channels connected to the rain falls. It reached the Grand Mosque in Makkah Al-Mukarramah, passing through the holy sites of Mina, Arafat, and Muzdalifah.
- This infrastructure, known as "Darb Zubaida", lasted for centuries and traces remain until today.

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Water Engineering

Modern Engineer: Dr Kadiri Kehinde Kadijat

Origin

- Based in Nigeria

Recognised for

- She founded an NGO in 2017 called The Grassroots Aid Initiative (TGAI).
- She aimed to improve the standard of people's lives through achieving Sustainability Development Goals (SDGs).
- Clean water and sanitation was one of the core values TGAI aimed to provide everyone with through Borehole water systems. As of January 2025, 25 different water projects have been realised in Nigeria.

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Activity: Raising Water

Suggested for: Beavers, Cubs, Scouts

Equipment:

- Water source
- Range of recycled materials (eg: string, straws etc)

Instructions:

- Young People are given the task of moving water from one point to another using a range of materials, such as string, straws, pipes, buckets etc.
- Be creative and think outside the box!

It was narrated that Sa'd bin 'Ubadah said: "I said: 'O Messenger of Allah, what kind of charity is best?' He said: 'Providing drinking water.'" (Sunan an-Nasa'i)

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Space

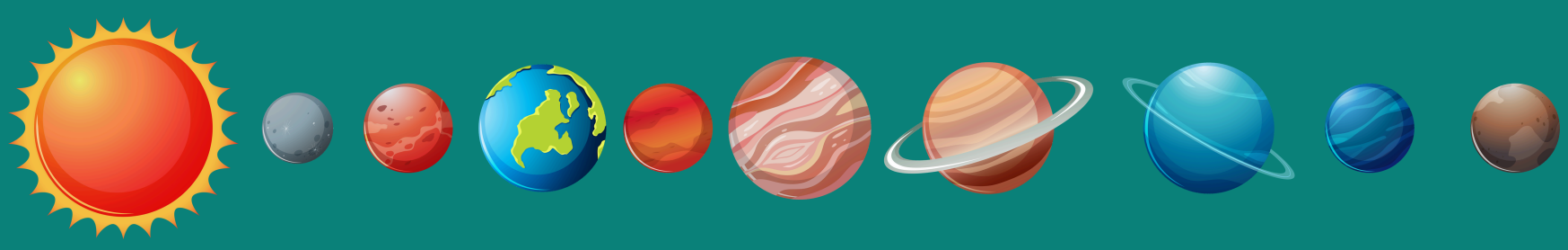
Historical Astronomer: Mariam al Astrulabi

Origin

- 10th Century
- Aleppo, Syria

Recognised for

- She contributed to tracking the position of the sun, moon, stars and planets, helping find the Qiblah and ascertaining prayer times and the date of Ramadan. She became well-known throughout the region as the maker of the most detailed astrolabes of her generation.



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Space

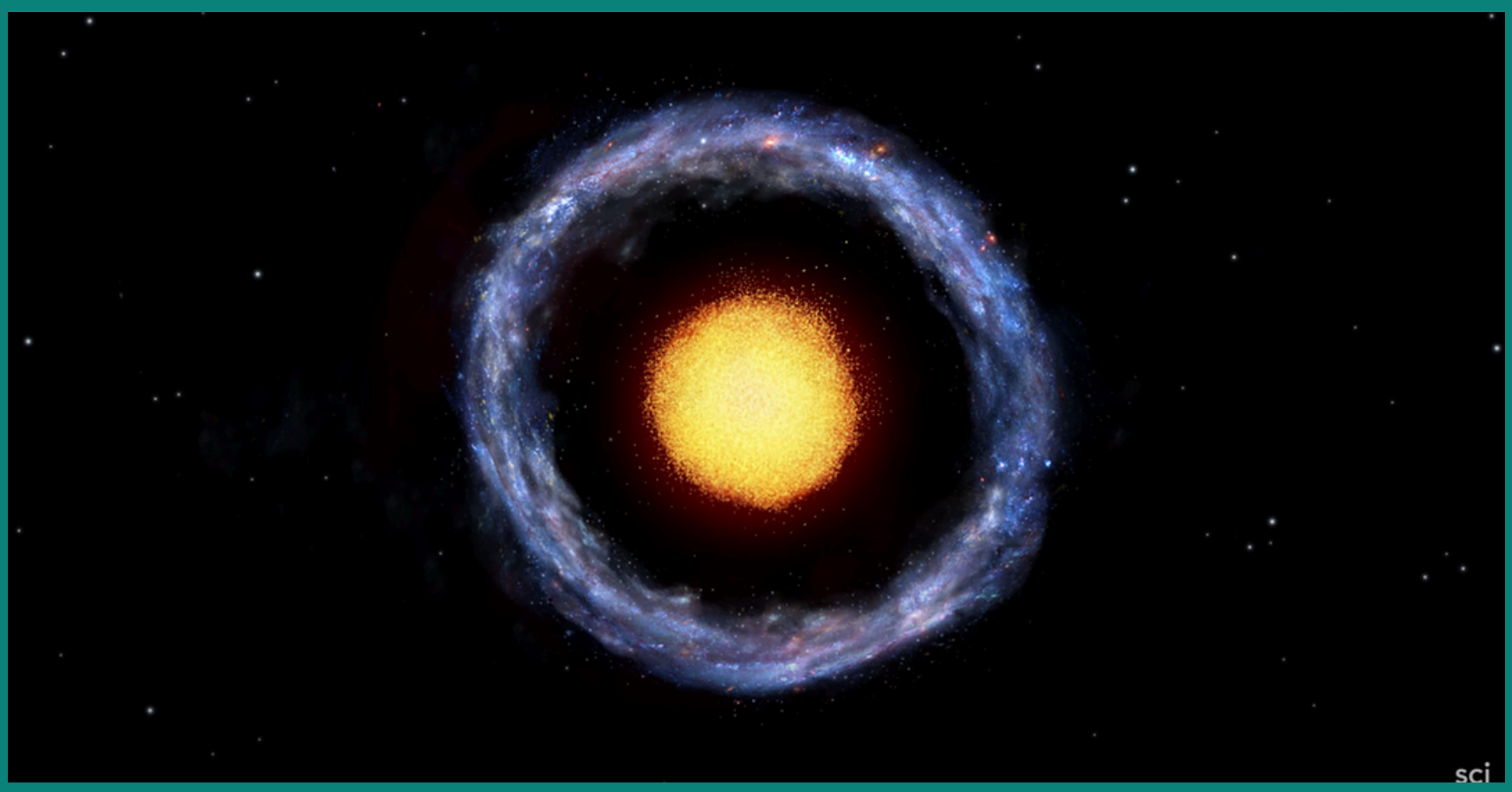
Modern Astronomer: Burcin Mutlu-Pakdil

Origin

- Turkey
- 2017

Recognised for

- Garnered significant repute within the field of astrophysicist, Burçin is credited for the discovery of an extremely rare galaxy with a unique double ring structure, which is now referred to as Burçin's galaxy.



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Activity: Night Sky Diary

Suggested for: Beavers, Cubs, Scouts

Instructions:

- Use the sheet to record your observations of the night sky.
- Aim to fill out one row every week to keep a record of the night sky

Date	Time	Weather Conditions	Phases of the Moon	Constellations Spotted	Reflection

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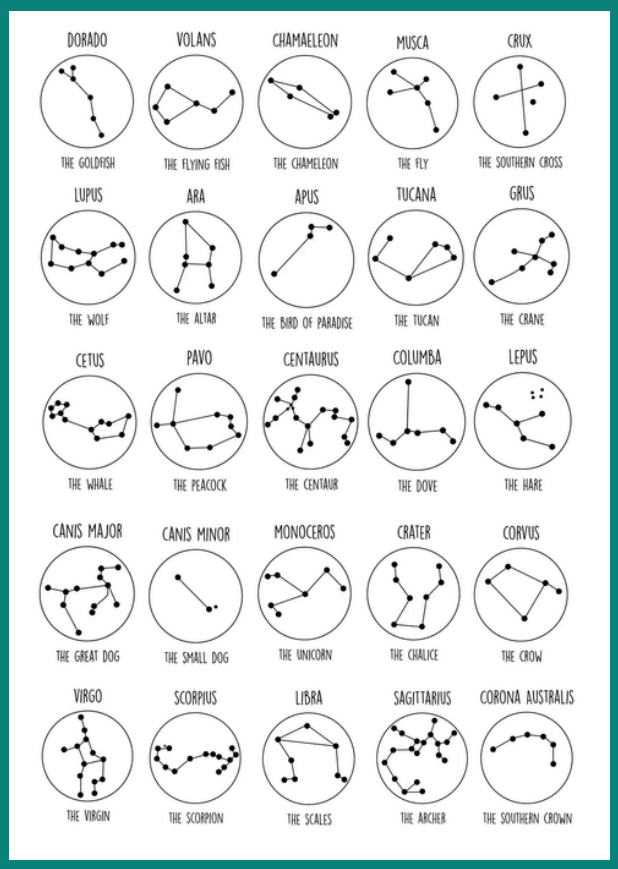
Activity: Night Sky Diary

Moon Phase Guide

Constellations Guide



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Activity: Night Sky Diary

Suggested for: Beavers, Cubs, Scouts

- What did you notice about the moon's changes over time?
- Which constellations were easiest to find? Which were more challenging?
- How did observing the night sky help you appreciate Allah's SWT creation?

"Indeed, in the creation of the heavens and the earth and the alternation of the day and night there are signs for people of reason" (3:190)

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Mathematics

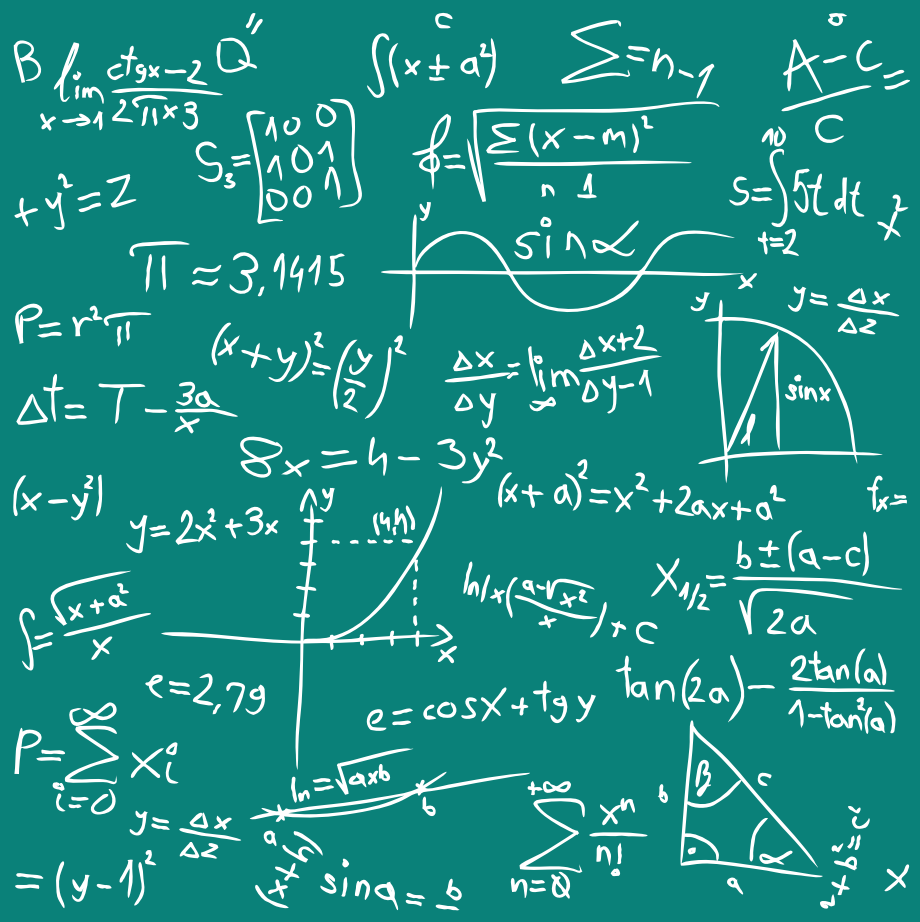
Historical Mathematician: Sutayta Al-Mahamali

Origin

- Born and raised in Baghdad in 930 AD

Recognised for

- Sutayta did not specialise in just one subject but excelled in many fields such as Arabic literature, hadith, and jurisprudence as well as mathematics.
- She invented solutions to equations which have been cited by other mathematicians, these include equations which denote aptitude in algebra.



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Mathematics

Modern Mathematician: Maryam Mirzakhani

Origin

- Born in Iran in 1977

Recognised for

- A brilliant mathematician who was the first woman to win the most prestigious award in mathematics: The Fields Medal.
- Her approaches and profound insights significantly advanced the field, earning her widespread acclaim and recognition.

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Activity: Scavenger Hunt

Suggested for: Cubs, Scouts, Explorers

Instructions:

- Prepare a scavenger hunt in the local park, on a hike, or around your scouts hut
- At each location on the scavenger hunt, give the Young People a riddle, mathematical puzzle, or Islamic question
- If answered correctly, grant them the next location on the hunt

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Medicine

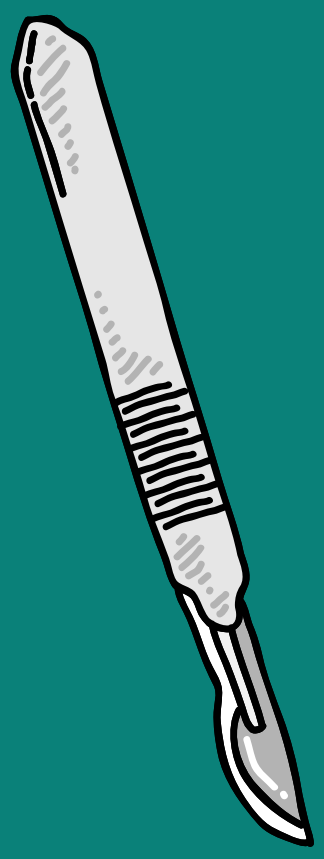
Historical Nurse: Rufaida Al-Aslamiyah

Origin

- Born in 620 AD into the Bani Aslem tribe of the Kazraj tribal confederation in Madina
- Born into a family with strong ties to the medical community, Rufaida's father, Sa`ad Al Aslamy, was a physician

Recognised for

- First female nurse and surgeon in Islam
- Developed the first-ever documented mobile care units that were able to meet the medical needs of the community next to the Prophet’s Mosque in Medinah.
- During battles such as Khandaq and Badr, Rufaida led groups of volunteer nurses to treat wounded soldiers, including Sa’ad ibn Muadh. She established a tent near the battlefield, which functioned as a field hospital, providing medical care to the injured.



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Medicine

Modern Pharmacologist: Samira Ibrahim Islam

Origin

- Born in Saudi Arabia

Recognised for

- She currently heads the King Fahd Medical Research Center's Drug Monitoring Unit at King Abdulaziz University.
- Samira's actions were a turning point for all women in Saudi Arabia after she successfully secured a formal university education for them.
- Samira is also responsible for opening the first faculty of nursing in Saudi Arabia.
- She received a Makkah Award of Excellence for her contributions to science and research.

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Activity: Suturing on Fruit

Suggested for: Cubs, Scouts, Explorers

Equipment:

- Bananas or oranges (for suturing practice)
- Needles and thread (blunt-tipped for safety)

Instructions:

- Introduction to suturing: Explain the importance of suturing in closing wounds to prevent infection and promote healing. Show a visual demonstration or a short video if possible, and a few photos as examples
- Demonstration: Show participants how to start a simple interrupted stitch on the fruit peel. Emphasise even spacing, pulling the thread snug but not too tight, and maintaining steady hand movements.
- Practice: Allow scouts to try the technique themselves. Walk around to offer guidance and corrections. Encourage them to focus on precision and technique rather than speed. As an extension, ask them to make a cut with scissors that isn't straight, perhaps a curve instead.

- Make it easier: do a straight line cut on the orange/banana
- Make it harder: do a curved line cut on the orange/banana, teach the scouts how to suture with a curved needle and surgical tools.

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Activity: Splinting & Bandaging

Suggested for: Scouts, Explorers

Equipment:

- Sterile bandages and gauze
- Fabric strips, sticks or cardboard (for splinting)
- Tape or bandages to secure splints
- Gloves

Instructions:

- Bandaging: demonstrate how to properly wrap a bandage, ensuring it is snug but not cutting off circulation.
- Splinting: demonstrate how to place the splint alongside the injured limb, securing it with bandages or strips of fabric.
- Explain the importance of immobilising broken bones or sprains before professional medical help arrives.
- Divide the young people into teams, and assign an injured person
- Provide scenarios eg - “Your friend has injured his leg during a hike and is struggling to walk. You suspect he may have sprained his ankle. Your task is to immobilise the joint!”
- Challenge 1: Apply splint
- Challenge 2: Apply bandage

- Make it harder: task the YP to move the injured person from one place to another, without causing their ‘injured’ limb to move.

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Activity: First-Aid Challenge Reflections

Suggested for: Cubs, Scouts, Explorers

- These activities were all about learning potentially life-saving skills that could come in handy one day. How do you think you did? How could you improve for next time?

- Rufaida Al-Aslamiyah exemplifies using your skills for the benefit of others, a concept which is greatly emphasised in our religion. How can you use your current skills to serve others What skills do you want to gain to serve others in the future?

- Our health is an Amanah. Why is it important we care for our health and bodies, what does this entail?

“And whoever saves a life it is as though he had saved the lives of all mankind” (5:32)