# Recreate a Face

## Activity Guide

**Discover how DNA can provide clues to recreate the faces of people from the past.**

Suitable for: age 9-12
Estimated duration: 30-45 minutes

**You will need:**

- DNA profile cards
- DNA key sheet
- Worksheets
- Colouring pens/pencils

### Introduction

A bit like a recipe book, all the biological instructions for making an organism are contained in a long molecule called DNA (deoxyribonucleic acid). All of the DNA in a cell is called the genome. Within the genome there are sections of DNA called genes. Genes provide specific instructions for our individual characteristics, like eye and hair colour. Sometimes there can be small differences in a gene, for example where there's an A in one person there may be a T in someone else.

These changes can alter the outcome of the instruction, like giving some people brown eyes and other people blue eyes. These differences are known as genetic variation. It is this variation that makes us all unique, whether in terms of hair colour, skin colour or the shape of our faces. Looking at the DNA profile of people from the past can help us estimate what they might have looked like
In this activity we will learn how differences in the DNA code can have an impact on our appearance, from our eye colour to our hair colour. Learners will recreate the face of people from the past by looking at DNA profile cards and working out what they could have looked like using a decoder card.

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## Running the activity

### Warm up discussion

- Begin the activity by discussing with the group that DNA contains the instructions for making all living things. Our DNA instructions can give us characteristics - and we might share physical characteristics with other people in our biological family.
- Explain that scientists can use archaeological remains to work out what people from the past might have looked like!
- You might want to show the learners this video to support this activity: https://youtu.be/1sNCtEBV7io?si=1cEb-M_nZQPxb06n

### Setting up the activity

1. Give each learner or small group of learners a selection of profile cards to pick from as well as DNA key sheets and worksheets.

### How to complete the activity

1. Demonstrate how to use the DNA key sheet, using the eye colour gene as an example.
2. Learners work through the list of genes in their DNA profile and decode each one - when they've found out the characteristic, for example brown eyes, they tick the relevant box on their worksheet.
3. Once they have decoded all their information, they can draw on the worksheet.

### Follow-on questions

- Ask the learners to compare the faces they drew - can they link the differences and similarities to the DNA codes they were working from?
- Encourage them to think about what features they couldn't work out from the DNA. Why might it have not been in the DNA? Was it missing or are there thinks about people we can't learn about from DNA?