

# Statistics – Grade 9

## Grade Level(s)

8-10

## Subject Area(s)

Mathematics

## Links to Vancouver 2010 Education Program Component(s)

Olympism

## Activity Description

Students will be asked to analyze a statistical situation and establish the correlation that might exist between the two following variables:

- length of training;
- performance achieved.

Each student can participate in the type of physical training of their choice, identifying measurable parameters (speed in a race, weight lifted, performance on a treadmill, etc.), train during a given period of time and take notes throughout their training. Once training has finished, students will be able to make a scatter diagram to show the absence or presence of a correlation. They could also determine the equation for the regression line. Finally, students should present a report using technical support such as Numbers, Pages or Excel software.

## Learning Outcomes

Students will be able to:

- design and carry out an experiment allowing them to analyze the relationship between two variables and present a report;
- make scatter diagrams;
- interpret a scatter diagram in order to determine whether or not an underlying linear relationship exists;
- determine the correlation line of a scatter diagram when a linear correlation has been established by:
  - simple inspection,
  - using computer tools (in this case equations are not required);
- draw appropriate conclusions based on a correlation line and justify them.

## Resources Needed

Training site appropriate for the type of training chosen by the student  
Computer with Pages, Numbers or Excel software



### **Duration of Activity**

This project is spread out across a two-month period. However, there is no in-class work during those two months.

### **Cognitive and Affective Domains**

Cognitive – Application

Affective - Receiving

### **Assessment Strategy**

Teachers can evaluate this activity taking into account the following aspects:

1. data gathering (30%);
2. making scatter diagram (30%);
3. data analysis (30%);
4. interpretation of the correlation (10%).

