CREST AWARDS | GOLD AWARD PROJECT IDEAS

70H typically 70 hours of project work

What effects do treatments have on hair?

Before you start your investigation, you should carry out a risk assessment and have it checked by your teacher. For help with this, read through our health and safety information and look out for health and safety warnings in the text.

In this project you will be investigating hair to gain both qualitative and quantitative data. You will look at the appearance of hair and you will measure its strength.

You will need to link up with mentors from industry or local further/higher education colleges for a couple of reasons. Firstly, it would be useful to use a powerful microscope to look at your hair samples. Secondly, you will need to investigate industrial methods for testing strength. You'll have to work out what sort of strength you'll be testing, and adapt a procedure accordingly.

You might also want to visit a hairdresser and find out what sort of treatments they recommend for particular hair types and why.

Getting started

You need to make sure you have a sufficient amount of different hair types (straight, curly, thick and thin for example) to give you meaningful results.

Are there any hygiene issues you need to consider?

You also need a sufficient number of hairs from each hair type, and you will need to measure the thickness of your hair samples. When you test the untreated hair for strength it will break. Therefore, if you want to determine the effect of applying treatments, you will need to use a hair that is as similar as possible to the first- same type, length, diameter etc.

Pre-treatment

Look at the hair samples under a microscope and describe any characteristics. Decide on a decent method for testing strength. Now test the strength of your hair samples to gain a value before applying any treatment.

Applying the treatments

It's up to you what sorts of treatments you want to test. Some suggestions are, curling or straightening hair, blow-drying hair or using hairspray.

Remember to keep all non-variables constant when applying treatments. For example, if you're testing different shampoos you'll need to keep the temperature of the water, the amount of shampoo and the method of drying constant.

Post-treatment

When the treatment has been applied, you need to look at them again under the microscope. Describe any changes you see.

Work out if the treatments have done anything to the hair samples that you believe may decrease its strength. Explain why it's important to look at the full length of the hair. Make an educated guess where you think the hair will break. You then need to test the strength of the treated hair. Has it decreased or increased? Did it break where you thought it would break?

For a similar project at Silver level try 'Should we use different shampoos for different hair types?'