SciFest

A Guide to

Doing a SciFest Project

Contents

About SciFest

Think Big Think SciFest!

When you take part in a SciFest STEM fair you will:

- have a better understanding of science and its real-world applications
- learn how to work with others as a member of a team
- get more confident, more mature, and better at planning ahead and organising your work
- develop new skills, e.g. how to use a camera and how to improve your computer, presentation and communication skills
- learn more about the different courses available in third-level colleges and the exciting career opportunities that are open to you if you study STEM (science, technology, engineering and maths)
- get recognition and acknowledgement for all your hard work
- learn from looking at all the other projects on display
- make lots of new friends and meet students from other schools
- maybe win an award (lots of trophies and awards are presented each year in SciFest@School and regional SciFest@College STEM fairs, see the following LINK

Where Can You Find Information About SciFest?

The best way to find out all about SciFest is to visit the official SciFest website: www.scifest.ie.
On the website you will find lots of resources and advice on how to do your project.

You can also

- Like SciFest on Facebook
- Follow SciFest on Instagram
- Read SciFest on ISSUU
- Follow SciFest on X
- Watch SciFest on YouTube
- See SciFest on Flickr

What Is a SciFest STEM Fair Project?

You have probably done lots of project work in primary school and doing a SciFest STEM fair project is pretty similar except with SciFest you get the opportunity when you are finished to display and present your project at a SciFest@School STEM fair in your school and/or at a regional SciFest@College STEM fair in a third-level college.

Remember:

- Entry to SciFest is free
- There are three age categories: Junior, Intermediate and Senior
- There are three subject categories: Physical Sciences, Life Sciences and Technology
- You can work as a member of a group of up to three people or on your own
- You choose the topic yourself or with your team, so it is an opportunity for you to work on something that you are good at and passionate about

What does a SciFest STEM Fair Project Consist Of?

A completed SciFest project is made up of three parts:

1. **REPORT BOOK**
   This is an account of all the work you have done and includes details of any investigations you have carried out, data you have collected, results and conclusions. It is a good idea to have a rough project notebook or diary. This is for storing and recording everything about your project.

Read More Page 15

More information on how to write up your report book can be found on page 15.

Remember to:

- record all your results as you go along
- record all the titles and authors of the books you read and the addresses of the websites, etc. that you use; you will not remember them if you don't write them down
- record the names of any experts that you consult about your project
- type up your report in font 12 or 14 pt

2. VISUAL DISPLAY or POSTER

This is a summary of your project and should include only the main parts of your project. It should be easy to read and colourful.

More information on how to design a poster can be found on page 17.

Remember to:

- include some photographs
- use a large font (16 pt or more)

3. ORAL PRESENTATION

All SciFest judges are voluntary and they volunteer because they enjoy talking to students like you, so don't be nervous.

More information on how to talk to the judges can be found on page 17.

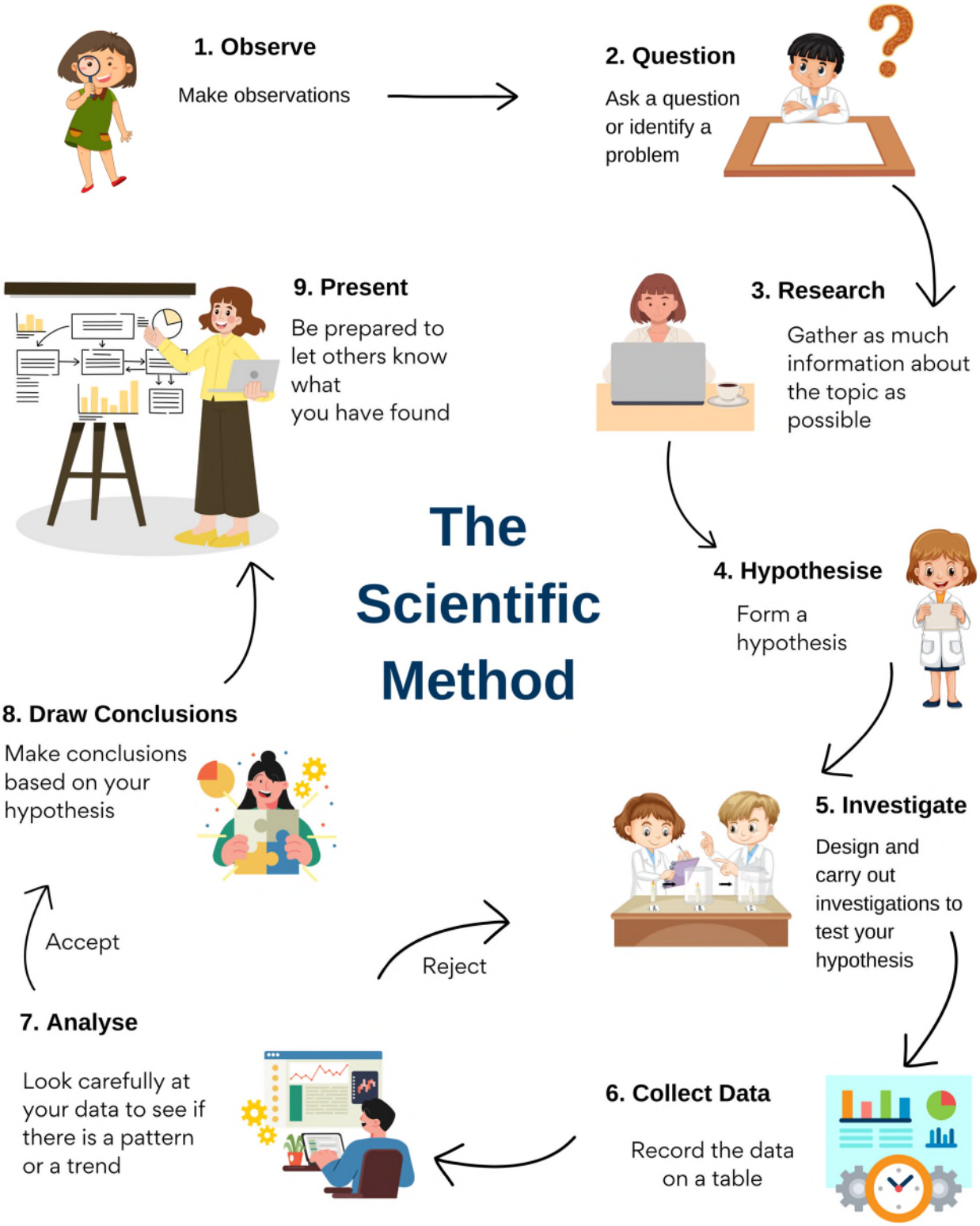
Remember to:

- speak slowly and clearly and make eye contact with the judge
- be enthusiastic about your project

Scientific Investigation

The Scientific Method

When doing a SciFest STEM fair project you should follow the steps of what is sometimes called the scientific method.



Observe, Question, Research

1. Observe

Stop, think and take a look at the world around you. Have you ever wondered why the sky is blue, how you could help a friend who is blind or how to reduce your use of plastic, save energy in your home, build a robot or become more sustainable fashionwise. Would like to investigate if there are harmful chemicals in makeup or which material makes the best football boots?

If you have then you are an observant person and this makes you a very good candidate for doing a SciFest project.

Activity 1 Page 20

An activity to help you to come up with an idea for a SciFest project can be found on page 20.

2. Question

When you make an observation you may ask yourself, 'Why does/did that happen?'.

Examples of questions you might ask:

1. Do plants grow better in direct sunlight or in the shade?
2. Does the blade size (length, area) and the number of blades affect the electrical output of a wind turbine?
3. Do the roots of a plant always grow downwards and the shoots upwards?
4. Which material is the best insulator?
5. Does the size of a parachute affect the time it takes to fall to the ground?

3. Research

Carry out as much background research as possible. Talk to your parents, teachers, friends and your project partners. Check out the Internet. Make sure the websites you visit are reliable. Visit or contact a person in a third-level college, if possible, and talk to an expert in the field. Remember to record all the websites you visit, the books you read and the people you talk to. This list will go in the references section of your report book.

Carrying out research helps you understand what is already known about the topic you have chosen and helps you form your hypothesis.

Form a Hypothesis

After asking yourself 'Why does/did that happen?' you are now ready, based on your knowledge and your research, to make an educated guess to answer your question. If you can test your educated guess to find out whether it is true or false then it is a **hypothesis**.

When writing a hypothesis, start simple.
A hypothesis can be an '**If……. then……..'** statement.

The objective of a hypothesis is for an idea to be tested, not proven.

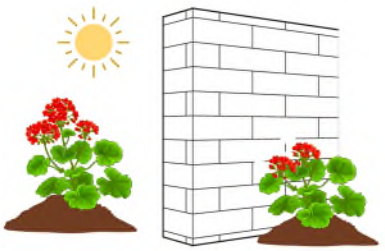
Examples

Educated Guess 1

Adding salt to water will make an egg float.

Hypothesis 1

If enough salt is added to water, **then** an egg will float in the water.



Educated Guess 2

A geranium plant grows better in direct sunlight than in the shade.

Hypothesis 2

If a geranium plant is placed in the sun, **then** it will grow better than if it is placed in the shade.

An activity to help you to develop a hypothesis can be found on page 24.

Investigate

Design your investigation. Include details of the materials you will use, equipment needed, measurements you will take and how you will collect the results. Remember that you should be able to repeat your investigation a number of times and that it should be a fair test.

A Fair Test and Variables

It is very important that your investigation is a **FAIR TEST**.

- Only change one thing (**Independent Variable**) at a time while keeping everything else the same (**Controlled Variables**).
- What you are measuring is called the **Dependent Variable**.
- Repeat the investigation a number of times.

Example of a Fair Test

Hypothesis: If a geranium plant is placed in the sun it will grow better than if it is placed in the shade.

Fair Test and Variables

You must only change one thing: (Independent Variable)

- the amount of light

All other things must stay the same: (Controlled Variables)

- the type of plant
- the type of soil
- the temperature
- the amount of water you give the plants

Height of plants (Dependent Variable)

It is also important to use more than one plant or to repeat the investigation a number of times.

REMEMBER TO ALWAYS OBSERVE ALL SAFETY PROCEDURES

Always check with your teacher or a responsible adult before you carry out an investigation.

Activity 3 Page 24

An activity to help you to design your investigation can be found on page 24.

Collect Data

Data can be divided into two categories:

1. **Quantitative data** is numerical data that can be counted or measured in numerical values.

Examples of quantitative data:

- Distance in kilometres (km)
- Mass in kilograms (kg)
- number of students in a class
- Speed in metres per second (m/s)
- Temperature in degrees Celsius (^{0}C)

Example of Collecting Quantitative Data

Investigation: Which is better for plant growth, artificial fertiliser (Fertiliser 1) or natural fertiliser (Fertiliser 2)?

Six plants were taken and, making sure that all other conditions were kept the same (Controlled Variables), three of the plants were fed **Fertiliser 1** and three were fed **Fertiliser 2** (Independent Variable). The height of the plants (Dependent Variable) was measured and recorded every three days over a period of three weeks and the results recorded on a table.

Data - Fertiliser 1

Height (cm)	3 days	6 days	9 days	12 days	15 days	18 days	21 days
Plant 1	1	2	3.5	5	6	7.5	9
Plant 2	0.5	1	2.5	3.5	5	6.5	8
Plant 3	1	1.5	2.5	4	6	7	8.5
						Average height after 3 weeks	8.5 cm

Data - Fertiliser 2

Height (cm)	3 days	6 days	9 days	12 days	15 days	18 days	21 days
Plant 4	1	2.5	5	6.5	7	9	10
Plant 5	1.5	3	6	7	8.5	9.5	10.5
Plant 6	1.5	2.5	4	5.5	7	9	10.5
						Average height after 3 weeks	10.3 cm

Present your Data

Presenting data in a clear and easy to follow way is essential to any scientific investigation. It helps scientists see trends and predict future patterns. A table of data and a graph can be used to present results clearly. When using a table it is important to design it **before** you start your investigation. This will ensure that you can easily find your results afterwards and will also allow you to spot patterns as they emerge.

Remember to:

- Add a description or caption to the table
- Label each row and column so that the table can be interpreted
- Include the units that are being used

Graphs

Graphs are an excellent way to present your data.

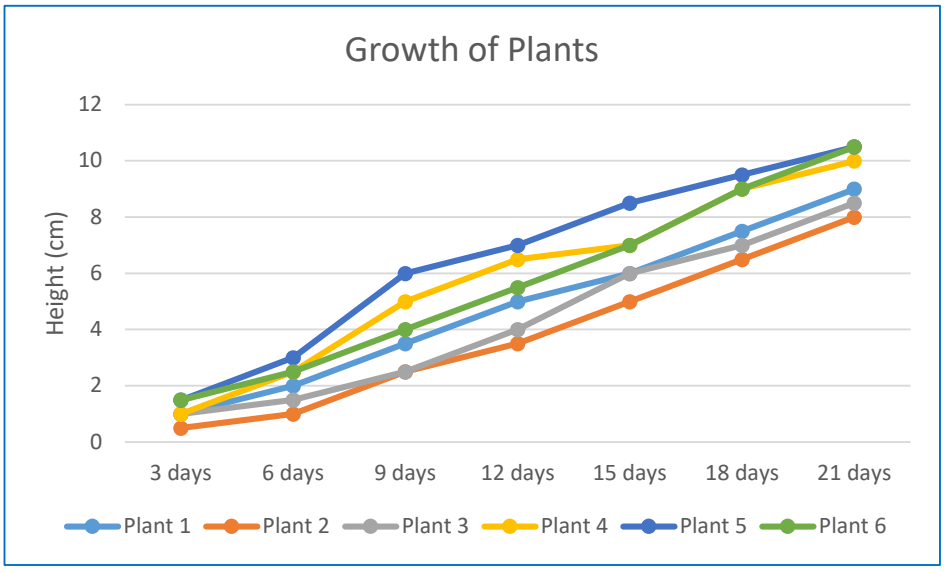
Remember to:

- Add a description or caption to the graph
- Put the independent variable on the x-axis and the dependent variable on the y-axis
- Label the axes and don't forget to add the unit of measurement, e.g. cm, m, etc.

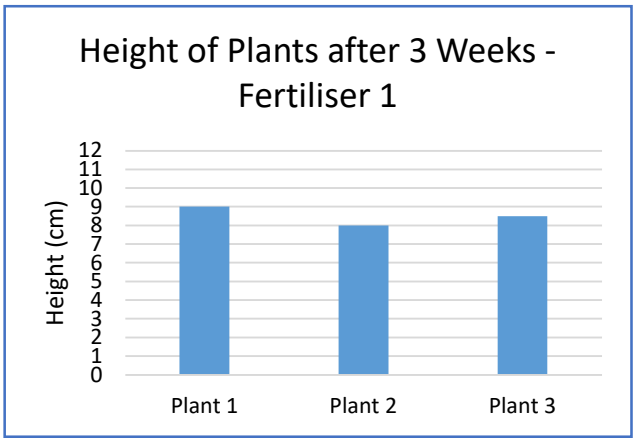
Microsoft Excel

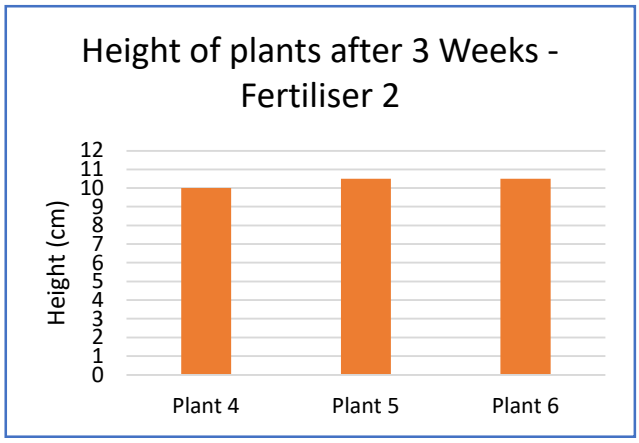
It is well worth your time learning how to use Microsoft Excel to perform data analysis and to display your results. Microsoft Excel provides a wide range of colourful chart types and graphs such as line graphs, bar charts and pie charts.

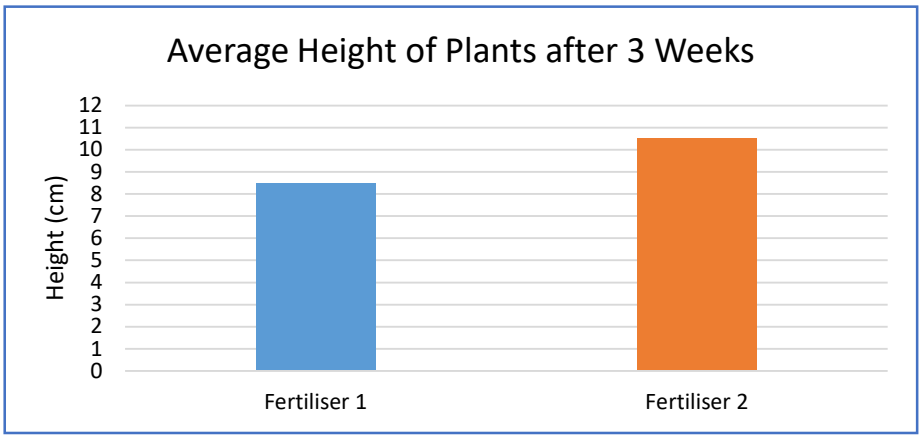
Line Graph



Bar Charts







Presenting data as a percentage

Converting your data to percentages:

- Makes it much easier to understand and to identify trends and patterns
- Has a greater visual impact than just numbers, making it easier for the judges and visitors to the fair to grasp the information quickly
- Standardises your data regardless of the sample size or size of the values; this makes your data easier to analyse and interpret, especially in behavioural and social science projects where you might be comparing different group sizes

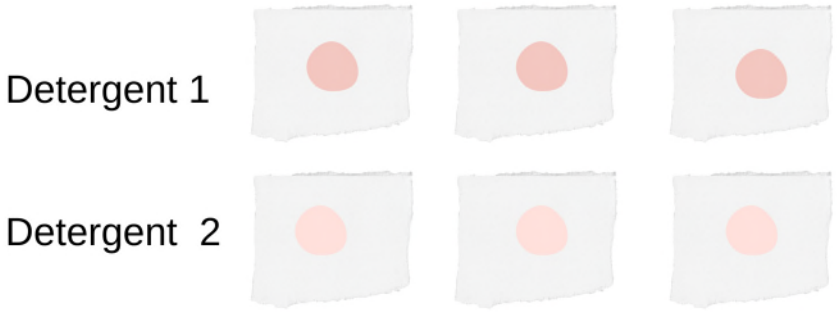
Example

In an Investigation into Gender Stereotypes in Children's Book Preferences 150 boys and 186 girls were asked did they like fantasy fiction books such as *Lord of the Rings* by J R R Tolkien.

Data presented as a number		
Yes		Numbers only can give a false impression.
Boys	120	
Girls	130	

Data presented as a percentage		
Yes		Expressing the data as a percentage gives a much clearer picture.
Boys	80%	
Girls	70%	

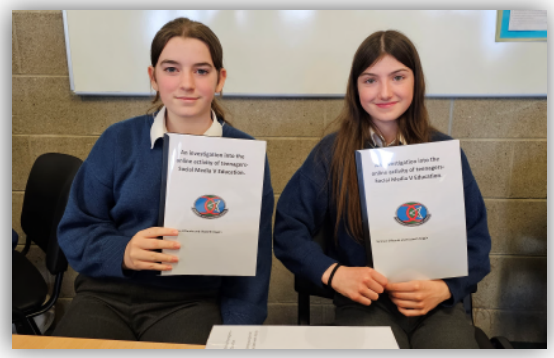
2. **Qualitative data** involves using a description in words rather than numbers. The look, taste, colour, smell, texture or sound of something would all be examples of qualitative data. When comparing the effectiveness of two different detergents in removing a ketchup stain you might say that the stain left after washing with detergent one is darker than the stain after washing with detergent two. This is qualitative data.



Qualitative research is also often found in behavioural and social science projects where individual experiences, opinions and behaviours are being investigated. For example:

- An investigation into the relationship between social media usage and mental health
- What are the experiences and challenges faced by individuals living in built-up areas?
- A study of the relationship between sleep patterns and academic performance in students

The choice between quantitative and qualitative research depends on your research question and the type of data needed to address it effectively. In some cases, you might be able to combine both quantitative and qualitative data.



Activity 4 Page 26

An activity to help you to present your data can be found on page 26.

Analyse

Check your data to see if you have enough collected or if you need to run your investigation again. Does the data you have collected support or disprove your hypothesis?

If you are happy with the data you have collected look to see if you can identify a pattern or a trend.

Draw Conclusions

Draw conclusions based on the analysis of your data.
Ask yourself:

- Do your results support your hypothesis and if not is there an explanation?
- Are there any limitations or potential sources of error in your investigation?
- Is there something you should have done differently?
- Did you change anything that might have affected the results?
- Do you need to collect more data?

If you are happy with everything you have done it is now time to summarise and explain what has happened in your investigation.

Suggest what you might change if you were doing the investigation again and ideas for further study of the topic.

Remember that if your investigation does not support your hypothesis that you have not failed. It just means that you maybe need to investigate further. A SciFest project is just a beginning and judges are interested in what you have learned and not whether your hypothesis was proved or not.

Presenting at a SciFest Fair

To present your project at a SciFest fair you need to have:

1. Project Report Book
2. Visual Display
3. Oral Presentation

Project Report Book

Your Project Report Book should be no more than 50 pages; this does not include any appendices. (The 50 is a maximum number of pages; your project may require fewer pages.)

Type up your report in font 12 pt or 14 pt. Using a larger font does not look well, means there is very little information on each page and the judge has to turn over page after page to read your report.

The Project Report Book should contain:

a) Cover/Title Page

This gives the project title, the name/s of the student/s and the name of the school.

b) Contents Page

c) Meet the Team (optional)

This section contains three or four lines of information about each team member and their contribution to the project. (A photograph of the team adds a nice touch.)

d) Summary/Abstract

The summary/abstract is a short description of what your STEM project is about. It should be no more than 250 words or 1,800 characters and should highlight the main points of your project. The abstract should allow judges and visitors to the fair to quickly determine the nature and scope of your project.

e) Introduction

The introduction contains a brief statement of your hypothesis and refers to the research you carried out to develop the hypothesis. It explains why you chose this particular topic and what you hoped to achieve. You should briefly mention any investigations, surveys, etc. you carried out.

f) Background Research

Background research includes a reference to what is already known about the topic and investigations that have already been carried out. It sets the scene for the project and links it to the "real world". **It should be no longer than 5 pages and should not consist of big chunks of information downloaded from the Internet.** Additional information can be included in the appendices. Everything should be written in your own words. Check that the websites you are using are reliable and write down every reference for the 'References' section.

g) Investigation Methods

These are the investigations that you have designed and carried out. They should be written up in the same format as the investigations you do in science class. Even if you carried out a survey you still have to describe the method, e.g. how many students were involved, how did you source the sample, how did you carry out a pilot survey, etc.

h) Results

Results should be clear and presented in a table when possible. Graphs or bar charts produced using a spreadsheet or other appropriate software should also be included. Try to do a statistical analysis if you have done a survey.

i) Conclusions and Recommendations

The conclusions summarise what you discovered based on the data you have collected. You should restate the hypothesis and indicate whether your results support the hypothesis. The conclusions also include possible sources of error and a brief description of how your work could be extended and improved.

j) Acknowledgements

Your project is meant to be your own work but you are allowed to have some help. The acknowledgments section consists of a short paragraph giving the names of people who helped you and how they helped.

k) Appendices

This section contains material such as extra tables of results and copies of any letters and emails you sent or received.

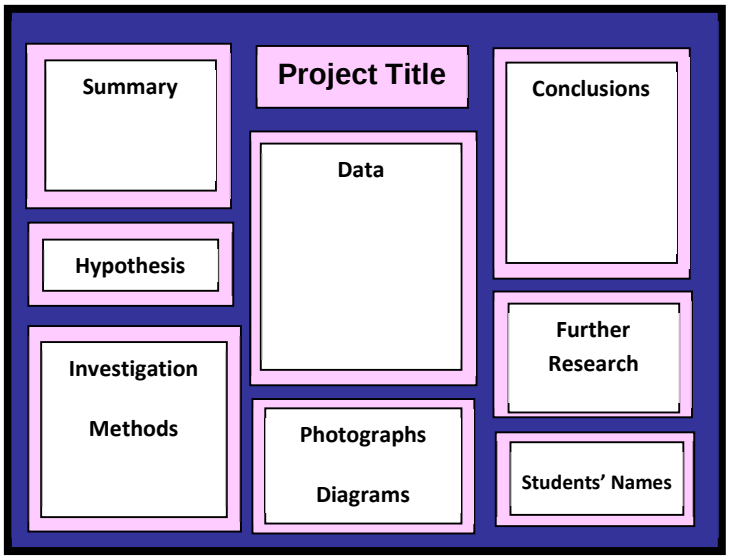
l) References

This is a list of all the books, journals, websites, etc. that you used. Remember to write them down as you go along.

Remember to check the grammar and spelling, to get somebody else – parent, teacher, guardian, relation – to read your report book, and to save it on your computer

Visual Display

As well as writing your results in a report book you also have to set up a visual display or poster. Before you decide what to include in your display check out the size and shape of the display board that is available where you are going to present your project.



Visual Display

Remember

- You cannot include everything in the display. Keep it simple and easy to read.
- Good design should attract viewers' attention to your project and then guide their understanding of the information you wish to convey.
- Make a checklist of the points you want to cover in your display and double-check that you present each.
- Use a font that is easy to read from a distance.
- Decide on a style and stick to it. Too much variation will make your poster seem untidy.
- Use your imagination to make your poster eye-catching. Include photographs.
- Judges will notice if a display has grammar and spelling mistakes. Get people to proofread your work.
- Make sure all your pieces are cut out with straight lines (use a ruler) as this will make your presentation look more polished and professional.

Remember to check the grammar and spelling

Oral Presentation

Now that you have completed your project you need to spend some time improving your presentation skills. It is natural to feel nervous so it is very important to be prepared. It is important to capture the interest of the judges at the beginning of your presentation. Start by explaining how you came up with the idea and how excited you are about the project. Briefly describe the investigations you carried out, your results and conclusions. Compare your results to what is already

known about the topic and suggest what you would like to do next. Expect to be interrupted by the judges with questions like:

- What was your role?
- What worked?
- What didn't work?
- How much help did you receive from others?
- What would be your next step?
- What problems did you encounter and how did you overcome them?

Presentation Tips

- Be involved in, and enthusiastic about, your project.
- Make eye contact with the judges at all times.
- Speak slowly and clearly. Avoid saying things like "er", "um", "like", "you know", etc.
- Practise in front of your friends and get them to ask questions.
- Practise in front of a mirror at home.
- Be polite, neatly dressed and smile.
- If you don't know the answer to a question say so but give the judges other relevant information.
- If you are involved in a group project remember to give each member of the team a chance to speak.

Plagiarism

What is Plagiarism?

According to the Merriam-Webster Online Dictionary to "plagiarise" means:

1. to steal and pass off (the ideas or words of another) as one's own
2. to use (another's production) without crediting the source
3. to commit literary theft
4. to present as new and original an idea or product derived from an existing source

Changing the words of an original source is not enough to prevent plagiarism. If you have kept the essential idea of an original source, and have not cited it, then no matter how drastically you may have altered its context or presentation, you have still plagiarised.

Activities

ACTIVITY 1 Coming up with a Project Idea

Often the most difficult part of doing a SciFest project is coming up with a workable idea. Don't worry; many students have exactly the same problem. Start by thinking about subjects or topics that you are genuinely interested in. Do you code? Are you interested in sport, dancing, space or maybe agriculture? Do you worry about climate change? Have you a hobby? Don't worry, it doesn't have to be something that has never been done before, just try to be original in your approach.

Remember that you will be more passionate about, and interested in, something you have selected yourself.

- Log onto the SciFest website https://scifest.ie and visit the resources section; there are lots of tips on how to get started and also some project ideas.
- Talk to your parents, teachers, and friends.
- Check out the Internet and the school library.
- Watch the news, check out a newspaper, a science book or magazine.
- Think about interesting topics in science or investigate a hobby.
- Get a large sheet of paper and brainstorm with the team.
- Make a shortlist of '3 best ideas'.
- Research and brainstorm further.
- Discuss the ideas with teachers, parents and friends.
- Make out a list of all the things needed.

Behavioural and Social Sciences Projects

- Some social sciences projects may use questionnaires to collect data.
- These appear easy but don't be deceived.
- Questionnaires and surveys require careful design.
- Interview a number of experts in the area you are about to study to get ideas and to identify themes to include in your questionnaire or survey.
- A pilot survey or questionnaire should be done.
- A representative sample should always be used.
- To do a good project you will need to go beyond basic statistics, therefore you may need to get help from somebody, e.g. a maths teacher.

Interests

In the box below write down some of your interests. This might include a favourite subject, coding, a sport or hobby – anything!

Write down as many interests that you can think of – everyone should write at lease 3.

Brainstorm

From your interests above, work together to write down something you would like to investigate. In the box below, write as many project ideas as you can think of – big or small!

Make a list below of your three best ideas.

1. _____

2. _____

3. _____

Research each of the ideas, talk to your parents, teachers, and project partners if working as a group, and develop an idea for a project. Write a brief outline of what you would like to do. This can be about one or all of your ideas above.

Review Your Ideas

Ask yourself the following questions. if the answer is yes ✓ the box

Ideas	1	2	3
Is the project feasible?			
Is there enough time to finish the project?			
Are the required resources available?			
Can actual measurements be taken?			
Can a fair test be designed to answer your question?			
Is the project safe?			
Is the idea original? If not, could it be made more original?			

ACTIVITY 2 Developing Your Hypothesis

Now that you think you have decided on a topic you need to do some research. This is very important as you need to know everything about the topic before you can write your hypothesis.

Hypothesis_____

_____

_____

_____

_____

Remember research, research, and research again until you are an expert on the topic!

ACTIVITY 3 Designing Your Investigation

1. Use the space below to make a list of the steps you need to follow to carry out your investigation. You should carry out a trial investigation. Expect the unexpected and be prepared to make the necessary changes.

2. Make a list below of all the equipment that you will need.

3. Draw a labelled diagram of the apparatus you intend to set up.

ACTIVITY 4 Recording Results and Presenting Data

If you want to impress the SciFest judges, your results should be:

1. **Easy to find**: Your results should be displayed prominently on your poster
2. **Easy to follow**: Your results should be presented in a way that any patterns are easy to see and understand in a short space of time
3. **Presented clearly**: Results should be presented clearly (ideally typed), and grouped together appropriately (e.g., in a table, graph or chart as appropriate)

Example of results presented clearly

To investigate the effect of altitude on air temperature on Carrauntoohil Mountain in Kerry, three thermometers were placed at each of three different altitudes (9 thermometers in total) on the mountain and the temperature taken at the same time.

Altitude (m)	Temperature (°C)			
	Location 1	Location 2	Location 3	Average
300				
600				
900				

Design a table or chart on which to record the data you collect. Have this table ready before you carry out your investigation.

ACTIVITY 5 Meeting Deadlines

Project Title: _____

_____

Name/s	
1.	
2.	
3.	

✓ When accomplished

	Task		Date Due	Accomplished
1.	Idea			
2.	Research Record			
3.	List of equipment & materials			
4.	Hypothesis			
5.	Entry Forms			
6.	Parents'/Guardians' Signatures	Student 1		
		Student 2		
		Student 3		
8.	Investigation and Results			
9.	Bibliography and Acknowledgements			
10.	Proofreading by parent, teacher, peer…….			
11.	Project Report Book			
12.	Visual Display			
13.	Fair			

ACTIVITY 6 Project Checklist

Date of SciFest STEM Fair: _____

	✓ When accomplished
I have checked the spelling in my Report Book and on the Display Board	
Somebody else – parent, teacher, guardian, relation – has read my Report Book	
I have discussed my Project and Report Book with the above person and made the necessary changes	
I have included the following pages in my Report Book Cover ☐ Research Team ☐ Background Research ☐ Abstract/Summary ☐ Introduction ☐ Investigation Methods ☐ Results ☐ Conclusions ☐ Recommendations ☐ Acknowledgements ☐ Appendices ☐ References ☐	
The Cover Page of my Report Book includes the following Title of Project ☐ Name/s of Team Member/s ☐ Name of School ☐	
I have included as many references in the Report Book as possible ☐ I have listed all the books I used ☐ I have listed persons or institutions that have helped me ☐ I have listed all the websites I used ☐	
I have included any copies of letters or emails that I sent or received	
I know everything there is to be known about the project	
I have gone beyond basic statistics for my survey – I have not just done pie charts or bar charts for each question	
I have met with my team and we have run through how we will present the project to the judges, including how we will divide up the answering	
I am happy with my contribution to the project	
I have checked if I need to put the team member name/s, the project title and the school name on the display board	
I have written thank you cards or letters to people (university professors, school principals, teachers, etc.) who helped me with my project	
I have thanked my teacher/parents/guardians for their support	

ACTIVITY 7 Recording a Video for SciFest

Helpful advice:

- Film yourself in a quiet room where there is lots of light.
- Do not sit with your back to a window or a light source.
- Always film your video horizontally (landscape mode).
- Keep the camera still during filming. If possible, use a tripod.
- Speak slowly and clearly so that the recording is able to pick up every word you say.
- If filming outdoors and there is a lot of background noise maybe consider recording a separate voiceover indoors using your video camera or phone voice recorder and adding it to the video afterwards.
- Avoid long pauses.
- Do not read directly from your report book or your computer screen. You have done the project so just tell it as you would a story!
- View your video after recording to ensure your voice is clear and audible, and that the picture is bright enough.
- Do not include anyone in your video other than you or the other member/s of your team.

What to include in your video:

- Introduce yourself: State your full name and your school (This is for a SciFest@College entry. Please check what is required for other SciFest fairs.)
- Rather than reciting your project title, consider explaining your project in a single sentence.
- Explain your project: Summarize your research into three main points:
    1. What did you do? (You could include a shot of your apparatus or prototype.)
    2. What did you find?
    3. What conclusions did you draw?

This is your time to shine! Your enthusiasm and personality will go a long way in selling your big idea.
Don't forget to smile!

NOTE: Do not use any copyrighted material in your film, such as video clips (TV, movies, online videos), images, music, sound recordings, etc., without permission.

Useful Websites

- **https://scifest.ie**
  SciFest is the largest second-level STEM fair programme in Ireland. Entry is free and all second-level students are encouraged to participate. The SciFest website offers support to students and teachers with resources such as this module, a TY module and a booklet of sample projects, etc.
- **http://www.sciencebuddies.org**
  On this site you will find hundreds of ideas for science projects along with notes on the scientific method, a teacher's guide to science projects, grading rubrics, an ask the experts section and lots more.
- **http://www.livescience.com/38126-high-school-science-fair-projects.html**
  Live Science reports on the latest discoveries, groundbreaking research and fascinating breakthroughs that impact you and the wider world.
- **https://www.societyforscience.org/research-at-home/**
  Society for Science resources, advice, and stories of inspiration on completing research outside of a traditional laboratory environment.
- **www.seai.ie/students**
  This page of the Sustainable Energy Authority of Ireland website contains links to a wide range of energy-related resources for students.
- **https://saltersinstitute.org/programmes/chemistry-club/**
  The Salters' Chemistry Club is an online platform that reaches an international audience. Chemistry Club aims to demystify chemistry and showcase the breadth and depth of the subject and the wide range of careers chemistry can lead to.
- **http://www.esa.int/education**
  The European Space Agency (ESA) 'Watching over the Earth' Secondary Level Teacher's Pack (worksheets and teacher's notes).
- **http://www.bco.ie**
  CIT Blackrock Castle Observatory is a science centre and is home to *Cosmos at The Castle*, an award-winning interactive astronomy exhibition which highlights recent scientific discoveries and their implications for life in outer space. Check out the education section of the website for resources and details of school visits and teacher professional development opportunities.
- **http://www.tryscience.org**
  Experience the excitement of contemporary science and technology through online and offline interactivity with science and technology centres worldwide.
- **http://www.schoolscience.co.uk**
  Written for teachers and students of National Curriculum science in the UK, the site covers some biology, chemistry and physics topics and is well illustrated.
- **https://www.societyforscience.org/research-at-home/**
  Society for Science - Resources, advice, and stories of inspiration on completing research outside of a traditional laboratory environment.

- **http://www.ase.org.uk**
  Association for Science Education – teachers helping teachers teach science. The ASE is the UK's largest science association dedicated to the teaching of science.
- **http://www.puzzlemaker.com**
  Create puzzles online.
- **http://www.webweaver.nu/clipart**
  Free clipart.
- **https://www.canva.com/**
  Canva is a free-to-use online graphic design tool. Use it to create social media posts, presentations, posters, videos, logos and more.
- **https://www.kapwing.com**
  Kapwing is a free online video editor.

REMEMBER

Log on to

https://scifest.ie

SciFest

The SciFest STEM fairs programme is a national initiative founded by Sheila Porter in 2006 to encourage a love of science, technology, engineering and maths (STEM) through active, collaborative, inquiry-based learning. Following two successful pilot SciFest STEM fairs hosted by the Institute of Technology Tallaght (now TU Dublin Tallaght) the programme was launched nationwide in 2008. SciFest expanded rapidly and today SciFest is implemented at four distinct levels: SciFest@School, SciFest@College, SciFest National Final and participation in international STEM events.

SciFest is accessible, inclusive and free to enter. Participation in the programme offers an innovative way to expose second-level students to, and enhance their understanding of, STEM subjects. Own choice of topic, collaboration, hands-on activities, presentation skills and recognition of work done are all attractive aspects of the programme. The emphasis on real-world problems helps make STEM relevant to all students. They grow in confidence, develop their critical thinking, problem solving and communication skills and become aware of the variety of exciting careers associated with a STEM qualification.

Winners from the SciFest National Final which takes place in Dublin each year in November represent Ireland and SciFest at the Regeneron International Science and Engineering Fair (ISEF) which is held each year in the USA. Winners also attend the Long Night of Science in Berlin .

Contact Us

e: info@scifest.ie
m: 086 379 6143 w: www.scifest.ie

A Guide to doing a SciFest Project is an initiative of the SciFest programme. Compiled by Sheila Porter, Founder and CEO, SciFest CLG.

SciFest would like to acknowledge the support of the ESB Energy for Generations Fund in the production of this booklet.