Problem solving activities for a team workshop

Problem solving activities help a team most when they follow the order of real work: agree the facts, state the problem, check causes, compare options and test one. This kit links six activities into a 90-minute workshop with a worksheet for each step, a filled example from a fictional training team and an option comparison that calculates a weighted score.

90 minutes | 4–16 participants | Online and adaptable in person

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The outcome

By the end of 90 minutes the team has a problem statement with evidence, causes with a way to check each, scored options and one small test with an owner, a measure, a target and a review date.

Before the session

- For facilitators, trainers and team leads who help 4–16 people with a real, recurring problem that the team can influence. Not for a crisis.
- Ask the owner for the problem in their own words, with any figures. Agree who decides if needed.
- Put the worksheets in one shared document, or print one set per small group, with the filled examples.
- Turn on captions, send the worksheets a day early to people who use screen readers, and give silent writing time before each discussion for people who think in writing or in a second language.

Included in this kit

A facilitator run of show, participant worksheets with real tables, reference tables, debrief questions, adaptation notes and a follow-up plan. Use the editable Word copy to tailor examples and prompts before delivery.

Original material by Superglue. Timings are suggestions; adjust them to your participants. This resource has not been independently evaluated.

What is inside

- Fact and assumption sort
- Problem statement builder
- Cause and evidence map
- Fishbone sheet
- Five whys chain
- Option comparison
- Experiment card
- Filled example: the problem and its causes
- Filled example: cause and evidence map
- Filled example: fishbone
- Filled example: five whys
- Filled example: options and the test
- Facilitator section: run of show, reference tables, debrief and adaptations

Fact and assumption sort

Write one statement per row. Sort it as a checked fact, an assumption or an opinion. A statement is a checked fact only if you can name the source.

Statement about the problem	Fact, assumption or opinion	Source, or how to check

Problem statement builder

Write the problem without a cause or a solution inside it. Use numbers and dates where you have them.

The problem as first stated

Who is affected

What happens, how often or how much

The effect: what it costs the people affected, the team or the organisation

The evidence: how we know

Our problem statement in one or two sentences

Cause and evidence map

List the possible causes first. Then fill the other columns for the four most likely. A cause with no evidence stays on the map as a question.

Possible cause	Evidence for	Evidence against	How we can check	Who checks, by when

Fishbone sheet

Optional, for activity 3. Write the problem statement at the head. List possible causes under each category, then circle one evidence check for each. Checked fact: someone has seen the source. To check: there is a lead and a check that someone can do this week. Assumption: no source and no quick check yet; it stays as a question and nothing is built on it.

The fishbone (cause-and-effect) diagram is commonly credited to Kaoru Ishikawa. The five whys is commonly credited to Sakichi Toyoda and the Toyota Production System. The categories, sheets and evidence check here were written for this kit.

Problem statement (the head of the fish)

_____

_____

Category	Possible cause	Evidence check	Source, or how to check
People and roles		Checked fact To check / Assumption	
People and roles		Checked fact To check / Assumption	
Process and timing		Checked fact To check / Assumption	
Process and timing		Checked fact To check / Assumption	
Tools and systems		Checked fact To check / Assumption	
Tools and systems		Checked fact To check / Assumption	
Information and communication		Checked fact To check / Assumption	
Information and communication		Checked fact To check / Assumption	
Workload and setting		Checked fact To check / Assumption	
Workload and setting		Checked fact To check / Assumption	
Measures and follow-up		Checked fact To check / Assumption	
Measures and follow-up		Checked fact To check / Assumption	

Five whys chain

Optional extension, 20 minutes. Start from one cause, not from the whole problem. Ask why, write one answer, and mark it before you ask again. At each level, write one other answer too: a single chain can end at one cause when several causes act together, and the other answers and the evidence check keep the rest in view.

Stop rule: stop at the first answer that is not a checked fact, and check it before you go on. Stop too when the answer is something the team can act on, or when it leaves what the team can influence. Five is a rule of thumb, not a target.

Level	Why…?	Answer	Evidence check	Source, or how to check
Why 1			Checked fact To check / Assumption	
Other answer			Checked fact To check / Assumption	
Why 2			Checked fact To check / Assumption	
Other answer			Checked fact To check / Assumption	
Why 3			Checked fact To check / Assumption	
Other answer			Checked fact To check / Assumption	
Why 4			Checked fact To check / Assumption	
Other answer			Checked fact To check / Assumption	
Why 5			Checked fact To check / Assumption	
Other answer			Checked fact To check / Assumption	

Option comparison

Score each option from 1 (low) to 3 (high). For effort, 3 means least effort. Weighted score = 3 × effect + 2 × effort + 2 × speed + 1 × fit. The highest possible score is 24.

#	Option	Effect on the problem (× 3)	Effort, 3 = least (× 2)	Speed to try (× 2)	Fits constraints (× 1)	Weighted score	Rank
A							
B							
C							
D							
E							
F							

Experiment card

Choose a test that can run within four weeks and that the team can stop early. Agree the review date now.

Part	Our test
We believe that…	
So we will try…	
For whom, and for how long	
We will measure…	
Baseline today	
Target	
We will stop early if…	
Owner	
Review date and who attends	

Filled example: the problem and its causes

A fictional training team. The course coordinator said: “People are lazy about pre-work.” The team sorted the facts and rewrote the problem.

Statement	Sorted as	Source, or how to check
People are not interested in the course.	Opinion	No evidence yet. Ask three participants why they did not start.
11 of 24 participants had not opened the module by the start of session 1.	Checked fact	Learning platform report, 6 October
The invitation email went out two days before session 1.	Checked fact	Sent log in the course mailbox
The module takes 20 minutes.	Assumption	Time three colleagues who have not seen it
Managers know that pre-work counts as paid time.	Assumption	Ask two managers
Trainers spend about 15 minutes repeating the pre-work in session 1.	Checked fact	Trainer notes from two sessions

Filled example: cause and evidence map

The team checked the module time during the workshop. The other three causes each have a check that takes less than a week.

Possible cause	Evidence for	Evidence against	How we can check
The invitation arrives too late	Sent two days before; 7 of the 11 opened the email on the day of the session	4 people opened the email early and still did not start	Compare open dates with module starts
The separate login stops people	3 support tickets about passwords in October	13 people logged in without a ticket	Ask the 11 in a two-question poll
Managers do not treat it as paid time	2 participants said they did it at home	Only two comments; no manager asked	Ask two managers what they were told
The module takes longer than stated	Three colleagues took 38, 44 and 51 minutes	—	Already checked: the stated time is wrong

Filled example: fishbone

The same fictional training team, using the deeper version of activity 3. Problem statement at the head: 11 of 24 participants (46%) had not opened the pre-work module by session 1 on Tuesday 6 October. Nine causes in six categories: 4 checked facts, 3 to check and 2 assumptions.

Category	Possible cause	Evidence check	Source, or how to check
People and roles	Managers do not treat pre-work as paid time	To check	2 participants said they did it at home. Ask two managers what they were told.
People and roles	People are not interested in the course	Assumption	No source. The fact sort marked it as an opinion.
Process and timing	The invitation goes out two days before session 1	Checked fact	Sent log in the course mailbox
Process and timing	Nobody reminds people who have not started	Checked fact	Sent log: no reminder for the October cohort
Tools and systems	The separate login stops people	To check	3 password tickets in October. Two-question poll to the 11.
Information and communication	The invitation says 20 minutes; the module takes 38 to 51	Checked fact	Three colleagues timed it during the workshop
Workload and setting	Peak weeks on the service desk leave no free 45 minutes	To check	Compare the desk rota for 28 September to 6 October with the 11 names
Workload and setting	There is no quiet place to do online learning at work	Assumption	No source yet
Measures and follow-up	Nobody looks at the start report before session 1	Checked fact	The coordinator first runs the report on the day of session 1

Filled example: five whys

The team followed one checked cause, the late invitation. Of the six answers, 3 are checked facts, 2 are to check and 1 is an assumption. The chain stopped at level 4 because that answer is not checked yet. It explains 7 of the 11; the other answer at level 1 keeps the remaining 4 in view.

Level	Why…?	Answer	Evidence check	Source, or how to check
Why 1	Why had 11 of 24 participants not opened the module by session 1?	7 of the 11 opened the invitation only on the day of session 1.	Checked fact	Email open dates in the course mailbox
Other answer	What else could explain it at level 1?	The other 4 opened the invitation early and still did not start. The separate login may stop them.	To check	Two-question poll to the 4. Not followed in this chain; it is on the fishbone.
Why 2	Why did 7 people open the invitation only on the day?	It went out two days before session 1.	Checked fact	Sent log in the course mailbox
Other answer	What else could explain it at level 2?	People leave pre-work until the last moment because the invitation says 20 minutes.	Assumption	No source yet
Why 3	Why did the invitation go out only two days before?	The coordinator waits for the final list of names, and the last manager confirmed names three days before session 1.	Checked fact	Confirmation emails in the course mailbox
Why 4	Why did the last manager confirm names so late?	Managers are asked for names two weeks before the course, with no reply date.	To check	The coordinator finds the request email and its date before the test starts.
Why 5	Not asked yet	Stop here. Level 4 is not checked. Ask the next why only when it is.	–	–

Filled example: options and the test

Problem statement: For the October cohort of the customer service course, 11 of 24 participants (46%) had not opened the pre-work module by the start of session 1 on Tuesday 6 October. Trainers then spent about 15 minutes repeating it. Source: platform report and trainer notes.

#	Option	Effect (× 3)	Effort (× 2)	Speed (× 2)	Fit (× 1)	Weighted score	Rank
A	Send the invitation seven days before session 1, not two	2	3	3	3	21	1
B	Replace the separate login with a direct link	3	1	1	2	15	4
C	Send each manager a two-line note that pre-work is paid time	2	3	3	3	21	1
D	Cut the module from 45 to 20 minutes	2	1	2	3	15	4
E	Do the pre-work together in the first 20 minutes of session 1	3	2	3	1	20	3

Facilitator run of show

1 Open with the problem as first stated | 5 minutes

Read the problem as the owner first stated it. Say: “We will not solve this in the first hour. We will make sure we are solving the right thing, and we will leave with one test.” Show the six steps and the output of each. Name who decides if the group cannot agree.

2 Activity 1: sort facts from assumptions | 15 minutes

Give four minutes of silent writing: each person writes what they believe about the problem, one statement per line. Collect the statements for five minutes. Spend six minutes sorting each one as a checked fact, an assumption or an opinion, and write a source or a way to check it. Nobody has to defend a statement; the column shows only what we know.

3 Activity 2: rewrite the problem statement | 12 minutes

In pairs, spend five minutes rewriting the problem with the builder: who is affected, what happens, how often or how much, the effect and the evidence. The statement must not contain a solution or a cause. Compare the versions for four minutes and agree one in the last three. Keep the words that someone could check.

4 Activity 3: map causes with evidence | 15 minutes

List possible causes for five minutes without judging them. For the four most likely causes, fill the map for eight minutes: evidence for, evidence against and how to check. Spend two minutes agreeing which cause the team can check this week. A cause without evidence stays on the map as a question. Optional deeper version, same 15 minutes: list the causes on the fishbone sheet instead of a blank list, one category at a time, and mark each cause as a checked fact, to check or an assumption. Then fill the map for the four most likely. To follow one cause further with five whys, add the separate 20-minute extension after the break or at the review; it is not part of the 90 minutes.

5 Break | 5 minutes

Five minutes away from the screen. The facilitator copies the problem statement and the checked causes to the top of the options sheet.

6 Activity 4: generate options | 12 minutes

Give four minutes of silent writing: each person writes options that answer the problem statement, including small and odd ones. Share for five minutes without comment. Spend three minutes grouping similar options and choosing up to six to compare.

7 Activity 5: compare options | 14 minutes

Agree the weights first: effect on the problem 3, effort 2, speed to try 2, fit with constraints 1, or your own. Score each option from 1 to 3 on each criterion for eight minutes; for effort, 3 means least effort. Calculate the weighted score and discuss the top two for four minutes. The score orders the discussion; it does not make the decision.

8 Activity 6: design a small test | 8 minutes

Fill the experiment card for the chosen option: what we believe, what we will try, for whom and for how long, the measure, the baseline, the target, when we stop early and who owns it. Choose a test that can run within four weeks.

9 Read back and close | 4 minutes

Read back the problem statement, the cause the team will check and the test with its owner and review date. Ask each person for one word about the problem now, or a pass.

Reference tables

The six problem solving activities

The activities run in this order inside the 90-minute plan, with a five-minute opening, a five-minute break and a four-minute close.

#	Activity	Minutes	What the group produces
1	Sort facts from assumptions	15	Statements marked as checked fact, assumption or opinion, with sources
2	Rewrite the problem statement	12	One statement with numbers, no cause and no solution
3	Map causes with evidence	15	Four likely causes with evidence and a way to check each
4	Generate options	12	Up to six options to compare
5	Compare options	14	A weighted score and a rank for each option
6	Design a small test	8	An experiment card with owner, measure, target and review date

Optional root cause extension: five whys in 20 minutes

Not part of the 90-minute plan. Run it after the break, at the test review, or as a separate short session. The fishbone (cause-and-effect) diagram is commonly credited to Kaoru Ishikawa. The five whys is commonly credited to Sakichi Toyoda and the Toyota Production System. The categories, sheets and evidence check here were written for this kit.

Minutes	What happens	Sheet
0–2	Choose one cause from the fishbone or the cause map that is a checked fact or to check. Read the stop rule aloud.	Five whys chain
2–12	In pairs or threes, ask why and write one answer per level. At each level, also write one other answer in the “Other answer” row.	Five whys chain
12–17	Mark every answer: checked fact, to check or assumption. Stop the chain at the first answer that is not a checked fact.	Five whys chain
17–20	Agree who checks the open links, and by when. Add the checks to the cause map.	Cause and evidence map

Filled example: experiment card

The test runs for one cohort. If it meets the target, the team keeps it and tests the direct link next.

Part	Our test
We believe that…	People start the pre-work when they get it earlier and their manager confirms it is paid time.
So we will try…	Options A and C: send the invitation seven days before session 1, with a two-line note to each manager.
For whom, and for how long	The November cohort of 24 people, session 1 on Tuesday 3 November.
We will measure…	The share of participants who opened the module by the start of session 1, from the platform report.
Baseline today	13 of 24 (54%) in the October cohort.
Target	At least 18 of 24 (75%).
We will stop early if…	Two or more managers say the note is unclear. We will then call those managers instead.
Owner	Course coordinator.
Review date and who attends	Wednesday 4 November, 20 minutes: coordinator, two trainers and the problem owner.

Debrief and next steps

Questions for reflection

- What did we believe at the start that turned out to be an assumption?
- How did the problem statement change, and what does the new version rule out?
- Which option scored lower than we expected, and was the score or our instinct right?
- What would make us stop the test early, and who will notice?

Adapt the session

- For a 60-minute version, do activities 1 and 2 as pre-work in a shared document, then run activities 3 to 6 in the session.
- For more than eight people, run activities 1, 3 and 5 in groups of three or four, and bring back only the top results. For the fishbone, give each group two or three categories and combine the sheets.
- Online, keep one shared document on screen and paste each activity’s question in the chat. Use silent writing in the document before open discussion. Make cameras optional.
- If the team cannot influence the main cause, say so in activity 3 and choose an option the team controls, or write a request to the person who owns that cause.
- For people who prefer not to speak in a group, collect statements and options in writing first, and let the facilitator read them out without names.

After the session

Send the problem statement, the cause map and the experiment card within one working day. Run the checks on the causes before the test starts. If you used the fishbone or the five whys, re-mark each cause when its check is done. At the review date, compare the result with the target and decide to keep, adapt or drop the

test. Record the decision and, if the problem remains, bring the next option from the comparison to the next meeting.

Questions people ask

What are good problem solving activities for teams at work?

Activities that follow the order of real work: sort facts from assumptions, state the problem with evidence, check causes, compare options and test one. This kit links six such activities in a 90-minute workshop and gives a worksheet for each.

How do you write a good problem statement?

Say who is affected, what happens, how often or how much, the effect and how you know. Leave out causes and solutions. “11 of 24 participants had not opened the pre-work by session 1” is a problem statement; “people are lazy about pre-work” is an opinion.

How does the option comparison work?

Score each option from 1 to 3 on effect, effort, speed and fit, then multiply by the weights 3, 2, 2 and 1. The highest possible score is 24. The score orders the discussion; the team, or the named decider, still makes the decision.

Are these problem solving games or a workshop method?

A workshop method. Each activity works on the team’s real problem, so the output is a problem statement, a cause map and a test that the team can run the next week. For a warm-up game, use a short cooperative activity first.

Is there a root cause analysis template in this kit?

Yes, as an optional deeper version of activity 3: a fishbone sheet that lists causes by category, and a five-whys chain for one cause. Each cause or answer is marked as a checked fact, to check or an assumption. Five whys can stop at a single cause when several act together; the evidence check stops the chain at the first unchecked answer, and an “Other answer” row at each level keeps the other causes in view. The fishbone diagram is commonly credited to Kaoru Ishikawa, and the five whys to Sakichi Toyoda and the Toyota Production System. It is a team workshop tool, not a formal incident, safety or quality investigation. Follow your own procedure for those.

What is included in the free and editable files?

The open PDF has the six worksheets, the optional fishbone sheet and five-whys chain, filled examples and the 90-minute facilitator plan. Subscribers also receive the editable Word file, an Excel workbook with an option comparison that calculates weighted scores and ranks, fishbone and five-whys sheets that count facts, causes to check and assumptions, an experiment tracker and filled examples, and a CSV of the plan.

Use and sharing

Free to use and adapt in your own training sessions, including paid client work. Do not resell or redistribute the unmodified download as a standalone product. Share the resource page instead.