

WATER IN THE ALHAMBRA



PHYSICAL AND CHEMICAL PROPERTIES OF WATER

- It is a very stable molecule formed by oxygen and hydrogen.
- It is a polar molecule. Shared electrons bond oxygen and hydrogen together but the oxygen atom "pulls" the shared electron closer to it and creates negative and positive sides of the water molecule.
- It interacts with other polar compounds but non-polar compounds repel it.

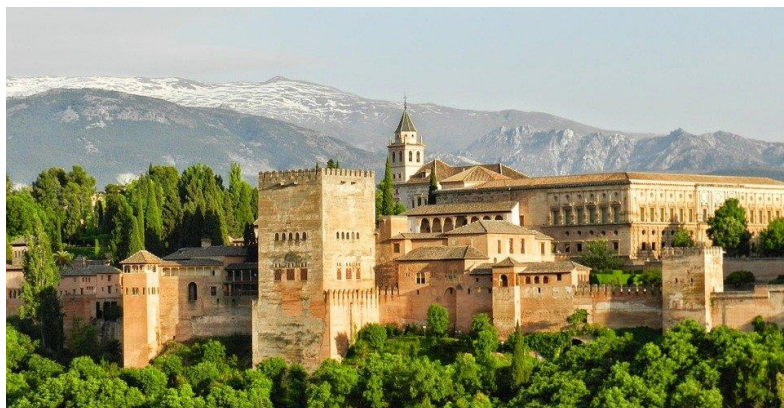


- The electron arrangements in the water molecule result in a polarity that allows water to form hydrogen bonds with one another and other polar substances.
- Water is a universal solvent, or a substance that can dissolve other substances.
- Water has interesting thermal properties. When we heat it from 0°C, its melting point, to 4°C, it contracts and becomes more dense; most other substances expand and become less dense when heated. But, when water is cooled in this temperature range, it expands. It expands greatly as it freezes; as a consequence, ice is less dense than water and floats on it.
- The latent heat of fusion and the latent heat of evaporation are all unusually high. For these reasons, water is a good temperature regulator (the water in lakes and oceans helps regulate the climate).
- Water is a colourless, clear, odourless, and tasteless liquid.
- Water sticks to itself causing surface tension



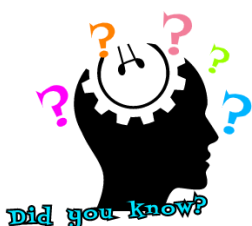
Can you imagine the Alhambra palace without water?

It's almost impossible to imagine this space without the fountains, pools and water features. Many of the decorative elements of this magnificent monument are created or enhanced with water. The use of water in the Alhambra palace changed the Sabika hill from a red dusty mound into a lush oasis. Construction in this area of the city probably began as far back as the 9th century.



ACEQUIA REAL (Royal irrigation ditch)

The Acequia Real is the main water channel which carries the water supply to the Alhambra palace. This acequia runs above the Darro River and is 6 km long! That is the distance from Atarfe to Granada !!!! At the time of Nasrid dynasty, this water source was clean and suitable for drinking. This network of channels would run along directly into the Generalife Gardens and then through the heart of the Alhambra palaces. The Acequia Real supplied the whole Alhambra citadel with water in a clever network of channels. Water reached all the gardens, plants and even the fountains with enough pressure. The great thing is that it still works!



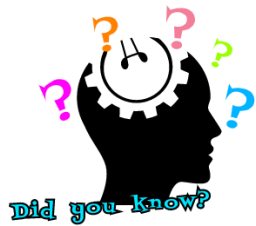
Did you know that there are about 12 kilometres from Atarfe to Granada? This distance is twice the length of the Acequia Real !!

ALJIBES (cisterns)

Aljibes are large deposits for water storage. They are typical in Granada. We can find many of them both in the Alhambra and in the Albaicin, which was the Arab quarter. The largest one in the city is the Aljibe del Rey which holds over 300 cubic metres of water.



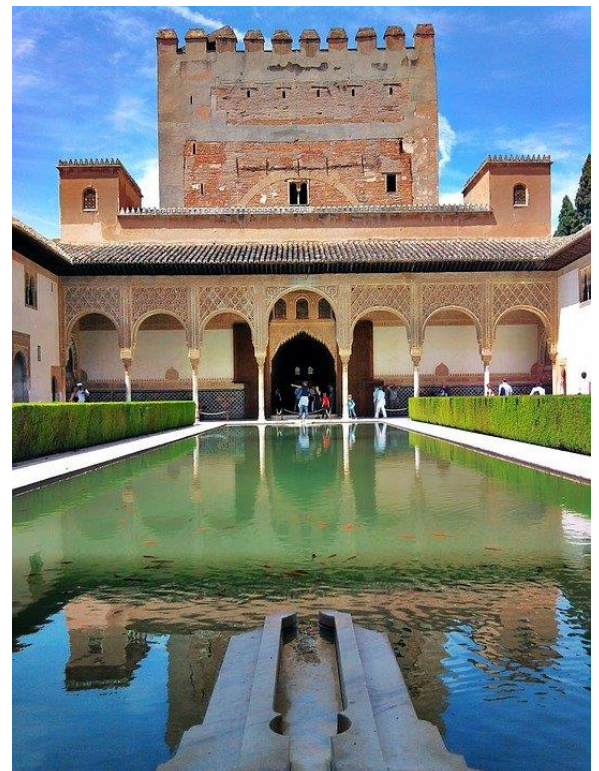
Next to the Puerta del Vino and the Torre de la Vela you come to a large open space known as the Plaza de los Aljibes. This means the square of the water tanks. In 1494 the Count of Tendilla built a 34 metre long water tank under this square. Years ago there used to be a kiosk on the square which handed out glasses of drinking water from the underground cistern to thirsty visitors.



Did you know that the public swimming pool in Atarfe can contain 600 cubic meters of water? This is twice the capacity of the Aljibe del Rey.

ALHAMBRA PALACE REFLECTIONS

Patio de los Arrayanes is a perfect example of the use of water in the Alhambra palace. This elongated pool seems to increase the size of the palace, by its fascinating mirror effect. The grandeur of the palace is amplified by reflections of the arches in the water. The babbling sounds of the small fountain at the end of the pool soothes the visitor. When the architects designed these spaces, they wanted the visitors to feel them with their five senses.



GENERALIFE PALACE

Now we come to the lush gardens of the Summer Palace, the *Generalife*. In summertime the court would move to this cooler area of the Alhambra palace. Higher up than the Alhambra palace and set among the trees of the Alhambra woods. This summer palace has lots of open spaces, water features, lush gardens, ponds and long paths. Probably the most well-known sight in the *Generalife* is the Patio de la Acequia. Here you can see water shooting up forming silver arches above the plants and the rectangular pool. The large courtyard also offers views over the city of *Granada* on the left of this patio.



The water stairs in *Generalife* is another feature to highlight. It dates from the 16th century. It is a long staircase set among bushes and trees. It has water splashing down inside the hollow hand rail and is a unique and eye-catching sight.

The architects of the Alhambra certainly knew how to use the abundance of water to reduce high summer temperatures. They also knew how to amplify the prestige and power of the monarchs of the time.



COMARES – ROYAL BATHS

El Baño de Comares was previously known as the Royal baths. Isabel y Fernando, the Catholic king and queen, used this bathhouse as their private bathing area after their conquest of Granada. This is an excellent example of an original Hamman still here in the present day. It is the only medieval Islamic bath fully intact in the western world.

The ceiling has star shaped openings in the ceiling. These holes are for regulating the temperature and steam inside the baths. Distributed in three rooms. The cold room, the warm room and the hot room.

The importance of cleansing as a religious rite was not only an important part of daily life but a social activity too. This practice was prohibited by the Catholic king and queen soon after their conquest. In 14th Century Granada, there were many Arab bathhouses but sadly only a few examples remain.

