

# DNA codebreakers



## Learning objectives

- Build on an understanding that DNA is our genetic material and is found in nearly all of our cells
- Gain an understanding that most genes code for proteins
- Develop an awareness that differences between individuals are a mixture of environmental and genetic influences
- Understand that we receive half our DNA from our father and half from our mother
- Gain an appreciation that we share much of our DNA with other seemingly dissimilar organisms

## Workshop content - students will:

- Consider how the variation between them is underpinned by differences in their DNA
- Examine a number of their features and consider whether differences are down to genetic or environmental influences
- Extract DNA from a sample of their own cells and precipitate it so they can see it
- Consider evolution and Darwin
- Find out how much DNA they share with a trout and other organisms

## National Curriculum links

### Key Stage 3

#### Sc1 Scientific enquiry

#### Sc2 Life processes and living things

#### 4) Variation, classification and inheritance

- a. about environmental and inherited causes of variation within a species

### Key Stage 4

#### Sc2 Life processes and living things

#### 1) Cell activity

- c. that the nucleus contains chromosomes that carry the genes

#### 4) Variation, inheritance and evolution

- a. how variation arises from genetic causes, environmental causes, and a combination of both
- g. that the gene is a section of DNA
- j. how variation and selection may lead to evolution or to extinction

## Picture gallery



Develop an understanding of genetic material



Measuring ethanol



Looking at our DNA