

Sample Items for PISA 2025 Computational Problem Solving (CMPS)

As part of the new CMPS assessment, students work through tasks of increasing complexity, with access to resources such as tutorials, feedback and examples.

In the “Recycling Claw” unit, students are required to program a robotic claw to sort different objects, mimicking what is done at a recycling plant.

Cognitive sub-scale	Programming
Cognitive process	Build and debug computational artefacts

The screenshot shows the "Recycling Claw" programming environment. At the top, there's a title bar "Recycling Claw" and a progress indicator "Apply" with three dots and a star. On the right, there are buttons for "Task Solutions" and "Submit". Below the title bar, a pink instruction box says: "Sort the objects into their goal state positions using as few blocks as possible." A user icon is on the right.

The main interface is divided into several sections:

- Code blocks:** A list of programming blocks on the left: "move left", "move right", "pick up", "place", "repeat 0 times", and an "if-else" block with the condition "if claw is holding".
- Workspace:** A central area where the program is built. It contains a "when run" block and a "Blocks used: 1" indicator. There are also icons for undo, redo, and a trash can.
- Recycling claw:** A visual representation of the robotic claw and the objects it can pick up. It shows a claw at the top and a vertical stack of objects (blue, yellow, and red) below it.
- Goal state:** A visual representation of the target arrangement of objects. It shows a vertical stack of objects (blue, yellow, and red) and a slider at the bottom labeled "slow" and "fast".

At the bottom, there are "Run" and "Pause" buttons, and a slider for speed control.

Sample Unit: *Fitness App*

In the “Fitness App” unit, students are required to model the relationships between different exercises and fitness for an application that can help astronauts stay healthy whilst at low gravity.

Cognitive sub-scale	Modelling
Cognitive process	Conduct experiments; analyse data

Fitness App

Apply ●●★

Task Solutions

Submit ➔

It's time to complete the model for the AstroFit application!

- Conduct **experiments** to investigate how **weightlifting** and **aerobics** impact an astronaut's fitness.
- Investigate if the relationships depend on **hydrating** (amount of water drunk).
- Choose the **graphs** that match your results and select the **experiments** that show how each activity impacts fitness.

Experiment lab

+ Add plan

Plan	Weightlifting (hours per week)	Aerobics (hours per week)	Hydrating (litres per day)	Fitness (points)
➔ 1	Amount ▼	Amount ▼	Amount ▼	

Model workspace

Weightlifting

Select graph

Check my work

Aerobics

Select graph

Check my work

Fitness