

EPOCH OF BUBBLES ACTIVITY INSTRUCTIONS

Safety notes

- Due to the potential spillages created by this activity it would be advisable to conduct it outside in an undercover play area.
- Ensure all students are aware of safety before setting up, and that appropriate procedures are in place to minimise risk.
- If using food dye to colour the bubble solution, students should wear aprons to protect their clothes.
- Ensure students do not share straws.
- Remind students to blow and not draw bubble mixture into their mouths.

Equipment and materials

- Bubble solution. You can either make this from equal quantities of liquid detergent and water or purchase commercial bubble mix.
- Non-toxic paint or food dye
- A small plastic cup or container with an opening around 7 cm in diameter. Non-spill paint pots also work well.
- Straws (preferably paper/cardboard or reusable metal/wood straws)
- Sheets of A4 paper or printed copies of the Epoch of Bubbles activity sheet. It is recommended bubble printing on 220gsm paper, as normal printer paper (150gsm) is very thin and tears easily when wet.
- Paper towel or other absorbent cloths.
- Shallow tray or waterproof table cloth (optional)

Method

- Place some bubble/paint solution in the container/s and place into shallow tray (to collect any spillages) on a table or bench.
- The student/child stands near the tray with a straw, and lowers one end of the straw into the solution and blows air through the straw with an even pressure until the bubbles come above the edge of the cup.
- Student/child lays a sheet of paper gently over the bubbles for half a second and then lift it up and off the bubbles.

Before continuing:

- Place sheets somewhere to dry well.
- Students could do more than one bubble painting.

This activity works best if you have multiple trays of bubbles of different sizes and colours. We suggest making the smallest bubbles red (for the most redshifted, and therefore the earliest) and the largest bubbles blue (for the least redshifted and therefore latest). You can also layer the different coloured bubbles very effectively or create the different sizes/colours on different sheets of paper.



Students can put stars into the middle of each of the bubbles and construct their own baby universe.

For further details on this activity see the video at <https://youtu.be/3lauDGbjqck>