

An unplugged interactive systems thinking activity for students in all year levels.

Your students are challenged to find their balloon or (other item) using systems thinking.

Aim

To show, with a very simple interactive activity, how systems thinking can take us from chaos to harmony.

Age range

Suitable for anyone – from early learners to secondary school.

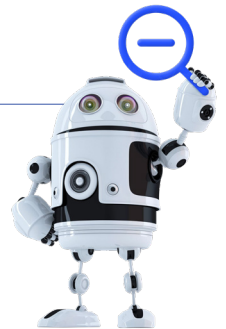
You will require

- A group of students, preferably around 20 or so.
- Balloons or any substitute item. You will need one item per student taking part. These items will be used to write the names of each student onto. You could use paper plates, pieces of paper, popsicle sticks – the possibilities are endless.
- A marker pen to write the names.

Lesson Plan

Blow up balloons, one per student, and name each balloon with one student's name. (You could also do the activity with everyday objects such as paper plates, popsicle sticks, or pieces of paper.) You could ask the students to blow up their own balloons and name them as part of the activity, depending on their age. Once blown up and named, scatter the balloons around the room.

Let the students know that there will be two rounds to this activity. The goal is for each student to finish the activity holding the balloon that has their name on it.



Activity Overview

Round 1

Ask the students to find the balloon that has their name on it.

If you are using pieces of paper, paper plates or similar, it's best to place these face down and spaced on the floor around the room so that the students cannot see their named item until they are physically holding it.

Allow enough time for some students to find their balloon, but stop the activity before all students have their balloon. (It's likely there will be an initial period of chaos, followed by some students perhaps starting to find ways to get balloons to their owners.)

Round 2

Return all balloons to the floor.

Ask students to pick up the balloon closest to them, and take the balloon to the person whose name is on it. (It's likely this will result in a fairly quick orderly distribution of the named items to their owners.)

Discussion (and suggested answers)

- Which round was more efficient? (Round 2)
- Why did round 2 work better? (Students worked as part of a single system to get balloons to owners, rather than each person working alone to meet their own goals).
- Is there a better way to get balloons to owners? Students may like to design their own algorithms (sets of instructions) and test them out.
- Are there examples you can think of where it's better to work together rather than alone?
- In this activity we are acting as a system: what other systems are you part of?

We use simple systems and conventions for interacting with others all the time.

This activity teaches students to design and communicate systems with their classmates while introducing them to thinking about how their **Design and Technology** subjects interact with the wider world.

Learning Loop (to read to students and discuss)

It's not very often that we're truly alone. In our daily lives our actions can affect people around us. Sometimes the group can make things more complicated. If I only have to think of myself and I see a slice of cake, I think about whether I am hungry or not. But in a group I also need to think about whether other people have had cake or not, and how the cake should be shared.

Thinking about the group can sometimes make things simpler. What looks like a difficult task can become much easier if everyone in the group follows simple instructions.

Source of inspiration



*'Balloons are like happiness.
No one will find it looking for theirs only.
Instead, if everyone cares about each other's,
they will find their own as quickly as possible'*

Source: <https://www.facebook.com/346654298688802/posts/what-a-wonderful-teacher/2966413863379486>

Content Descriptions from ACARA Digital Technologies Curriculum

'Develop knowledge, understanding and skills to ensure that, individually and collaboratively, students apply **systems thinking** to monitor, analyse, predict and shape the interactions within and between information systems and the impact of these systems on individuals, societies, economies and environments.'

Source: Overall aims – Australian Digital Technologies Curriculum

'Start to develop a holistic approach to the identifications and solving of problems where the focal points are treated as components of a system, and their interactions and interrelationships are analysed individually to see how they influence the functioning of the entire system.'

'Understand systems work with complexity, uncertainty and risk.'

'Students recognise the connectedness of and interactions between people, places and events in local and wider world contexts and consider the impact their designs and actions have in a connected world.'

'Participating in and shaping the future of information and digital systems is an integral part of learning in Digital Technologies. Understanding the complexity of systems and the interdependence of components is necessary to create timely solutions to technical, economic and social problems. Implementation of digital solutions often has consequences for the people who use and engage with the system, and may introduce unintended costs or benefits that impact the present or future society.'

Source: 'Thinking in Technologies' – Australian Curriculum