

DESIGN TECHNOLOGY learning springboards

KS2 and KS3

Pappus

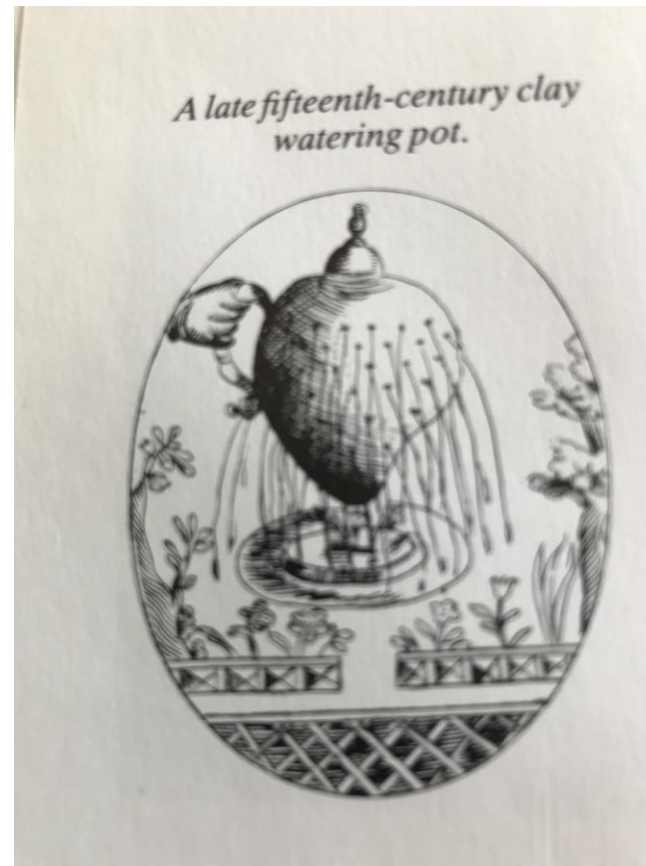
Design and Test Plant Watering Devices

Make and evaluate watering devices to meet a design brief.

Aim: pupils understand the importance of a design brief and learn how to water plants most effectively.

ACTIVITY

- Read the description of watering in the 'Gardeners Labyrinth' (see Literacy learning Springboards. – Watering Plants.)
- Practice watering using a range of watering cans and discuss how effective each one is (i.e. compare results of watering with and without the watering can 'roses' for example.) Explain the difference, and which is most effective for which type of watering.
- Look at the image on the right. Work out how this works, and how the waterer could stop the water flowing.
- Practice with a straw (Sealing the top of a straw full of water, with your finger, stops air entering and exerting a downward force on the liquid, leaving only the upwards force of air pressure from below. This upwards force is stronger than the force of gravity pulling down on the liquid. Take your finger away and these two effects cancel each other out leaving gravity as the dominant force causing the suspended liquid to drop out the bottom.)
- Write a design brief for watering the following;
 - **established shrubs/plants,**
 - **delicate seedlings,**
 - **newly sown seeds**
- Make sample watering devices with from recycled plastic bottles with holes in the caps (experimenting with holes sizes and number in the caps)
- Evaluate the results against the brief.



Resources:

Recycled plastic bottles, with caps
Bradawl or similar to make holes in caps.
Straws
Water

More springboards:

- Literacy Learning springboard – Watering Plants

Key vocabulary: Design Brief, Evaluation

Success Criteria

- ✓ I can explain why a watering device works best to meet a specific outcome.