



# CRISPR creativity: Scientific exploration of the creative realm

## A. Exploration: Design your own sgRNA

At this point you probably already imagined a series of creative uses for CRISPR, new objects and organisms, letting your imagination fly high. But now you will need to ground your creativity in reality.

The aim of this exercise is for you to explore how (an if) you could make your creative idea reality.

What genes do you need to cut and paste, mix and mesh to make it? Are these characteristics coded by only one gene, multiple genes, or are it still unknown? Is there literature available on the subject? Did someone tried to do something remotely similar before? Is there available information about the results of such an experiment? What could be the seen and unforeseen consequences of this genetic modifications?

## B. What Lab work do I need to do?

Based on your background research, make a plan of the practical steps needed to archive your goal. What lab work do you need to do to make your project a reality?



## C. Consulting with scientists

After the background scientific exploration, you will have, hopefully, more questions than answers. The scientific knowledge and practical expertise necessary to make your project reality will probably be too complex and beyond your level.

To help with this, we propose a session with a group of “scientific consultants”.

In this session the students can present their projects and explorations, pose questions to the experts and have feedback.

This exercise aim isn't necessarily to find scientific solutions to the students' ideas and projects, but to establish a dialogue. This interaction will present scientists with unexpected problems, ideas and questions, and confront students with some of the realities of science, its constraints and limitations.

The main objective of this exercise is to foster conversations, exchange knowledge and ideas, to build bridges.

## D. Adjusting the projects & project development

After the exploration of the scientific knowledge and practices underlying your project, you will probably need to readapt your project. Some of the ideas may not be possible and could be approached in other ways, through speculative work for instance, or using more simple scientific procedures.

## E. Projects presentations

Groups should prepare their projects for presentation.

Depending on the projects and/ or on constraints of time and budget, the projects' presentations can adopt different set ups.

You can organize a public exhibition with the projects or prepare an engagement activity with the public to “perform” the projects.

