

How to prepare

One kit per team of 4 to 6; 15 minutes to print and cut

What is in this file

Page 2 · Base sheet	the robot's outline with a numbered space for every part. One per team; teams build on it every round.
Page 3 · Parts sheet	27 pieces: 9 parts, each in 3 patterns (A plain, B stripes, C dots). One per team, cut out before the session.
Page 4 · Order cards	8 customer orders saying which pattern of each part the customer wants. Print once, cut them apart and keep them face down.
Page 5 · Score sheet	10 builds: the seconds, the defects, what changed, the prediction and the decision, with a run chart to plot by hand.
Page 6 · Run sheet	the facilitator's page: the 6 stages with their minutes, what to say and what to watch for.

Before the session

- Print pages 2 and 3 once per team, on card if you can (160 gsm cuts cleanly and survives 10 builds). Print page 4 once, page 5 once per team, page 6 for yourself.
- Cut out the 27 parts along their outlines. Cut the 8 order cards apart. Put each team's parts in an envelope, loose. Leave them unsorted, because the muddle is what the teams will improve.
- Each table needs: a base sheet, an envelope of parts, a score sheet, a pen and a timer (a phone, or the timer on the stage pages of the website).
- The website's stage pages play a short video before each stage and keep the times and the run chart if a team prefers a screen to paper: aimqa.github.io/Test-/game.html.

The rules of the game

- 1 Every build is to one order card. The clock runs from the facilitator's "Go" to the team's "Done".
- 2 Each part goes in its own space on the base sheet, the right way up, in the pattern the order asks for.
- 3 The inspector, who is someone from another team, counts the defects: a wrong pattern, a wrong space, upside down or missing. Seconds and defects both go on the score sheet.
- 4 Between builds a team may change how it works, but only after Stage 3, and only one change per build, written down first with a prediction.

The session, in stages

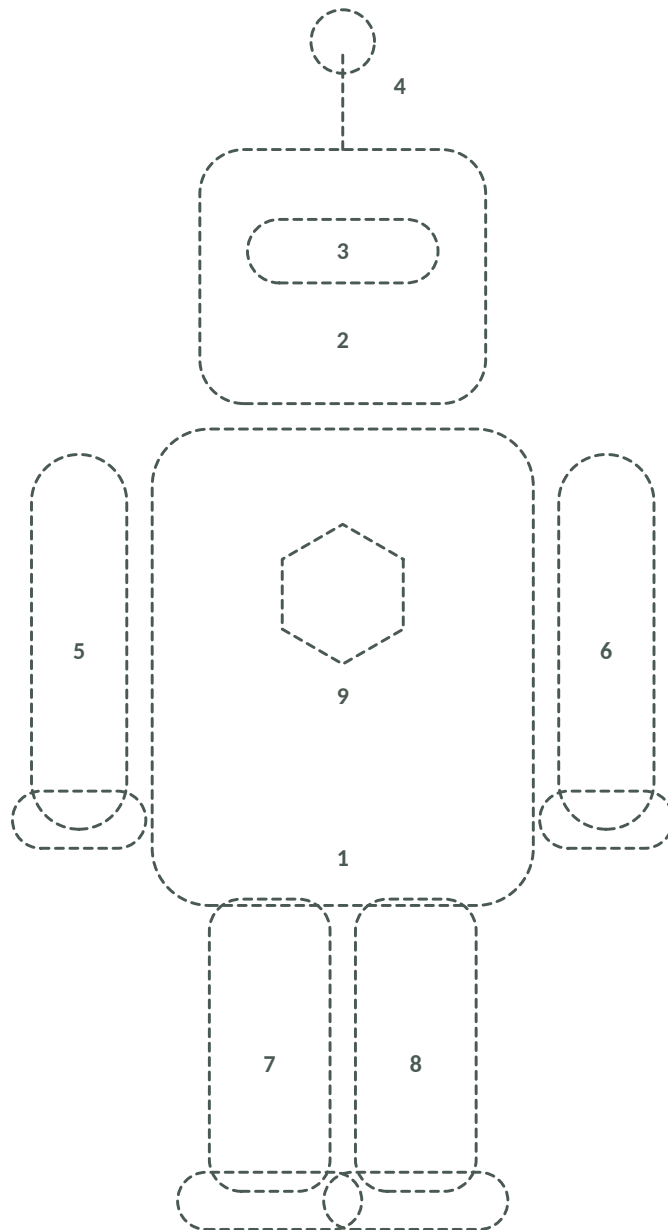
Set up	5 min	Teams, kit and rules, and the Set up video.
Stage 1 · Understand the problem	7 min	Two baseline builds, no changes. Watch, draw the process, ask why.
Stage 2 · Define the problem and aim	4 min	A problem statement with numbers, an aim with a number and a deadline, 3 measures, the baseline on the chart.
Stage 3 · Choose change ideas	5 min	Causes → a quick driver diagram → impact against effort → one change, one prediction.
Stage 4 · Test and measure improvement	13 min	Builds 3 to 8, one change each: plan, do, study and act, plotting each build as you go.
Stage 5 · Sustain, spread and share	7 min	Standard work on one page; swap tables; one minute per team; back to the ward.

Base sheet

Build the robot here: every part in its own space, the right way up

Team: _____

Order: _____



1 Body · 2 Head · 3 Visor · 4 Antenna · 5 Left arm · 6 Right arm · 7 Left leg · 8 Right leg · 9 Badge

Defects: a wrong pattern, a wrong space, upside down or missing. The inspector counts them when the team says Done.

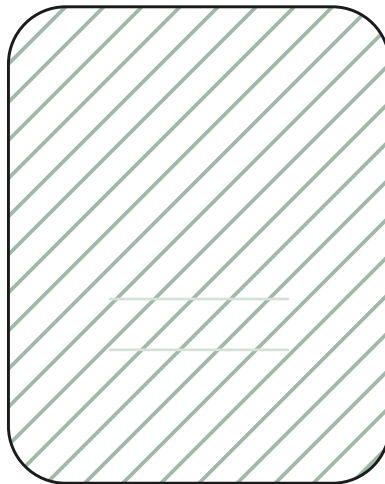
Parts sheet

Cut out all 27 pieces: 9 parts, each in patterns A (plain), B (stripes) and C (dots)

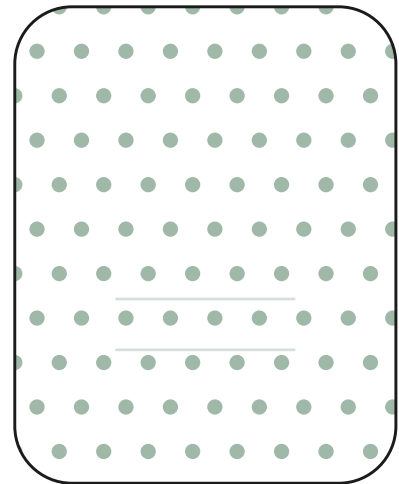
Cut along the solid lines. The small label under each piece says which part and pattern it is. Keep it on the back of the piece or cut it off.



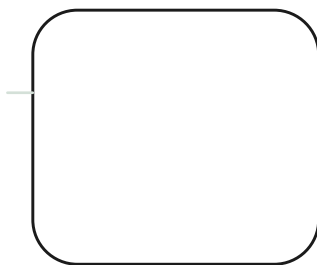
Body · A



Body · B



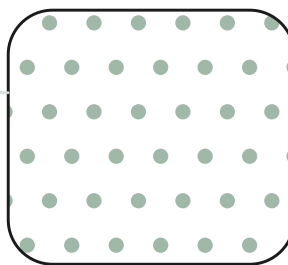
Body · C



Head · A



Head · B



Head · C



Antenna · A



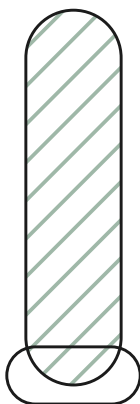
Antenna · B



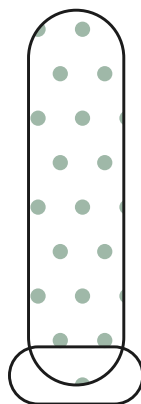
Antenna · C



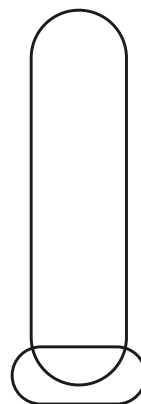
Left arm · A



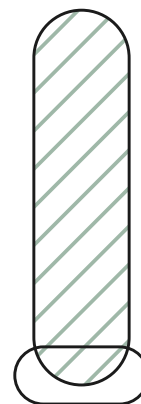
Left arm · B



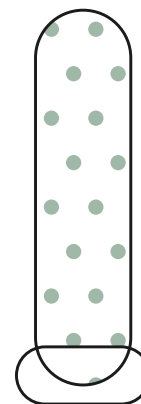
Left arm · C



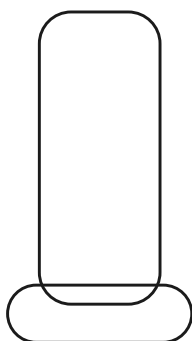
Right arm · A



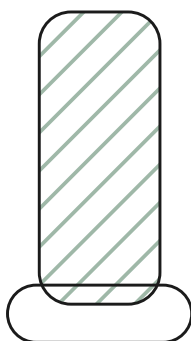
Right arm · B



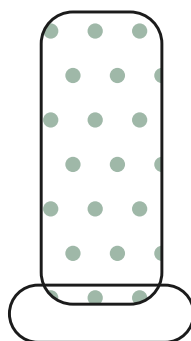
Right arm · C



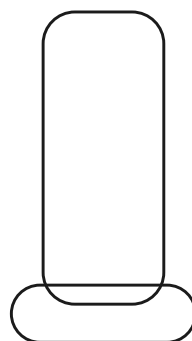
Left leg · A



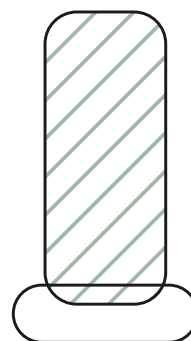
Left leg · B



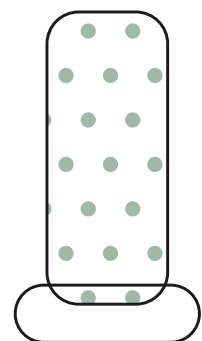
Left leg · C



Right leg · A



Right leg · B



Right leg · C



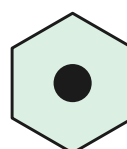
Visor · A



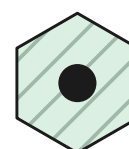
Visor · B



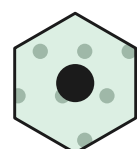
Visor · C



Badge · A



Badge · B



Badge · C

Order cards

Eight customer orders: cut them apart and keep them face down until Go

Order 1

all 9 parts, the right way up

- | | | |
|----------------------|-----------------------|-----------------------|
| A 1. Body | B 2. Head | A 3. Visor |
| C 4. Antenna | B 5. Left arm | B 6. Right arm |
| A 7. Left leg | A 8. Right leg | C 9. Badge |

A plain · B stripes · C dots: the pattern on the main piece of each part

Order 2

all 9 parts, the right way up

- | | | |
|----------------------|-----------------------|-----------------------|
| C 1. Body | A 2. Head | B 3. Visor |
| B 4. Antenna | A 5. Left arm | A 6. Right arm |
| C 7. Left leg | C 8. Right leg | B 9. Badge |

A plain · B stripes · C dots: the pattern on the main piece of each part

Order 3

all 9 parts, the right way up

- | | | |
|----------------------|-----------------------|-----------------------|
| B 1. Body | C 2. Head | A 3. Visor |
| A 4. Antenna | C 5. Left arm | C 6. Right arm |
| B 7. Left leg | B 8. Right leg | A 9. Badge |

A plain · B stripes · C dots: the pattern on the main piece of each part

Order 4

all 9 parts, the right way up

- | | | |
|----------------------|-----------------------|-----------------------|
| A 1. Body | A 2. Head | C 3. Visor |
| B 4. Antenna | B 5. Left arm | B 6. Right arm |
| C 7. Left leg | C 8. Right leg | A 9. Badge |

A plain · B stripes · C dots: the pattern on the main piece of each part

Order 5

all 9 parts, the right way up

- | | | |
|----------------------|-----------------------|-----------------------|
| B 1. Body | B 2. Head | B 3. Visor |
| A 4. Antenna | A 5. Left arm | A 6. Right arm |
| A 7. Left leg | A 8. Right leg | C 9. Badge |

A plain · B stripes · C dots: the pattern on the main piece of each part

Order 6

all 9 parts, the right way up

- | | | |
|----------------------|-----------------------|-----------------------|
| C 1. Body | C 2. Head | A 3. Visor |
| C 4. Antenna | B 5. Left arm | B 6. Right arm |
| B 7. Left leg | B 8. Right leg | B 9. Badge |

A plain · B stripes · C dots: the pattern on the main piece of each part

Order 7

all 9 parts, the right way up

- | | | |
|----------------------|-----------------------|-----------------------|
| A 1. Body | C 2. Head | C 3. Visor |
| A 4. Antenna | A 5. Left arm | C 6. Right arm |
| A 7. Left leg | C 8. Right leg | B 9. Badge |

A plain · B stripes · C dots: the pattern on the main piece of each part

Order 8

all 9 parts, the right way up

- | | | |
|----------------------|-----------------------|-----------------------|
| B 1. Body | A 2. Head | A 3. Visor |
| B 4. Antenna | C 5. Left arm | A 6. Right arm |
| C 7. Left leg | A 8. Right leg | A 9. Badge |

A plain · B stripes · C dots: the pattern on the main piece of each part

Score sheet

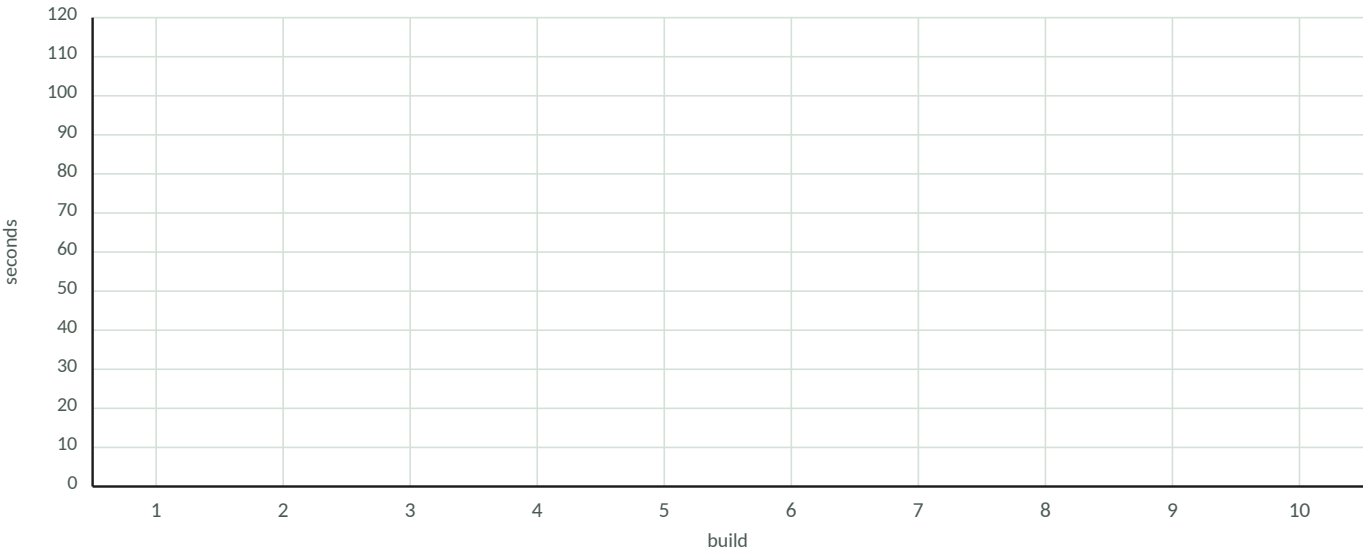
One line per build, then plot the seconds on the run chart

Team: _____ Aim: under _____ seconds, _____ defects, by build _____

Build	Order	Seconds	Defects	What changed this build (one thing)	Prediction	Keep · tweak · drop
1				baseline, no changes		
2				baseline, no changes		
3						
4						
5						
6						
7						
8						
9						
10						

Run chart: seconds per build

Draw the baseline median through builds 1 and 2, then look for points below it, one after another



Run sheet for the facilitator

30 to 45 minutes; one facilitator; teams of 4 to 6

Set up • 5 min

Play the Set up video. Teams, tables, envelopes, score sheets, a timer each. Read the 4 rules out. Nobody opens an order card yet.

Stage 1 • Understand the problem • 7 min

Play the video. Two builds: Order 1, then Order 2. You call Go, they call Done, and an inspector from the next table counts the defects. No planning and no changes: say so.

Then: one person watches the second build and only watches. Sketch the process as it happened. Five whys on the slowest moment. Ask each table for its cause.

Stage 2 • Define the problem and aim • 4 min

Play the video. Each table writes a problem statement with its 2 numbers, an aim with a number and a deadline ("by build 8"), and its 3 measures.

Plot builds 1 and 2; draw the baseline median. Check every aim has a number before you move on.

Stage 3 • Choose change ideas • 5 min

Play the video. Causes → a quick driver diagram on the back of the score sheet → ideas → impact against effort. One change for build 3, written down, with a prediction in seconds.

Stage 4 • Test and measure improvement • 13 min

Play the video. Builds 3 to 8, a new order each time. Before each: the change and the prediction. After each: seconds, defects, the point on the chart and the decision to keep, tweak or drop.

Watch for: a team changing 2 things at once; a fast build with more defects (the balancing measure); a team celebrating one point. Say: look at the line.

Stage 5 • Sustain, spread and share • 7 min

Play the video. Each table writes its standard work on one page: layout, roles, sequence. Swap pages with another table, which builds a new order from the page at the first attempt. Time it.

One minute per team: baseline, changes, result, what did not work. Close with the map to the ward (below).

The map to the ward: say this at the end

a build	→ one patient's episode, such as one admission, one drug round or one handover
seconds and defects	→ your outcome and balancing measures
the order card	→ the standard: the guideline, the bundle, the pathway
builds 1 and 2	→ the baseline: count before you change anything
one change per build	→ one Plan-Do-Study-Act cycle: small, quick and predicted
the run chart	→ the same chart, over weeks
the standard-work page	→ the proforma, the order set and the induction pack, which survive rotation
swapping tables	→ spread, and the write-up the next unit can copy