

The background features abstract, overlapping geometric shapes in various shades of pink and purple, creating a modern, layered effect. The shapes are primarily triangular and polygonal, with some areas appearing more translucent than others.

Roman Aqueducts

The Dawn of Plumbing

How did the ancient Romans deal with plumbing?

- ▶ They built huge and extensive aqueducts, which is Latin for waterway.
- ▶ These under- and aboveground channels, typically made of stone, brick, and volcanic cement, brought fresh water for drinking and bathing as much as 50 to 60 miles from springs or rivers.
- ▶ Aqueducts helped keep Romans healthy by carrying away used water and waste, and they also took water to farms for irrigation.

So how did aqueducts work?

- ▶ The engineers who designed them used gravity to keep the water moving.
- ▶ If the channel was too steep, water would run too quickly and wear out the surface. Too shallow, and water would stagnate and become undrinkable.
- ▶ The Romans built tunnels to get water through ridges, and bridges to cross valleys.
- ▶ Once it reached a city, the water flowed into a main tank called a castellum. Smaller pipes took the water to the secondary castella, and from those the water flowed through lead pipes to public fountains and baths, and even to some private homes.
- ▶ It took 500 years to build Rome's massive system, which was fed by 11 separate aqueducts. To this day, Rome's public fountains run constantly, as do smaller faucets that provide fresh water to anyone who stops for a drink.

Where did the Romans build aqueducts?

- ▶ The empire stretched across an immense part of the world, and wherever the Romans went they built aqueducts – in as many as 200 cities around the empire.
- ▶ Their arched bridges are among the best preserved relics of that empire, in part because many aqueducts kept working for centuries, long after the Romans had retreated.
- ▶ You can still see their arches in Bulgaria, Croatia, France, Germany, Greece, Israel, Lebanon, Spain, Tunisia, and other former Roman colonies.

What do aqueducts look like?

- ▶ <https://www.youtube.com/watch?v=y8W96WaobOs>



Now your turn, work together to design a model of a Roman aqueduct.

- ▶ Design an aqueduct.
- ▶ It has to be water tight so it can carry water for at least 70cm.
- ▶ The water should flow from one end to the other.
- ▶ What materials will you use? Discuss what is available: card, paper, art straws, junk, etc.
- ▶ How will you make it water tight?
- ▶ Questions to consider: How will the water flow? There should be a slight slope? What will happen if the slope is too steep?
- ▶ Pour water into each one to test it? Does it leak? Does the water flow? Does the structure withstand the weight of the water? How could it be improved?