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**The *NIWA* Auckland City
Science and Technology Fair**
scifair.org.nz

Ethics Information for Teachers and Students



Ethics - Who Needs It?

The information in the booklet is based on that provided by the Royal Society of New Zealand (Human Ethics) and the New Zealand Association of Science Educators (Animal Ethics). Full details and all necessary forms can be found on their websites.

NZASE <http://nzase.org.nz/about/animal-ethics/>

Who needs Ethics Approval?

Student, class or teacher investigations and projects which involve humans or other animals must comply with ethical standards. Considering the ethics of a piece of work, and applying for approval if necessary, is a valuable learning experience for students.

If you are not sure try out the ethics flow chart that can be found here.

<https://nzase.org.nz/wp-content/uploads/2020/06/Animal-Ethics-Approval-Summary-8620.pdf>

Animal Ethics:

Under the Animal Welfare Act 'animal' means any live member of the animal kingdom that is a mammal, bird, reptile, amphibian, fish (bony or cartilaginous), octopus, squid, crab (including half crab), lobster or crayfish (including freshwater crayfish), and includes any marsupial pouch young or mammalian foetus, or any avian or reptilian pre-hatched young, that is in the last half of its period of gestation or development.

Under the Animal Welfare Act 'manipulation' means interfering with an animal's normal physiology, behaviour, or anatomy. It includes subjecting it to unusual or abnormal practices (e.g. exposure to parasites, microorganisms, drugs, chemicals, biological products, radiation, electrical stimulation or environmental conditions) or depriving it of its usual care.

If you are unsure whether your activity will require ethics approval, first check the flowchart on the next page and then if you are still unsure apply for approval and the ethics committee will instruct you if it is needed or not.

Note: for the Auckland Science and Technology Fair we ask all participants who are using animals but do not require ethics approval as indicated above to fill out a Care and Safety Check to ensure all animals are treated in an appropriate manner.

Please Note:

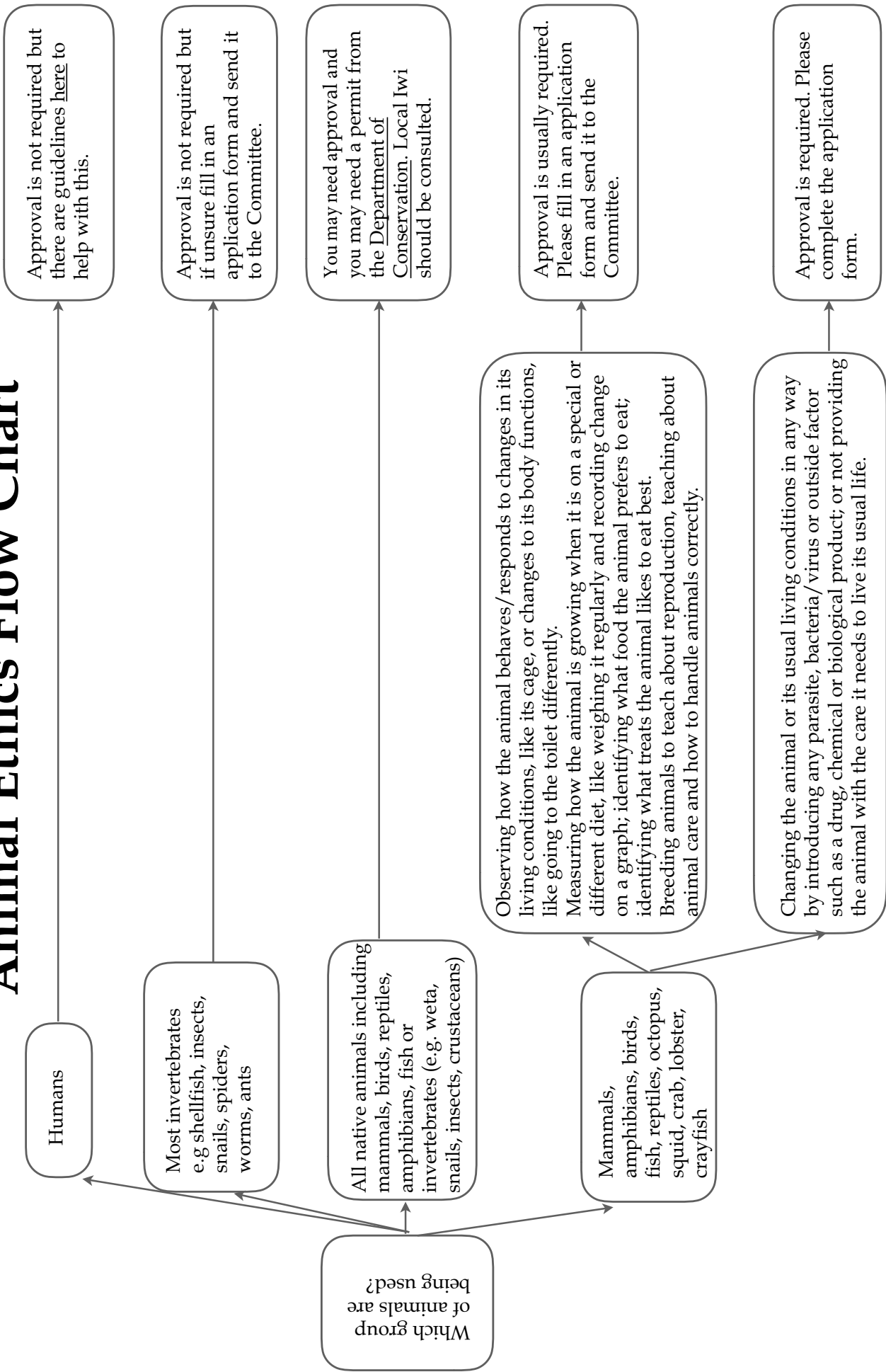
The NZASE Ethics Committee meets once a month to consider applications. Please ensure that your application is submitted at least two weeks before the Committee meets. Approval is required before any work commences.

Meeting dates for 2021:

- 12 April
- 17 May
- 10 June
- 28 July
- 23 August

Applications are to be either sent by email to: animalethicscommittee@nzase.org.nz

Animal Ethics Flow Chart



Human Ethics:

There are two main considerations for activities involving humans.

The first is when humans are involved in activities such as tasting or smelling when the substances involved may be toxic or provoke an allergic reaction, or undergo exercise which may trigger unexpected effects in the subject;

The second is when information such as weight, height, preferences etc is collected and presented - if this takes place then privacy must be ensured.

If your project involves either of these two situations then you need to view the Royal Society website which gives ethics information for students who carry out similar investigations for Crest Awards. This will provide you with the information you need to decide if you should proceed with your project or if you require guidance from a specialist.

<https://royalsociety.org.nz/what-we-do/funds-and-opportunities/crest-awards/crest-and-ethical-practice/>

For an example of an information sheet to use with a project involving humans see Page 6

Please Note:

No human survey participant should be named - use code numbers only

All human participants should be made aware of the Disclaimer found on Page 7

Experiments should not be carried out on yourself, this is not good science.

A Student's Guide To Ethics and Science & Technology Projects

Research in science and technology often involves animals or people: finding out about them, using them, or testing things on them. In New Zealand we share values that protect people and animals from unnecessary harm. Good science recognises that the things we do to learn and to improve technology have limits that protect people and animals. "Ethics" is about balancing the need for such protection with the need for learning and development.

Who Has to do an Ethics Check?

Actually, everyone must do an ethics check for every investigation. This applies to schools, universities, research laboratories, farms and factories and field workers – anyone investigating or testing anything in the broad area of science and technology. In most cases the check is a simple personal test to make sure what is being done is ethical. However, if the investigation involves animals or people, a more formal check is required. So it is not just students doing a project who have to do ethics checks.

What is "Ethics Approval"?

For some investigations your teacher can approve your project if he/she is satisfied it is ethical. In that case "Ethics Approval" is what you get when your teacher says you can do the project. In other cases your project has to be checked by an Ethics Committee. If they approve your project they will issue an "Ethics Certificate" permitting you to do the project. That certificate must be displayed on your project. This book tells you how to find out if you need ethics approval, and if so, which type of approval you need.

But I'm Just a School Pupil, I'm Not a Real Scientist!

Wrong. If you are doing a project you *are* a real scientist. Science and technology are not things only strange geeks in white coats do in hubbly-bubbly laboratories. It's what you do when you try to find out something about the universe in which we live, or some way of solving a problem – and that's what you do in a science or technology project. But in any case, there are four very good reasons why school students have to do ethics checks – they are explained next.

Why do we Have to do an Ethics Check?

- The law requires it. *The Animal Welfare Act 1999* makes it very clear that investigations and experiments with animals as part of school studies must be checked for ethics. Even keeping a pet or other animal at school must meet the requirements of this Act. *The Privacy Act 1993* also controls how you collect, use and report information about people. There are other laws too, such as those controlling the health and safety of people at work, people having medical treatment, and testing things on people.
- You should want to make sure you are caring for animals and other people properly. Sometimes you may not be aware that something could be wrong with what you plan – no one expects you to be an expert! Even experienced researchers can make mistakes, which is why they get other people to check their plans too. The only way to be sure is to do an ethics check.
- Science and Technology Fairs are sponsored by the Royal Society and by corporate sponsors who also have to keep the law – and they have a right not to have their names and standards blemished by students who lack ethical care.
- Learning to "do" science and technology includes learning to do things the right way. Ethics checks are a part of every science and technology investigation – so learn now and be better educated for the future.

What is Involved?

The first step is very simple: you just have to decide whether your project involves any sort of animals or any people (including yourself) in any way. If it does, then the next step is simple too: you have to check whether or not you will need a special Ethics Certificate – actually, you don't have to know *why* the certificate is needed, just *if!* And if you do need a certificate, that too is simple (but not as simple as the first two steps!): you have to explain what you want to do to an Ethics Committee who will tell you if you can do your project or not. That's it.

How Do I Check the Ethics?

The best way is to talk with your teacher to see if you need ethics approval. Use the ethics flow chart. If you are using animals it is very likely that you will need approval. If you are not sure you should apply anyway.

When Can I Start My Project?

If everything else is ready, you can start your project straight away if you find you don't need ethics approval. But if you need ethics approval, you must get that **before** you begin any investigation or testing. (You can get information from books and such places as the internet. And you can plan how you will do your investigation, But you must not begin any observations or tests, or gather information from people or from observing people or animals, until you have approval.)

What Happens if I Do a Project Without Ethics Approval?

If you **need** ethics approval and you **begin** or **do** a project **without** it,

- you will not be allowed to enter or display your project at the fair
- you may have broken the law and you and your school could be in trouble.

But What if I Just Made a Mistake?

Don't panic! If you have done your checks properly, or even if you have gone too far without ethics approval, stop and get help. We can all make mistakes, and your teacher and the Fair Committee want to help you learn and do well. If you have made a mistake we will all help you. Of course, there are consequences for mistakes, and if a project that needs ethics approval has gone too far it might not be possible to fix that – in that case you will not be able to enter or display your project. But whatever you do, don't press on with a project if you have made a mistake with ethics – you must stop and get help.

What Happens if My Project is Selected for the Fair?

If your project is selected for the Fair you and your teacher will have to complete parts of the entry form that certify you have done ethics checks properly and have any approval needed. If you have not done this you will not be able to enter your project even though it was chosen by your school. If your ethics checks and approval are correct, your project is now headed for the fair! Congratulations.

Why are *All* Animal Studies Included?

Well, it's simply that we have a duty to care for all forms of animal life. The *Animal Welfare Act* has some lists of animals for which ethics must be checked. Some animals are not included in those lists – but the Act also requires we care for all animals, and we know from projects sent to the Fair in the past that there can be ethical issues that students and teachers are not aware of. So to help everyone, to make sure all investigations are ethical, and to help train you in good science and technology, we require proper recording and authorisation procedure for all projects involving animals in any way.

Oh! and Check Safety Too

This is not just about ethics – there can also be safety issues that need to be checked. Make sure you talk to your teacher about safety for any experiments or investigations you plan to do. Also check about safety before you make up your project display – there are some things you cannot have on display even if they have been part of your investigation.

Fudge Taste Panel Participation

My investigation

For my Science and Technology Fair entry, I am investigating the changes taste and texture to fudge, as I change the beating time of the mixture.

Taste panel

I would like you to be a member of the taste panel and to answer some questions about the fudge, which I have made. You will be given some samples of fudge to taste and to record any differences you perceive in texture, taste or other aspects of the fudge. You may choose to swallow or to spit out the fudge once you have tasted it.

You will record your views on a sheet provided.

The benefit of participating in this study is that you will get to eat lovely fudge. The risks include that you may not like the flavour or that you may have an allergic reaction to the fudge or to one of the ingredients in it. Do look carefully at the ingredients list and **if you are allergic** to any one or more of the ingredients then please **do not participate** as a member of my taste panel.

If you are over 16 years of age then I need you to sign the participation form below that you will agree to participate. If you are below 16 then I need your permission and that of your parent or caregiver -you must each sign the sheet.

Fudge recipe

The ingredients in the recipe of the fudge are;

50 g butter 1 cup sugar 1 tbsp golden syrup 2 tbsp cocoa

1/2 cup coconut 1/2 cup raisins 1/4 cup chopped walnuts

Different batches have been beaten for differing amounts of time. You will not be told of the beating times, but batches will be identified by different letters eg A, B, C

Participation

If at any time you wish to withdraw from the taste panel you may do so.

Should you feel unwell then please inform me so I can get help for you. I have a cell phone with me and can contact emergency services should you suffer an allergic response to the fudge.

Once my investigation is completed, I will destroy all my raw data and at no stage will taste panelists be identified by name. Identification will be only by code.

Any queries about my study can be discussed with my supervisor who is

.....
Ph.....

Example Only

Agreement to participate in fudge taste panel

Name:

Age: under 16 years over 16 years

* I understand that I can withdraw at any time in this study YES/NO

* I know that all records will be non-identifying and that all raw data will be destroyed at the completion of the study YES/NO

* I want to know of your final results of this study YES/NO

Signature of taste panelist

Name of parent / caregiver if panelist under 16

Signature of parent / caregiver if panelist is under 16

Many thanks for your involvement

This is a sample of a form used when humans are involved in a project.
This shows the type of information that is necessary to provide participating individuals.

Don't Need Ethics or are Using Microorganisms?

For Care and Safety Review of Animals and Micro-organisms ask your teacher for the appropriate form or download them from the Science Fair website.

All projects involving animals not requiring an Animal Ethics Approval should complete a **Care and Safety Review Form**.

The Teacher in Charge of the Science and Technology Fair at your school should check this form.

Once completed and checked this form must be placed inside your logbook.

Schools must ensure they are following the guidelines given in the **'Safety in Science'** Booklet.

You can read this here -

<https://stanz.nzase.org.nz/app/uploads/2015/05/Safety-and-Science.pdf>

Safe procedures with Living Organisms P 31 - 33

Micro-organisms P34 -35

Please Note

Disclaimer: Safety and Science was first published in 1997, revised in 2000. It should be consulted in conjunction with other safety guidelines and Codes of Practice for School Laboratories. This manual has been reviewed and an updated version will be available in the near future.

DISCLAIMER: The Auckland City Science and Technology Fair Committee:

- does not accept any responsibility for human or animal misfortune as a consequence of involvement.
- does not necessarily support the reported conclusions when product testing preferences, or other findings are identified. No responsibility for product testing implications will be accepted.