

➤ Introduction

Technasium is an innovation in the Netherlands. It is developed for VWO and HAVO. VWO is a pre-university school and HAVO is a senior general secondary school. It concerns pupils from the age 12 till 18.

Within the Dutch schoolsystem it is these days possible to choose a school with a certain profile. This can be art, sports, language or citizenship. Until now it wasn't possible to choose a school with a science profile. Technasium wants to make this a new choice for children.

Technasium is not developed and directed by the Ministry of Education, but they support it though. Technasium began at the kitchen-table at home where two parents imagined a new way of science education.

$$T = (x \cdot C \cdot 20)^3$$

➤ An appealing concept

How can we provide challenging and motivating education to VWO and HAVO pupils who are interested in science and technology? This question has led to the development of the Technasium concept. One of its innovative components is the introduction of Research and Design as a new subject. It consists of project assignments based on the reality of science and technology-related professions within the scope of VWO, HAVO and higher education programmes. An appealing concept for pupils, teachers and schools, Technasium also enables institutions of higher education as well as business communities to participate in secondary education.

➤ Five objectives

Technasium is an education programme with a clear identity. Schools that opt for Technasium endorse five goals.

1 To offer research and design as an examination subject

Pupils in Classes 1 (age 12) and 4 (age 15) can opt for Technasium and take its core subject, Research and Design. The subject is completed by passing the school exam.

2 To collaborate with business communities and higher education institutions

Technasium aims at showing pupils how versatile and interesting science and technology-related studies and professions can be. Co-operation with companies and institutions for higher education is embedded in the Research and Design subject.

3 To educate in a way that is geared towards thinking and doing

Technasium pupils work as a team on tasks that lead to concrete results. This requires an active method of instruction, oriented towards the development of skills and knowledge.

4 To set up a practical workspace

Technasium schools have a special workshop for Research and Design. The workshop is accessible both during and outside class hours.

5 To develop a Technasium ethos

A Technasium school develops a clear cultural identity, based upon the modern world of science. Different activities revolving around science and technology can be engineered to make the school a lively environment for the pupils at technasium.

➤ Better science and technology education

Technasium introduces a job-oriented component into education at VWO and HAVO levels. This opens new perspectives for pupils, schools, institutions for higher education and business communities.



For students

Do you want to do HAVO or VWO and do you like science and technology? Maybe you will like Technasium. It has been developed for kids who are curious and want to understand the world around them. You and your class mates work as a team on serious project assignments. These assignments have everything to do with people's work in companies. You need to work out challenging problems and you have to be skillful in making products. Assignments like these make you smarter and help you discover what you are good at.

For schools

Schools should be able to distinguish themselves by offering an attractive science and technology programme for VWO and HAVO. Technasium offers a brand name and a concept that stand for identity and quality. The new subject Research and Design connects the modern world of science and technology to school curricula. It works like a catalyzer to a new and different way of working and organizing education.



For higher education institutions

The number of HAVO and VWO pupils choosing science and technology studies is decreasing. Structural collaboration with secondary schools can change this. Technasium opens a window by embedding co-operation with institutions for higher education into the regular programme. The assignments are planned and executed by a regional network of secondary schools in co-operation with business communities and institutions of higher education.

For industry

As far as science and technology education is concerned, regular HAVO and VWO schools are quite far from the actual practice. You can help to change this by participating in a regional network of Technasium schools. The new subject of Research and Design is based on realistic problems and ways of solving them. You can make pupils acquainted to the everyday practice of your company. This will contribute to a motivated choice of education and a future profession.



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➤ Works in progress

The Research and Design project assignments are based on the practice of a wide range of professions in the different segments of society. Listed below are some examples of our projects.

THE ENVIRONMENTAL IMPACT ASSESSMENT

As environmental consultants commissioned by the alderman of Haren, the pupils work on an EIA for a greenbelt in Haren where a future residential area has been planned.



A PREVENTION PLAN

A number of patients at UMC Groningen have been diagnosed with a certain type of bacteria. As medical microbiologists, the pupils conduct research on the bacteria and draw up a prevention plan.



A SQUARE FOLDING TRUSS

As mechanical engineers commissioned by Prolyte, the pupils design a square folding truss, which can be transported easily.



A BRIDGE FOR ENUMATIL

The village of Enumatil in Groningen will have a new bridge matching both the character of the village and the general history of Groningen bridges. The Province of Groningen, Department of Bridge Construction has commissioned the assignment to a class of civil engineers.



ARCHITECTURE COMPETITION

Oving Architects BV has their youngest architects create a design which will represent the company in a competition for sustainable architecture in a new development area.



POTATO CLEANSING

Avebe wants to make its production methods more efficient. The first step in the process is potatoe cleansing. The separation of potatoes and refuse is causing problems, which the management wants to solve. As process technicians, the students will provide expert advice on the matter.

