

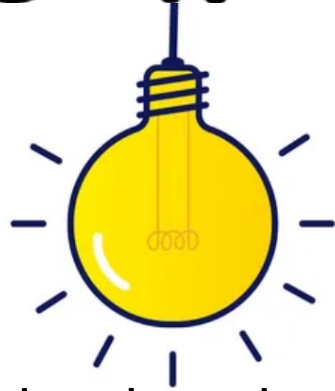
Nasirat

Islamic Inventions

Activity Booklet



ISLAMIC INVENTIONS

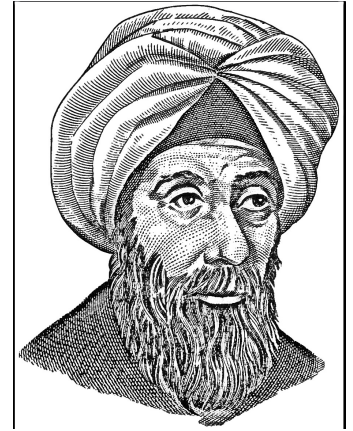


1001 inventions were developed by Muslim scientists in the Golden era combining science, technology and innovation to create inventions we would be lost without today.

DID YOU KNOW?



Pin-hole camera



- Imagine a world without photos. Instagram, Facebook, TikTok would be non-existent! How would we capture our memories?
- Did you know? All these companies are based on the idea of capturing light from a scene, casting an image and reproducing that image.
- Today, almost everyone has access to a digital camera right at their finger tips! But it wasn't always like this.

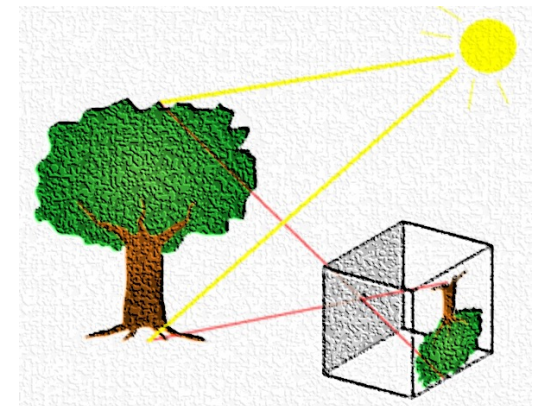
- Let's rewind back to the 11th century...
- A Muslim scientist Ibn Al- Haytham was the first scientist to realise that when a tiny hole is put onto the side of a lightproof box, rays of light from the outside are projected through the pinhole into the box and onto the back of the wall.
- He discovered the smaller the pinhole, the sharper the image quality.
- This led to the development of cameras that produce accurate and sharp images that we see today.

Scan the QR code and make your own pin-hole camera.



What is a pin-hole camera?






- A lightproof space with a hole (aperture) in it.
- Light passes through the hole, projecting the scene from outside onto the opposite internal side, where it will be inverted and cast on to light sensitive surface to record the image.

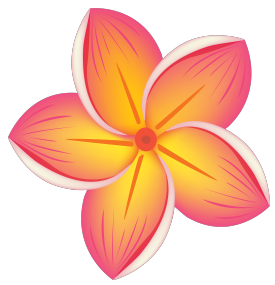


Plants

Ibn Al-Baitar of Malaga was a Muslim scientist who is known as the pioneer of botany. He studied 3000 plant species and recorded his findings. Learn more about his remarkable achievements [here](#).

Activity: Investigate the use of each of the plants listed in the table below and note down their use

| | | | | | |
|---|--|---|---|---|---------------|
|  |  |  |  |  | |
| Plants | Aloe Vera | Peppermint | Ginger | Coconut Palm | Garlic |
| Part of plant used | Sap from leaves | Whole plant | Rhizome | Whole plant- mostly nut | Bulb |
| Usage | | | | | |



PERFUMES

How many scented items do you use?

We all have our favourite perfume for special occasions, but do you know how perfume is made?

It's a complex process that involves a number of different steps including sourcing ingredients, extracting the oils, blending ingredients, aging and quality control.

It all started with talented Muslims:

1. Ibn Sina (Avicenna)
2. Al Kindi

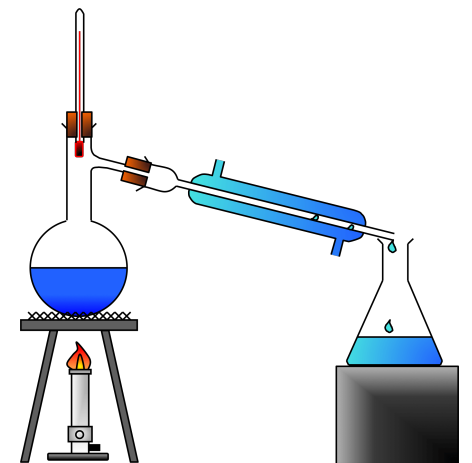
Al Kindi is considered as a pioneer in the perfume industry. He wrote a book with 107 different 'recipes' for perfumes.

Ibn Sina has been credited with developing methods to extract the fragrance of substances (from flowers) to make perfumes (via distillation).

Some of these methods have been adapted to use in the development of perfumes today.

Find out more about the process of distillation here:

<https://www.youtube.com/watch?v=V5ep0-ojPGw&t=271s>



MAKE YOUR OWN PERFUME

You will need:

- Filtered water
- Assorted flowers and herbs
- Essential oils (lavender)

Equipment:

- Spray bottles
- Funnel

Instructions:

1. Think about what scent you would like to use. Explore different herbs and flowers.
2. Cut or tear the herbs and flowers you would like to use and add them inside the bottles until $\frac{3}{4}$ full.
3. Add a few drops of essential oil to each bottle
4. Add filtered water (using a funnel) until the bottle is full and then shake to distribute the oil.

