# Inventor Relay Assembly

## HOST ONLY - preparation and story

**Includes answers. Keep these pages and all hint pages with the adult host.**

Welcome to the inventor relay bench. Each recovered pulse may turn several dials, so every test record matters. Your team has the original records on the table. First recover five pieces of information, then use the final plan to configure the relay machine. Keep every result beside its badge so another teammate can check your reasoning.

1. Print the six player sheets and two record sheets for each team. Keep answers and hints with the host.

2. Lay out Unlabelled legend, Part labels, the remaining clue sheets and the final plan. All task records are printed inside the sheets; no extra prop is needed.

3. After each clue, pass roles one seat clockwise. With two players, combine Reader with Recorder and Checker with Builder. With five or six, add a second checker and a source finder; everyone explains one decision.

4 players; 1 team. Give each team 6 player sheets and 2 record sheets. Share one host guide and one set of three hint levels.

Paper and pencils are enough. Keep whole sheets at one table; nothing needs cutting, folding or hiding.

Optional: 4 invitations or certificates, only if selected.

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## HOST ONLY - solution guide

### 1. Signal: HOLD-RIGHT

A consistent one-to-one mapping satisfies every training example. Use the complete mapping to read the two-signal message in order. Result: HOLD-RIGHT.

### 2. Record: EAST

Check source status first, then join the matching tag. The useful information comes from separate records, not their printed row order. Result: EAST.

### 3. Builder: 0

Dee has Wheel; Mo has Lever; Xin has Relay. Xin's item gives 0. Result: 0.

### 4. Diagram: 3

Different positions are 2, 5, 8. There are 3 differences. Result: 3.

### 5. Test: 1

The decoded word is TEST; its row gives 1. Result: 1.

### 6. Final: A1-B2-C0-D1-E1

Select one pulse card for each of the five badge results. Add the turns by dial column to the printed starting states and wrap each total around 0, 1, 2. The checked configuration is A1-B2-C0-D1-E1; each pulse pair has equal size and total turns, so its shape does not identify the correct choice.

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## HOST ONLY - timeline, story and ending

3 minutes: Read the opening. Show the evidence record and choose starting roles.

5 minutes: Solve Signal. Offer one hint at a time and rotate roles after checking.

5 minutes: Solve Record. Offer one hint at a time and rotate roles after checking.

5 minutes: Solve Builder. Offer one hint at a time and rotate roles after checking.

5 minutes: Solve Diagram. Offer one hint at a time and rotate roles after checking.

5 minutes: Solve Test. Offer one hint at a time and rotate roles after checking.

7 minutes: Build the checked five-dial configuration using all five results.

3 minutes: Read the ending. Ask each teammate to explain one rejected alternative.

After Record: Several recovered pulses may affect the same dial. Keep the legend and the starting positions visible. Pass the record sheet to a new checker before opening the next clue.

After Diagram: Four results are recorded. Each teammate points to a source supporting one result. Complete the fifth check before building the checked five-dial configuration.

Check every result using the solution guide. Offer the next hint only when requested; save the answer reveal until the group is ready.

**The panel is ready at A1-B2-C0-D1-E1; every recorded pulse has been applied. Thank each teammate for a different piece of reasoning.**

Explain one tempting wrong choice and the evidence that ruled it out. Show how each of the five results affected the checked five-dial configuration. If a clue is missing, say what remains uncertain before reopening that sheet.

Duration and ages are estimates. Adjust the pace and offer help for your group.