

# The Physics of Art and the Art of Physics

## Introduction

It has often been said that Physics is the fusion of science, math, and art. In so many cases, the mere production of, and display of a work of art, no matter the medium used, is highly-dependent upon science, and in particular, physics.

“After a certain high level of technical skill is achieved, science and art tend to coalesce in esthetics, plasticity, and form. The greatest scientists are always artists as well.” -Albert Einstein

In this project, you will be asked to analyze the link between art and physics.

You may select any media (sculpture, paint, photography, print, music, architecture, pottery, performance, etc.). You must then analyze, in detail, some aspect of the physics behind either the production, display, or subject matter of the chosen work. The work may be of your own creation, or the creation of another artist, famous or beginner- but you must have access to either the work of art itself, or high-quality images or recordings of the chosen work and it must be school-appropriate.

Your analysis of the construction of the work, or the display of the work, MUST include a detailed analysis of some aspect of physics involved in the work. *It is highly recommended* that the facet of physics that you choose to analyze is narrower in scope, not broad.

**Example:** *When an ice-skater skates, there are many things that can be analyzed: 1) there is physics explaining the reason the skater glides effortlessly on the ice, and 2) there is physics behind the skater’s ability to spin faster as his/her arms are retracted inwards while spinning.* Choosing one of these topics to analyze in detail will likely yield a better grade than a broad view of both subjects due to depth of research.

In addition to depth, the analysis itself should exhibit some creativity - for example, an evaluation of the skater’s ability to skate on ice could be enhanced by a discussion of how the cross-section of the ice skate blade can affect ability to skate (i.e. how hollow-ground vs. semi-hollow ground blades affect skating).

Your art selection and analysis must be school appropriate or it will not be graded.

## Product

Ultimately your complete project must be uploaded onto our class Wiki and you will be asked to view multiple entries (other students’ projects) and comment on/contribute to their work. It is suggested that your project include sketches and diagrams in the text or video analysis of your subject. You must also include a proper citation of all references used.

**Grading Guidelines** (See attached rubric.)