

Practical investigation: Dermatitis in our school

Activity Description

Content & Goals:

The four friends enter Professor Prurit's laboratory and get in touch with the subject of investigation in medicine. Medicine needs investigation in order to make progress and to improve prevention and therapy of diseases. In this activity, the pupils will be familiarized with this aspect regarding dermatitis. This is done by granting the pupils insight into the procedures of medical studies and by having them realize their own small study around dermatitis at their school.

Realization:

- Can be integrated into classroom lessons
- Cross-disciplinary goals are possible (Biology, Mathematics, Computer Science/Data Processing/Word Processing)
- International links are possible

Variations:

Team work; design and presentation of an own small study

Requirements of material and media:

- Texts of the learning module „Dermatitis“
- Working sheets
- Hand calculator
- Word processing programmes

Time requirements: time consuming project

- **Preparation time:** medium time need (2 to 3 hours)
- **Need of class time:** (prepare and realize enquiry): at least 4 double periods (4 x 90 mins.) or 1 project day
- **Wrap-up time:** medium time need (2 to 3 hours)

Explanations and additional information

How to plan and realize this activity

An exciting question to be investigated by the pupils in relation to eczema and other skin reactions (allergic or subtoxic-cumulative contact dermatitis) is, if and how often such skin reactions occur in teenagers.

Firstly, the teenagers will look into a scientific study about this subject. The ISAAC Study (“**I**nternational **S**tudy of **A**sthma and **A**llergies in **C**hildhood”), an international study about asthma and allergies in children and teenagers in up to 56 countries, would be very appropriate for this approach. In this, the pupils will learn how a medical study is done, how common eczema is among young people.

On the basis of the ISAAC survey, the pupils can realize their own (simple) survey about „Eczema in Teenagers“ at their school. The pupils will receive a prepared written questionnaire as a tool to collect data in their school. The results will be counted and then compared with the results of the ISAAC survey.

Important: The teenagers should be able to explain several diseases to their fellow students. That means that the teenagers should prepare a short summary about eczema and contact dermatitis before starting their enquiry. For example, they might want to design a poster on the subject.

Survey procedures:

During the survey, the following data can be collected and questions can be answered:

1. Number of students which have/ have ever had eczema
2. Number of students which have/have ever had another form of skin reaction

In this, the pupils can find out the differences between boys and girls as well as difference between the different forms/grades.

Distribution of tasks in the teams:

- The pupils form small groups.
- One group member informs the fellow students about the survey and asks the questions.
- At least one group member explains the various skin reactions to the other students.
- At least one group member counts the responses (boys and girls apart) to the questions.
- The various teams perform their interviews in different forms/grades.

Survey realization:

- The pupils introduce the subject and how the survey will be done.
- The pupils ask all questions (1a to c and 2a to c). The fellow students respond to these questions. The questions 1d and 2d present the difference between the total amount of pupils in the class and the total number of responses.
- At least one team member counts the responses. The responses of boys and girls are counted separately. These numbers are collected on the questionnaire.
- Counting: After the survey, the answers on all groups' questionnaires are assembled and the total result is discussed.

Sources of information

Basic information can be found in the learning module on dermatitis on the learning platform. Please access details about the ISAAC survey, using the following internet address: <http://isaac.auckland.ac.nz/>

The ISAAC association has emerged from two multinational collaborative projects (Auckland/New Zealand and Bochum/Germany). The study had the aim to investigate the prevalence and severity of asthma, rhinitis and eczema in children around the world. Phase One was completed in 1997 with a total of 721,601 children participating, living in 56 different countries. Two age groups were examined, a 6-7 year and a 13-14 year age group.

Working sheet

See next page.

Questionnaire

Practical investigation: Dermatitis at our school

This questionnaire will help you to collect information about the question if any, and if so, how many pupils at your school have or have ever had eczema or another form of skin reaction.

Please ask your fellow students to answer your questions honestly. Let them also know that their participation is completely voluntary, and if they don't want to participate, they do not have to.

Hints:

- Prepare yourselves well for the enquiry and read the questionnaire thoroughly before starting. You may want to do a test run in your own class.
- You will have to fill in all grey coloured boxes. The explanations in italic („slope“) letters may help you to fill in the questionnaire.

Form/Grade:
(Please enter in which form/grade you interviewed)

Size of class:
(Please enter how many students belong to the class you interviewed)

Number of girls:
(Please enter how many girls are in the interviewed class)

Number of boys:
(Please enter how many boys are in the interviewed class)

1. Number of students with eczema:

	Girls <i>How many girls re- sponded?</i>	Boys <i>How many boys responded?</i>	Total <i>Total number of responses (you can calculate this number after the interview)</i>
a) Who of you has or has ever had eczema? <i>(ask the question and count the responses)</i>	<input type="text"/>	<input type="text"/>	<input type="text"/>
b) Who of you <u>doesn't have or has never had</u> eczema? <i>(ask the question and count the responses)</i>	<input type="text"/>	<input type="text"/>	<input type="text"/>
c) Who of you doesn't know? <i>(ask the question and count the re- sponses)</i>	<input type="text"/>	<input type="text"/>	<input type="text"/>
d) Number of persons who didn't want to say anything. <i>(You can calculate this by yourself)</i>	<input type="text"/>	<input type="text"/>	<input type="text"/>

2. Number of students who have or have had allergic skin reactions:

	Girls <i>How many girls re- sponded?</i>	Boys <i>How many boys responded?</i>	Total <i>Total number of responses (you can calculate this number after the interview)</i>
a) Who of you has or has ever had allergic skin reactions? <i>(ask the question and count the responses)</i>	<input type="text"/>	<input type="text"/>	<input type="text"/>
b) Who of you <u>doesn't have or has never had</u> allergic skin reactions? <i>(ask the question and count the responses)</i>	<input type="text"/>	<input type="text"/>	<input type="text"/>
c) Who of you doesn't know? <i>(ask the question and count the responses)</i>	<input type="text"/>	<input type="text"/>	<input type="text"/>
d) Number of persons who didn't want to say anything. <i>(You can calculate this yourself)</i>	<input type="text"/>	<input type="text"/>	<input type="text"/>

International links

As an international link, the participating schools may want to compare their „survey results“. The students of the Romanian, Italian and German schools present their results to each other and discuss possible differences in the prevalence of eczema and allergic skin reactions in the three countries. They will do this in English and may use self-drawn charts as well as an audio tool.

This activity is based on the texts of the learning module, the surveys in the respective countries and the results of the students' surveys in the participating schools.