



START

Schools Teaching Awareness of Randomised Trials

START COMPETITION STEP BY STEP GUIDE FOR TEACHERS AND STUDENTS

Step by Step Guide

Below is our recommended guide for completing your trial. Each step includes:

- A suggested difficulty rating (1-3)
- An estimated time frame

Remember, these are just guidelines! Some trials are simpler than others, so you can adjust the time you spend on each step to suit your class. The most important thing is that students understand and enjoy the scientific process.



Watch the video, "START Competition, step-by-step", on our resource page, for a more visual and engaging way to explore the step-by-step guide.

Step 1

Register your trial

2 min



DIFFICULTY

1

Before they start, all randomised trials are registered on a public website so that everyone knows that the trial is going to take place.



Register your trial in just a few minutes on our website (www.startcompetition.com) by completing the trial registration form with details such as your school's name and the number of children involved.

You will then receive log-in details to access the project submission page.

Step 2

Decide on your trial question

2-3 hours



DIFFICULTY

2

Selecting the right question for your project is one of the most exciting but challenging steps in the START Competition.

Fill out the **KITE Framework** (appendix 2 of this lesson plan) to ensure your question can be answered using a randomised trial, and refer to our handy guide, Choosing a Question for Your Trial, for further inspiration (Appendix 3 of this lesson plan).



Language

classroom discussion and debate, framing clear questions.



SPHE

practising active listening, respecting each other's opinions, reaching agreement as a group.



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Watch the video The KITE Framework, choose Your Trial Question and Select your Outcomes on our resource page.

Step 3

Select your outcomes

2 hours



DIFFICULTY

2

Now, you have an exciting question for your trial—but how will you answer it, and how will you measure your trial results?

If you have used the **KITE Framework** to help decide on your question, you should already have an idea of the outcome you're looking for.

Top tip:

Choose outcomes that are easy to measure. Why not ask family members for ideas on how to measure your outcomes?



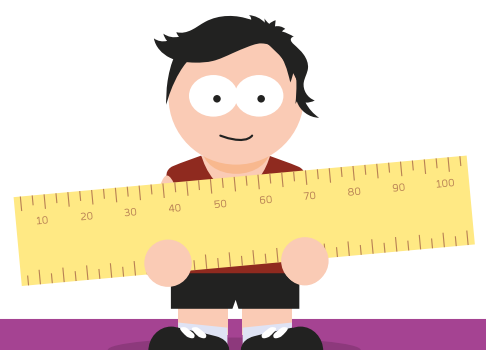
Maths

identifying measurable outcomes (time, distance, test scores...).



Science

linking curiosity to testable questions (e.g. "Does positive encouragement affect running speed?").





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Watch the video “Collect consent and blind your trial” on our resource page, to see how we can share just enough information about the study, while keeping some parts secret to make sure the results are fair.

Step 4

Collect consent

1 hour



DIFFICULTY

1

Before starting your trial, you need to get permission from everyone who will participate. You can use the consent form p22 of this guide or create your own.

Who can participate? Maybe consider another class, teachers, or family members.

For good consent, you should:

- Explain what your trial is about in simple terms
- Tell participants what they'll be doing
- Explain benefits (they might learn something new)
- Mention any possible disadvantages (like being in the group that they didn't want)
- Make it clear they don't have to join if they don't want to
- Explain they can stop participating at any time
- Answer any questions they have

And importantly, thank them for their help!



Language

practising explanation in child-friendly terms.



SPHE

empathy, fairness, and respect for others' choices.



NB: Parental or guardian consent is required for any photos or recordings of students used in the submission process.



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Step 5

Divide your participants into groups

1-2 hours



DIFFICULTY

1

Now you need to divide your trial participants into groups: a control group and one or more test groups. This is called randomisation.

What is randomisation?



Watch the video “randomisation” on our resource page!

Randomisation is the process of assigning participants to groups by chance, like flipping a coin or drawing names from a hat. This is **crucial** because it:

- Creates fair groups that are similar in all ways except for the thing (i.e., the ‘intervention’) being tested
- Reduces bias (that’s when results are influenced by things (factors) other than what you’re testing)
- Makes your results more reliable and scientific.

How to randomise:

1. Ask someone not involved in the project (another teacher, parent, or student from a different class) to help
2. Use methods like:
 - a) Drawing names from a hat
 - b) Flipping a coin (heads = test group, tails = control)
 - c) Using a computer based random number generator (such as <https://www.randomizer.org/>)

The test groups will do what you are investigating (e.g., use coloured paper for homework), while the control group continues as normal (e.g., doing homework on their usual paper). You’ll collect information from both groups to compare results.



Maths

applying probability.



Science

ensuring fair testing through equal groups.



SPHE

learning about fairness and inclusion.



Watch the video “Collect consent and blind your trial” on our resource page to learn more about this step.

Step 6

Make it a secret (if you can)

1 hour



DIFFICULTY

3

Many randomised trials use something called ‘blinding’

What is blinding?

Blinding means keeping some information secret from participants so they don’t change their behaviour in ways that might affect your results. When participants don’t know which group they’re in, they’re less likely to act differently just because of that knowledge.

Why is blinding important?

Imagine you’re testing whether a special breathing exercise helps running speed:

- If participants know they’re in the “special breathing” group, they might try extra hard
- If they know they’re in the control group, they might feel disappointed and not try as much
- Either way, your results would be affected by their feelings, not just the breathing exercise

How to create a blinded trial:

1. Don’t tell participants which group they’re in
2. Have someone else assign groups so even you don’t know who’s in which group

Example:

For a trial testing if coloured paper helps with homework, you could tell participants “We’re studying different homework conditions” without mentioning colour specifically.

If blinding isn’t possible for your trial, that’s okay! Just explain why in your report. Being honest about limitations is part of being a good scientist.



Language

practising how to keep instructions neutral.



SPHE

recognising bias and the importance of fairness.





Step 7

Conduct your study

1-2 weeks



DIFFICULTY

2

Time to start your trial! Here's how to run it successfully:

Getting started:

- Give clear instructions to all participants (consider a class meeting or written instructions)
- Make sure everyone understands what they need to do and when
- Set up a schedule for your trial (How many days? What times?)

During the trial:

- Collect your data consistently (use the same methods each time)
- Keep a trial diary to record any problems or surprises
- Stay organised - use charts, spreadsheets or notebooks to track your information

Important reminders:

- Take notes about other events/things that might affect your results (school events, holidays, weather)
- Check-in regularly with participants to make sure they're following instructions
- If something unexpected happens, don't panic! Record the issue and continue

Top tip:

Create a simple checklist of daily tasks to make sure nothing gets forgotten during your busy school days.



PE

trials on stretching, balance, speed, or stamina.



SPHE

focus and wellbeing trials (e.g. coloured paper, mindful breathing).



Maths

measuring, counting, and recording data accurately.



Art

documenting the trial with drawings or photos.



Language

keeping diaries or notes of what happens.



Step 8

Report your findings

1 week



DIFFICULTY

1

Time to share what you discovered!

Organising your results:

- Gather all your measurements and observations
- Create simple charts or graphs to show your data clearly
- Look for patterns - did your intervention make a difference?
- **Remember:** Finding “no difference” is just as important a result as finding a big difference!

Telling your story:

- Describe what you did in each step of your trial
- Explain what worked well and what challenges you faced
- Share what surprised you or what you learned
- Include photos, drawings or videos of your trial in action

Creative reporting options:

- Written report with pictures
- Video presentation or mini-documentary... in the past we've even had a drama!
- Poster or infographic... we've had scrapbooks!
- Podcast or audio recording
- Digital presentation (PowerPoint or Google Slides)



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Language

writing conclusions, presenting orally to peers.



Maths

creating graphs, tables, and charts to display data. Reflecting on accuracy and methods of measurement.



Art

posters, models, comics, or visual displays of results.



ICT

designing digital infographics, videos, or slideshows.



Science

explaining results and linking back to the question.



SPHE

reflecting on teamwork, fairness, and inclusion.

Don't forget to share your findings with your participants, classmates, and families!

NB: Make sure to have a look at the submission guidelines below for more information on format and content requirements.

