

Module 1:

The aim of this module is to find which compartment contains the hidden ball through systematic trials.

Before the game begins, the cylinder is rotated several times so that the ball randomly falls into one of the compartments. The numbered top cover is placed, and no student knows the location of the ball.

Students take turns choosing a number and rotating the cylinder until that number is on top. They then press the button to open the selected compartment. If the ball is in that compartment, it falls out and the game ends. If the ball does not appear, the compartment is identified as empty and that number is eliminated.

Students avoid returning to compartments that have already been tested and identified as empty, and continue trying new numbers. As the number of trials increases, incorrect options decrease, and students systematically approach the correct compartment.

This process allows students to directly experience trial and error, elimination, and learning from previous attempts.

Module 2:

The aim of this module is to find the correct matches between pieces through feedback.

At the beginning of the game, students randomly select three out of six horizontal plates and place them into the slots on the front surface of the module. The cylindrical pieces are left mixed on the table.

Students take turns selecting a cylinder and attempting to place it into one of the top slots. If the cylinder fits perfectly into the slot, a correct match has been made. If it does not fit, the piece is considered incorrect for that slot and is set aside.

Each incorrect attempt reduces the number of possible options. Students use feedback to eliminate wrong choices and gradually approach the correct combination.

This module physically demonstrates that mistakes generate information and that feedback accelerates learning.

Module 3:

The aim of this module is to make predictions using indirect clues rather than directly observing the outcome.

Prismatic rods are placed into the sockets on the front surface of the module. A student drops a ball from the top surface. Inside the module, the ball changes direction as it hits internal obstacles, and the hole it falls into cannot be directly observed.

Students use cardboard barriers to block specific paths and gradually narrow down the possible route taken by the ball. Each trial updates the previous prediction.

This process develops students' observation skills, inference making, and ability to test hypotheses.