UCL Museums & Collections

Citizenship & Identity
Loan Box

Teachers’ Pack Key Stage 3
Introduction

The Citizenship & Identity Loan Box
The Citizenship & Identity Loan Box is designed to support the teaching of Citizenship at Key Stages 3 and 4. The Loan Box comprises replicas, photographs and modern versions of objects from University College London's (UCL) Galton Collection.

The Galton Collection
The Galton Collection is one of 4 museums and 10 departmental collections at UCL. The Collection consists of the scientific instruments, papers, and personal memorabilia of one of UCL's most important scientists, Sir Francis Galton.

Sir Francis Galton, who was a cousin of Charles Darwin, lived from 1822 to 1911. After obtaining a degree in maths from Cambridge University, he embarked on a varied and highly successful scientific career. Initially, Galton's primary interests were geography, exploration and meteorology: he led an expedition to Damaraland (modern Namibia) which resulted in his being awarded a gold medal for exploration from The Royal Geographical Society; he discovered the anticyclone; and he produced the first modern weather maps.

Later in his career, however, Galton's interest was focussed on the fields of heredity, intelligence, identity and statistics. His key achievements in these areas were to apply the science of statistics to the analysis of human populations, and to prove scientifically that every individual's fingerprints are unique (paving the way for the adoption of fingerprinting by Scotland Yard as the key means of criminal identification). Galton set up an "Anthropometric Laboratory" in 1884 which was designed to obtain a detailed record of the physical identity of the British population, with a particular emphasis on measuring families, in order to increase understanding of the inheritance of physical characteristics.

The objects selected for this Loan Box are all illustrative of Galton's work on identity and fingerprinting. The objects and the accompanying worksheets are designed to introduce pupils to four enquiries:

- The Body & Identity
- What is Identity?
- Fingerprinting & Forensic Science
- Individual Identity & Human Rights

Whilst Galton's objects are used as a starting point, the worksheets and activities have been designed to give a broad and modern perspective on the theme of identity.
**Use of Replicas**
The importance of handling and investigating objects to enhance pupils' learning has been well documented. In this case, we have decided to include replicas of Galton's instruments instead of the originals, so that we have robust working instruments that pupils can actually use. Moreover, teachers, who worry about pupils breaking or damaging valuable museum pieces, often appreciate the use of replicas. However, please remember that the replicas themselves are expensive to produce and have to be used by many other schools. We therefore request you adhere to the handling guidelines outlined below. This will also instill in pupils the correct handling procedures should they handle original museum material in the future.

**Handling Guidelines**
Please tell pupils these guidelines before you start to work with the objects. If any objects are damaged, please contact the UCL Collections Education Officer as soon as possible.
- Only handle one object at a time
- Use two hands to hold an object
- Always hold objects over a desk or worktop
- Do not snatch objects from other people while they are handling them
- Work in one place with the object
- **Remember to wash you hands thoroughly after the fingerprinting activity. Be extremely careful not to get any ink over any of the objects or resources in the Loan Box**

A copy of these handling guidelines appears on the next page, which, if you wish, you can photocopy and circulate to your pupils.
Handling Guidelines
Identity & Citizenship Loan Box

• Only handle one object at a time

• Use two hands to hold an object

• Always hold objects over a desk or worktop

• Do not snatch objects from other people while they are handling them

• Work in one place with the object

• **Remember to wash you hands thoroughly after the fingerprinting activity. Be extremely careful not to get any ink over any of the objects or resources in the Loan Box**
University College London

This Loan Box has been produced by University College London and provides an excellent opportunity to introduce young people to the concept of Higher Education and to university in general.

UCL is one of the three oldest universities in England, being founded over 175 years ago. Established to admit students no matter what their race, religion or class, it was also the first to admit women students. It pioneered university-based teaching of English literature, modern languages, geography, law, medicine and engineering. UCL’s former academics helped to form the modern world; among their breakthroughs were the identification of hormones and vitamins, the discovery of the inert gases, including neon, and the invention of the thermionic valve, which made radio and modern electronics possible.

Today UCL has a student population of over 17 000 students following one of the widest range of degree programmes, from Fine art to Medicine, from Russian to Chemical engineering and from Archaeology to Law. Students come from all over the United Kingdom and from 144 countries to study at UCL.

UCL, based in central London, is now recognised as one of the top universities in Britain for teaching and research and has a worldwide reputation for excellence.

Some of the subjects you can study at UCL:

Widening Participation

making university more accessible...

UCL recognises that some people don't get the same chance as others to go to University. Due to too little information or too few resources, there are students who are missing out. Through outreach activities and by providing information on what university is all about, we plan to change that, to widen the participation of students from different backgrounds at UCL.

Pupils can check out the website [www.ucl.ac.uk/wp](http://www.ucl.ac.uk/wp) to find out more about going to university. The site covers ‘Why go to University?’ and gives pupils the
chance to email questions to current UCL students as well as offering general careers advice, interview tips and guidance on how to find out more about Higher Education.

The ‘Citizenship and Identity Loan Box’ is one of a number of initiatives by UCL Museums and Collections. We aim to widen access to our collections by arranging group visits to UCL’s four museums and by developing Loan Boxes and running Outreach Sessions in schools. These sessions are tailor-made and aim to enrich and support the curriculum at both Primary and Secondary level. To find out more about our Widening Participation activities please contact our Education and Access Officer for UCL Museums and Collections (Tel: 020 7679-2151 or Email: educationofficer@ucl.ac.uk) or check out http://www.ucl.ac.uk/prospective-students/widening-participation/introduction/index.shtml

Sir Francis Galton and UCL

The Galton Collection, on which this "Citizenship and Identity Loan Box" is based, is held in the Galton Laboratory, which is part of the Department of Biology at U.C.L.

Sir Francis Galton set up the Galton Laboratory in 1907. On his death in 1911, he left a significant sum of money to set up the Galton Professorship at UCL. The first Galton Professor was Karl Pearson, and a selection of eminent scientists held the Chair throughout the twentieth century. On his death, Galton also bequeathed his scientific instruments, papers, items from his travels and some of his personal objects and papers to the College: these now form the "Galton Collection".
The Loan Box & The National Curriculum at KS3

**Citizenship**
The key area of the curriculum to which the Loan Box relates is Citizenship, specifically by exploring the key areas of crime, human rights and identity. These subjects fall within "Knowledge & Understanding about becoming informed citizens" at Key Stage 3. Additionally, the activities in the Loan Box are also designed to tie in with "Developing skills of enquiry and communication", by encouraging pupils to think about topical, social & cultural issues by analyzing information and its sources, to justify orally and in writing a personal opinion about such issues, and to contribute to group and exploratory class discussions.

**Science**
Variation, classification and inheritance

**Maths/Science**
Measuring and investigating, and the presentation of numerical data using tables, graphs etc

**English**
Group discussion and interaction

**History**
Investigation and interpretation of artefacts
Objects in the Loan Box

1. Photocard of Hand Dynamometer (5 copies)

2. Replica Head Spanner

3. Measuring tapes (5)
   Modern

4. Photocopy of Form from Sir Francis Galton's Anthropometric Laboratory (5 copies)

5. Box of Hair Samples
6. Box of Artificial Eyes

7. Composite photos (2 copies of each photo)

8. Fingerprint kits - ink strips, magnifying glasses, and cards of the types of fingerprints (5 magnifying glasses, 5 copies of each fingerprint card)

9. Modern police fingerprinting forms - City of London Police & FBI (5 copies of each)
10. Fingerprint examiner & sets of fingerprints to examine (5 sets of fingerprints)

11. Second World War identity card (5 copies)

12. Modern French identity card (5 copies)
How to Use the Loan Box

The objects in the Box can be used to support the teaching of Citizenship at Key Stage 3. There are separate Teachers' and Pupils' Packs for Key Stage 3. The Pupils' Pack is divided into 4 enquiries:

1. The Body & Identity
2. What is Identity?
3. Fingerprinting & Forensic Science
4. Individual Privacy & Human Rights

In the Teachers' Pack, at the beginning of each enquiry, there will be a list of the objects from the Loan Box which relate to this enquiry.

The Teachers' Pack contains a lot of additional information relating to each enquiry. How much of this you chose to impart to your pupils is entirely up to you.

Each of the enquiries can be studied independently; however, the topics do follow a natural progression from 1-4, working towards the group discussion at the end of Enquiry 4.

You are of course under no obligation to use the resources, and are welcome to develop your own lesson plans and resources around the objects. All the pupils' and teachers' sheets can be downloaded from the web (www.ucl.ac.uk/museums/galton/). By accessing the resources online, you will be able to pick and choose the worksheets you like, or to edit them to suit your class.

However, if you like the resources then please feel free to photocopy and keep them for use in the classroom, as many of the worksheets can be used once you have sent back the Loan Box.

If you have any queries regarding the Loan Box, please contact:

**UCL Collections Education & Outreach Officer**
**Tel: 020 7679 2151**
**Email: educationofficer@ucl.ac.uk**

Finally, once you have used the Loan Box, we would be grateful if you could fill in the evaluation form. You will find the evaluation form at the back of this Teachers' Pack. Please photocopy, fill it out, and leave the completed form inside the Loan Box for us. Or if it is easier, post it back to us in the envelope provided.
How to Introduce All the Objects at Once

In order to engage pupils, a really good introductory activity is to get them to use the Loan Box objects to brainstorm to try to answer the question "What was Francis Galton interested in?" You can tell them that he was a scientist and that he lived from 1822 to 1911, but let them work the rest out for themselves.

This activity works best of pupils sit in small groups. Give each group a large sheet of paper and a marker pen, and ask them to put Galton's name in the middle. Then rotate the objects around the groups, giving each group 5 minutes with each object. The activity works best with the following objects:

- head spanner
- fingerprint examiner & box of fingerprints
- composite photograph
- box of eyes
- box of hair
- anthropometric laboratory form
(It is best to leave out the modern objects for now)

As they examine each object, pupils should write on their poster as many ideas as possible about what they think Galton was interested in, and what areas of science he focussed on. The finished poster should look something like this:
Enquiry 1: The Body and Identity

**Objects**
1. Photo-card of hand dynamometer
2. Head spanner
3. Measuring tapes
4. Anthropometric Laboratory form

**Worksheets**
1,2a,2b,3,4

**Curriculum Links**
- Citizenship
- Maths
- History

**Pupils' Prior Knowledge**
None

**Information**
It is best to undertake these activities in groups with a maximum of 5 pupils

**Sheet: Hand Dynamometer**

This object was used by Sir Francis Galton to measure (in pounds) the strength of a person's hand grip. It has a spring frame which is compressed by the action of a person's hand. This causes a gear to move a dial, which records the greatest pressure exerted by the hand. The hand dynamometer is made of brass and measures 13.5cm x 5.5cm.

Today, doctors and physiotherapists use hand dynamometers to evaluate hand trauma and disease. They are also used to study muscle activity, by looking at grip strength, relative strength of the left and right hand, muscle fatigue and endurance. Modern versions include electronic and hydraulic ones (see below).
Galton used head spanners like this one at his Anthropometric Laboratory to measure the head. The key measurements taken were head length, breath and height. They are also known as craniometers or head calipers. The one in the Loan Box is a replica based on the design of Galton's original - see below:

Head spanners have been used in the fields of anthropology, primatology, medicine, dentistry, anatomy, evolutionary biology, and history to look at different skull shapes, and, indeed they are still used today in some fields, though now tend to be made of metal. Biological anthropologists use the measurements taken from the head spanner to estimate cranial volume of both living subjects and skulls. Cranial volume is an important measurement in the study of racial differences and in clinical practice for the study of abnormalities of cranial size and shape.

Victorian interest in the shape of the skull can also be seen in the, now discredited, study of phrenology. Phrenology was an extremely popular Victorian "science" which developed from the work of Franz Joseph Gall (1758-1828). Most phrenologists would run their bare finger tips (though they sometimes used calipers, measuring tapes or other instruments) over the subject's skull.
The bumps and indentations found by the phrenologist would allow them to make an analysis of the subject's personality and temperament. Sir Francis Galton was not himself a phrenologist, although he did visit one to have his own skull examined.

Sheet 3: Form from the Anthropometric Laboratory

The Loan Box contains (colour photocopies of) five forms completed at Sir Francis Galton's Anthropometric Laboratory. Anthropometry means the measurement of human characteristics.

The Laboratory was designed to obtain a detailed record of the physical identity of the British population, with a particular emphasis on measuring families, in order to increase understanding of the inheritance of physical characteristics. Galton first established his Anthropometric Laboratory at the International Health Exhibition in 1884. This event was held in the Gardens of the Royal Horticultural Society in South Kensington. Attendees at the Exhibition paid three pence to be admitted and took away a certificate of their vital statistics. The Anthropometric Laboratory was a very popular part of the International Health Exhibition - by the time it closed in 1885, Galton had compiled data on 9,337 individuals. The Anthropometric Laboratory then moved to the Science Galleries of the South Kensington Museum, with statistics collected on 3,678 people during its first 3 years. Repeated measurements were performed on a number of individuals: enthusiastic visitors included the Prime Minister, William Gladstone. The data collected by Galton contributed greatly to his, and the scientific community's, understandings of statistics and heredity.

As can be see from the form, the bulk of the measurements taken were physical. The exception is the measurement of reaction time, which Galton believed was indicative of intelligence. The argument was that a fast reaction time indicated neurological efficiency, which in turn indicated intelligence. In doing this test,
Galton devised the first scientific mental measurements, and thereby founded *psychometrics*.

**Further Activities**

- Get pupils to think about ways in which the human physical form has changed over the last century - i.e. getting taller, fatter etc.
- After the pupils have used the replica head-spanner, get them to consider the pros and cons of handling replicas and original museum pieces
- Visit the "Who Am I" Exhibition at The Science Museum

Wellcome Wing  
Science Museum  
Exhibition Road  
South Kensington  
London  
SW7 2DD  
General Enquiries - +44 (0)870 870 4771  
Educational Visits - +44 (0)20 7942 4777
Enquiry 2: What is Identity?

<table>
<thead>
<tr>
<th>Objects</th>
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<tbody>
<tr>
<td>1. Eye samples</td>
</tr>
<tr>
<td>2. Hair samples</td>
</tr>
<tr>
<td>3. Composite photographs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Worksheets</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2,3,4,5a,5b</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Curriculum Links</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citizenship</td>
</tr>
<tr>
<td>Science</td>
</tr>
<tr>
<td>History</td>
</tr>
</tbody>
</table>

Pupils' Prior Knowledge

• That **anthropometry** means the measurement of human characteristics
• That organisms pass on genes to their offspring. No two offspring will have the same set of genes. A gene is a chemical instruction which carries information about how to build the organism. Each gene tells your body to produce a different characteristic. For example you have a gene for eye colour and a gene for hair colour
• This enquiry can be explored as a separate unit, but it has been designed to follow logically from Enquiry 1

Information

It is best to undertake these activities with groups of 5 or less pupils

Sheet 1: Eye samples

**Eyes:**

The eye samples in the Loan Box are modern, prosthetic eyes. The picture below shows Galton’s original display of glass eyes:

In fact, The Galton Collection has two of these displays of eyes. One is in the Collection at UCL, the other is on loan to the *Who Am I?* exhibition at The Science Museum.
Galton's interest in eyes was two-fold. First, he recognized that the iris has thousands of varieties of different markings, and hence has a use as a marker of individual identity, and, secondly, studying the inheritance of eye colour cast light on his investigation into heredity.

**Eye Colour & Inheritance**
The colour of our eyes is produced by the pigment formation in the iris - the circle of tissue around the circular black pupil. Our genes determine our eye colour.

A baby inherits two eye colour genes - one from its father and one from its mother. It is the particular combination of these two genes that determines which colour is formed. The gene for brown eyes is what is known as **dominant** - this means that you only need one of the two eye colour genes to be brown for the eyes to be brown. Green may be dominant too, although there are different degrees of dominance, even for brown eyes. The gene for blue eyes tends to be what is known as **recessive** - i.e. it is weaker or overshadowed by the brown eye gene. In general, a child will only have blue eyes if both of its eye colour genes are blue.

Many brown-eyed babies are actually born with blue eyes. In the first few months of life, pigment is deposited in the iris, stimulated by exposure to light, and the eye colour changes. This process is usually complete by 6 months of age.

**Eye Colour and Identification**
A contemporary of Galton's, **Alphonse Bertillon**, (Chief of Criminal Identification for the Paris police from 1880) was also interested in the use of anthropometric information, especially eye colour, as a means of criminal identification. Prior to using fingerprinting as a means of criminal identification, police used the **Bertillon System**, which used eye colour and measurements of the body to record identity.

In recognizing the potential of the iris as a means of identification, these two nineteenth century figures were well ahead of their day. **Iris scanning** is now at the forefront of modern identification techniques. The success of iris scanning rests on the fact that no two people's irises are the same - in fact no two irises are the same, as people's left and right eyes are different - that each iris contains at least 260 independent characteristics on which comparisons can be based, and that they are impossible to forge. Indeed, **iridologists** can read all sorts of information about your health in your iris - whether you have been drinking or taking drugs, whether you are pregnant, and a number of medical conditions.
Sheet 2: Hair samples

The hair in the Loan Box is modern, wig-makers' hair. The photo below shows Galton's original hair sample:

Hair Colour & Inheritance
Hair colour is influenced by the hair colour gene. If there is more than one possible version of a gene, they are known as alleles of that gene. For example, there are several possible alleles of the "hair colour" gene: one for brown hair, one for black hair, blonde hair, etc. The allele for black hair is dominant while red is recessive.

Hair Colour and Identification
A DNA sample can be taken from hair as a means of identification. DNA stands for deoxyribonucleic acid. DNA is in every cell of your body. It contains the information needed to construct and operate a human body

Sheet 3: Composite Photographs

These photographs are composed of more than one photographic image superimposed on top of each other. This type of photograph was a new technique developed by Galton. The camera, which he used to take these photos, is part of the Galton Collection, and is currently on loan to the Science Museum. The photos in the Loan Box were produced by scanning Galton's original photos.
Galton produced these composite photos in order to find dominant physical characteristics shared by a group of people. Thus he would photograph a group of, say, criminals, naval officers, or public schoolboys to see if there were any dominant facial features which came through, and which therefore must be shared by the members of the group. Galton was unsuccessful in this quest for a "criminal type" or "public schoolboy type" - where he was more successful was in photographing members of the same family together to find dominant physical characteristics inherited between generations. Photo A comprises the photos of 6 members of the same family - a man and his two sons, and the man's brother and his two sons; and Photo B contains the photos of a woman and her two daughters. It is not known how many individuals were photographed to produce photos C & D.

**Sheet 4: Genes Vs. Environment/Experience**

The table should be filled in like this:

<table>
<thead>
<tr>
<th>Genes</th>
<th>Environment &amp; Experiences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hair colour</td>
<td>Weight</td>
</tr>
<tr>
<td>Eye colour</td>
<td>Hair length</td>
</tr>
<tr>
<td>Inherited diseases</td>
<td>Height</td>
</tr>
<tr>
<td>Height</td>
<td>Skin colour</td>
</tr>
<tr>
<td>Weight</td>
<td>Scars etc</td>
</tr>
<tr>
<td>Skin colour etc</td>
<td></td>
</tr>
</tbody>
</table>

Whilst some of our physical characteristics are fixed by our genes before we are born, like eye colour, others are partly dictated by our genes and partly by our environment, diet or lifestyle: for example, our weight or skin colour.

**Sheet 5: Thinking About Identity**

The questions on Sheets 5a and 5b are designed to put two main points across to pupils:

1. That "identity" consists of many factors (including values, race and gender), and people are not simply a certain "type" of person, with a certain "identity" - we are all more than one thing. The phrase "multiple identities" reflects this idea of an individual's identity being made up of a lot of different factors.
2. That identities change as people act differently in certain situations; and that your identity has changed from the past, and will change in the future.
Further Activities

1. Make a "composite person". You could do this by taking a theme (such as
sports personalities, TV celebrities, movie stars or pop stars); then create a
collage from magazine or internet pictures. Do the members of the groups
share any similar physical characteristics?

2. Visit to the "Who Am I" exhibition at the Science Museum - in particular, the
gallery called "Where do you get your looks from?" relates directly to the
ideas covered in this Enquiry. Another exhibit which may be of interest is
"Can there be another you?" which looks at ideas of cloning as well as
inheritance.
Enquiry 3: Fingerprinting & Forensic Science

**Objects**
1. Fingerprint kits (ink strips, cards of 3 fingerprint types & magnifying glasses)
2. Police fingerprint forms (UK & FBI)
3. Fingerprint examiner
4. Set of fingerprints to identify

**Worksheets**
1a,1b,1c,2a,2b,3,4a,4b

**Curriculum Links**
Citizenship
Science

**Pupils' Prior Knowledge**
- None
- This enquiry can be done as a separate unit, but it has been designed to follow logically from Activities 1 & 2

**Information**
It is best to undertake these activities with groups of 5 or less pupils

**Sheets 1a-c: Fingerprinting**
- Cover desks with newspaper before beginning activity
- After fingerprinting, **clean hands before touching any objects or resources**
- Have babywipes on hand, but please get pupils to wash their hands with soap and hot water before touching anything
- Hand out the ink strips, one between two. The strips then open up to give 2 strips, giving pupils one strip each
- The fingerprinting worksheets are designed to be self explanatory
- If you want to do the fingerprinting activity after you have returned the Loan Box, ink strips can be obtained from **K9 Scene of Crime Equipment Ltd** (Tel: 0604 24651. Web: [http://www.k9sceneofcrime.co.uk/](http://www.k9sceneofcrime.co.uk/))

The fingerprint cards provided in the Loan Box show the three main types of fingerprint - the **loop, arch & whorl**. However, this can be expanded to 7 main types: if pupils are having difficulty identifying their print-type, then these images may help:
Remember - each of your fingers will not necessarily be the same: you will probably have a mixture of loops, whorls and arches. No two individuals have the same finger, palm or foot prints: These areas are covered by minute ridges which are frequently interrupted by endings and forks. These interruptions are known as characteristics. Each person has a uniquely different distribution of characteristics. The characteristics develop in the womb and stay the same throughout life. The ridges generally form well-defined patterns.

Sheets 2a & 2b: Fingerprinting Continued

The sweat and moisture of your skin leave a faint image of your fingerprints on everything you touch. At a crime scene, the most usual method of retrieving prints involves "dusting" a surface with fingerprint powder and lifting any marks which may develop with adhesive tape. Finger, palm and foot marks may also be left at the crime scenes in soft or malleable surfaces (for example, paint or putty), in which case the prints may be photographed rather than dusted. Marks
deposited on paper and other porous surfaces can also be developed by a range of chemical methods each of which reacts with a different element in the sweat content of the mark.

The fingerprints of suspects are then taken upon arrest using ink and paper, in exactly the same way as in this activity. The **Fingerprint Forms** in the Loan Box include an example of those used by City of London Police's Specialist Crime Department and an FBI form. The City of London form is the one with black print; the blue print form is the FBI one.

When the Fingerprint Bureau was founded at Scotland Yard in 1901, the comparison of fingerprints was carried out manually. Now the Bureau has a database of 1.5 million fingerprints of people charged with offences and a collection of over 70,000 unidentified marks left at scenes of crimes. Computers are now used for searching through these fingerprint records.

**Sheet 3: Fingerprinting Continued**

The Fingerprint Viewer in the Loan Box is a modern replica of Galton's original homemade viewer, which dates from the 1850s. This viewer, pictured below, would have been used by Galton in his early fingerprint studies, when he first devised the fingerprint classification system still used today.

![Fingerprint Viewer](image)

Although it is preferable to use the replica viewer for this activity, if it is easier some pupils can use magnifying glasses.

The answers to the activity are:

A=whorl  
B=whorl  
C=loop  
D=arch  
E=loop  
F=whorl  
G=loop  
H=arch  
I=loop

The prints which are the same are: B & F
<table>
<thead>
<tr>
<th><strong>Guide to Forensic Science</strong></th>
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<tr>
<td><strong>Pathology</strong></td>
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<td><strong>Serology and Genetics</strong></td>
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<tr>
<td><strong>Dentistry and Odontology</strong></td>
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<tr>
<td><strong>Fingerprinting</strong></td>
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<tr>
<td><strong>Ballistics</strong></td>
</tr>
<tr>
<td><strong>Chemistry, Microscopy and Toxicology</strong></td>
</tr>
<tr>
<td><strong>Anthropology and Archaeology</strong></td>
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<tr>
<td><strong>Psychology and Psychiatry</strong></td>
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<tr>
<td><strong>Linguistics</strong></td>
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<tr>
<td><strong>Photography</strong></td>
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<tr>
<td><strong>Art and Sculpture</strong></td>
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<tr>
<td><strong>Geology</strong></td>
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</tbody>
</table>
The table above is a brief overview of all the different aspects of forensic science. In this enquiry, however, we are looking primarily at the forensic techniques used by police to establish identity.

Here are some possible answers which can be used to fill in the tables on Sheet 6b. There are more which you may be able to think of!

If pupils are struggling with this activity (or the next one), why not give them the answers to the first column and just get them to think about the reliability of the different features (or scientific techniques)?

**Physical features** which the police could use to identify someone:
- Body measurements
- Eyes/ iris
- Hair colour
- Scars
- Skin colour
- Build
- Teeth
- Tattoos
- Piercings

This type of information is called **BIOMETRIC INFORMATION**. A biometric is a measure of identity based on a body part or behaviour of an individual. Biometrics are an extremely secure and reliable way of identifying someone.

**Types of evidence or scientific techniques** which the police could use to identify someone:
- Photographs
- Fingerprints
- Eyewitness accounts
- DNA analysis
- CCTV footage
- Face profiling by artists or computer
- Handwriting/signature analysis
- Voice recording/speech patterns
- Dental records

**DNA samples** can be taken from hair, blood, saliva, skin and bone. Identical twins share DNA coding, but they are the only people who do.
Further Activities

1. Take **latent** (hidden) fingerprints - i.e. rather than using paper and ink, take prints as it would be done at the crime scene by dusting a print. This can be done by pressing finger or thumb onto a sheet of glass or plastic film. Gently shake some talcum powder over the sweaty finger/thumb print. Blow off the excess. Smooth a piece of sticky tape over the print then peel off carefully. Stick the tape onto a piece of black card.

2. Get pupils to bring in articles relating to forensic science. Build up a presspack of cases where convictions have either been secured or fallen through on the basis of forensic (and especially fingerprint) evidence.

3. Internet research to write a report on the **history of fingerprinting**. Key sites to start with are:

   - [www.met.police.uk/so/100years/history.htm](http://www.met.police.uk/so/100years/history.htm)
   - [http://onin.com/fp/fphistory.html](http://onin.com/fp/fphistory.html)
Enquiry 4: Individual Privacy & Human Rights

Objects
1. Second World War Identity Card
2. Modern European Identity Card

Worksheets
1,2,3,4a,4b,4c,5

Curriculum Links
Citizenship
English

Pupils’ Prior Knowledge
• None
• This enquiry can be done as a separate unit, but it has been designed to follow logically from Enquiry 3, and it is designed to bring together ideas explored in the other 3 activities

Information
• This final enquiry is not directly related to Sir Francis Galton, but it is designed to complement the rest of the material in the Loan Box by looking at the issue of identity in the 21st Century
• It is best to undertake these activities with groups of around 5 pupils

Sheets 1-3: Human Rights and Privacy

Human Rights Act Timeline

1945 United Nations formed
↓
1948 Universal Declaration of Human Rights
↓
1950 European Convention on Human Rights signed
1953 European Convention on Human Rights effective
↓
1998 UK Human Rights Act enacted
1999 Human Rights Act implemented in Scotland
2000 Human Rights Act implemented in rest of UK
The Universal Declaration of Human Rights and The European Convention on Human Rights were created to protect human rights against violations such as those experienced by inhabitants of Nazi occupied Europe.

The UK ratified the European Convention on Human Rights in 1951, but it was never incorporated into British law: this meant that British courts had no obligation to uphold rights set out by it.

It was not until 1965 that the Labour Government allowed individuals to take cases to the European Court of Human Rights. An example of a successful action against the UK is that involving the two boys found guilty of the murder of Jamie Bulger, on the grounds that both the mode of trial and the sentence were inappropriate.

In 1997, the new Labour Government promised to incorporate the European Convention on Human Rights into domestic law. The Human Rights Act was enacted in 1998 and implemented in 1999 in Scotland, and in 2000 in the rest of the UK.

Under the Human Rights Act, a claim may be brought against a public authority where the individual believes that their rights under the European Convention on Human Rights have been infringed. This may include Government departments, local authorities, police, prisons, hospitals, courts, and any other body that exercises a public function.

This enquiry considers Article 8 of the Human Rights Act which deals with the right to privacy. The enquiry encourages pupils to think about ways in which privacy is infringed in modern life, and to consider various situations and decide whether or not they represent an infringement of this right to privacy.

**Human Rights Act 1998**  
**Article 8**  
**RIGHT TO RESPECT FOR PRIVATE AND FAMILY LIFE**

1. Everyone has the right to respect for his private and family life, his home and his correspondence.
2. There shall be no interference by a public authority with the exercise of this right except such as is in accordance with the law and is necessary in a democratic society in the interests of national security, public safety or the economic well-being of the country, for the prevention of disorder or crime, for the protection of health or morals, or for the protection of the rights and freedoms of others.
The questions on worksheets 2 and 3 can be undertaken individually, but some of the questions require some discussion and are therefore best tackled in pairs or groups.

Sheet 4a: Identity Card Information

Please note that the identity cards in the Loan Box are clearly post-Galton, but they have been included as they are interesting stimuli for a debate on identity cards: a debate which brings together ideas from all of the activities in the Loan Box, and also ensures that pupils are given an up to date perspective on the issue of identity.

The wartime identity card belonged to a baby born in 1944, towards the end of the war. Wartime identity cards were introduced in January 1940, at the same time as ration books. It was obligatory to carry the card at all times, and the police could demand to see the card. The scheme was withdrawn in 1952.

The modern French card is a copy of a real ID card currently used in France. New cards are issued every 10 years. In France, identity cards are voluntary: they give access to health, education and voting rights, and are needed for bank and post office transactions. The carrying of the card is near universal.

Identity Card Background Information
The government launched a consultation exercise on 3rd July 2002, with the publication of its consultation paper on "Entitlement Cards & Identity Fraud". The exercise ran until 10th January 2003.

Based on the reaction to the consultation paper and on further analyses of risks, costs and benefits, the government will make a decision on the introduction of the "Entitlement Card".

The government argues that the card would not be designed merely to prove identity (although this would be one use), but would be "genuinely useful to the card holder", by providing easier access to public services.

The most likely scheme proposed by the government would make card ownership compulsory, but it would not be compulsory to carry the card at all times.

According to the government, the following are the benefits of the proposed scheme:

- Providing better services
- Reducing identity fraud
• Tackling illegal immigration and illegal working
• Providing a convenient travel document
• Providing young people with a simple means of proving their age
• Reducing administrative burdens on police
• Supporting electoral registration and new ways of voting
• Holding medical information which might be useful in an emergency.

The card has a great deal of public opposition, which focuses on:
• The cost (critics quote £3bn start-up, plus £1.3bn annual running costs)
• The infringement of our right to privacy
• The inconvenience and hassle of applying for the card
• The possible creation of a "Big Brother" style database with an enormous amount of information on individuals
• The risk that the card might single out foreign residents and citizens from black and minority ethnic communities

Above all, they doubt that the card will make any difference in combatting terrorism, identity fraud and illegal immigration, and they believe the scheme is an unnecessary intrusion into people's private lives. They also believe the phrase "Entitlement Card" - instead of "identity card" - is merely 'spin' designed to disguise the card's true function.

**Sheet 4b: Identity Card Arguments**

Please note that some of these arguments can be viewed as either for or against the introduction of identity cards, depending on your viewpoint. Therefore the exercise is best done in pairs or groups to allow some discussion to evolve.

**Sheet 4c: Identity Cards - Other Countries**

**EU countries with compulsory scheme:**

• Belgium
• Germany
• Greece
• Spain
• Spain

**EU countries with voluntary scheme:**

• Austria
• Finland
• France
• Italy
• Luxembourg
• Netherlands
• Portugal
• Sweden
**EU countries with no scheme:**

- UK
- Ireland
- Denmark

There are no ID cards in the US, Canada, Australia or Japan.

**Sheet 5: Identity Cards - Group Discussion**

To improve the quality of the debate, pupils can do internet research on the Identity Card issue. The following are key websites to start with:

- [www.homeoffice.gov.uk/dob/ecu.htm](http://www.homeoffice.gov.uk/dob/ecu.htm)

Search newspapers online for article and opinions on the topic:

- [http://www.telegraph.co.uk/](http://www.telegraph.co.uk/)
- [http://www.guardian.co.uk/](http://www.guardian.co.uk/)
- [http://www.timesonline.co.uk/](http://www.timesonline.co.uk/)
- [http://www.independent.co.uk](http://www.independent.co.uk)

**Further Activities**

1. Those who support the idea of introducing identity/entitlement cards could design the UK card, clearly indicating what information would be on the front and back of the card.
2. Compile a press-pack of newspaper clippings of articles for and against the introduction of identity cards.
Further Information

Websites

Sir Francis Galton
- The Galton Collection at UCL
  [http://collections.ucl.ac.uk/galton](http://collections.ucl.ac.uk/galton)
- Galton.Org
  [www.galton.org](http://www.galton.org)

Charles Darwin (Galton's Cousin)
- BBC site about Darwin & Evolution
  [http://www.bbc.co.uk/education/darwin/index.shtml](http://www.bbc.co.uk/education/darwin/index.shtml)
- About Darwin.Com

Genetics
- The Genetics Society
- The Human Genetics Commission Website

Fingerprinting
- The Metropolitan Police Fingerprint Bureau
  [http://www.met.police.uk/so/fingerprints.htm](http://www.met.police.uk/so/fingerprints.htm)
- The Metropolitan Police Fingerprint Centenary Pages
  [http://www.met.police.uk/so/100years/history.htm](http://www.met.police.uk/so/100years/history.htm)
- History of Fingerprints from ONIN
- Fingerprint Information from New South Wales Police, Australia

Forensics
- The Forensic Science Service
- Website of the Forensic Science Society
The Police
• The Met
  http://www.met.police.uk/
• Police Forces of the UK
  http://www.police.uk/

The Criminal Justice System
• The Criminal Justice System Online
  http://www.cjonline.org/

Human Rights
• Human Rights Act 1998
• Liberty Human Rights Organisation
  http://www.liberty-human-rights.org.uk/

Identity Cards
• Home Office Site: Entitlement Cards
  www.homeoffice.gov.uk/dob/ecu.htm
• Government Information & Services Online
  http://www.ukonline.gov.uk/
• Liberty Human Rights Organisation
  http://www.liberty-human-rights.org.uk/
• Privacy International
  http://www.privacy.org/pi/activities/idcard/

Citizenship Resources
• Online Citizenship Lessons from learn.co.uk
  http://www.learn.co.uk/citizenship/onlinelessons/
• Education for Citizenship from CSV (Community Service Volunteers)
  http://www.csv.org.uk/csv/Education/education.htm
• The Citizenship Foundation
  www.citfou.org.uk

University Courses: Genetics
Offered at the following London Universities:
• King's College, University of London  http://www.kcl.ac.uk
• Queen Mary, University of London  http://www.qmul.ac.uk
• University College London, University of London  www.ucl.ac.uk
• University of Westminster  http://www.wmin.ac.uk
Plus courses in Biology & Biochemistry at a range of London Universities

**University Courses: Forensic Science**
Offered at the following London Universities:
- University of East London [http://www.uel.ac.uk](http://www.uel.ac.uk)
- University of Greenwich [http://www.gre.ac.uk](http://www.gre.ac.uk)
- University of North London [http://www.unl.ac.uk](http://www.unl.ac.uk)
- South Bank University [http://www.sbu.ac.uk](http://www.sbu.ac.uk)

**University Courses: Criminology**
Offered at the following London Universities:
- University of Greenwich [http://www.gre.ac.uk](http://www.gre.ac.uk)
- Kingston University [http://www.kingston.ac.uk](http://www.kingston.ac.uk)
- University of East London [http://www.uel.ac.uk](http://www.uel.ac.uk)
- London Guildhall University [http://www.lgu.ac.uk](http://www.lgu.ac.uk)
- Middlesex University [http://www.mdx.ac.uk](http://www.mdx.ac.uk)
- University of North London [http://www.unl.ac.uk](http://www.unl.ac.uk)
- Roehampton University of Surrey [http://www.roehampton.ac.uk](http://www.roehampton.ac.uk)
- South Bank University [http://www.sbu.ac.uk](http://www.sbu.ac.uk)
- Thames Valley University [http://www.tvu.ac.uk](http://www.tvu.ac.uk)
- University of Westminster [http://www.wmin.ac.uk](http://www.wmin.ac.uk)

**Books**
- *Forensic Science Casebook* John Sanders
- *Encyclopaedia of Forensic Science* Brian Lane
  Headline 1993. ISBN 0747239045
- *A Life of Sir Francis Galton* by Nicholas Wright Gillham
- *Teaching Citizenship in the Secondary School* James Arthur & Daniel Wright

**Museums**
- The Wellcome Wing at The Science Museum
Films

- Enemy of the State (Certificate 15) 1998
- The Net (Certificate 12) 1995
- Minority Report (Certificate 12) 2002
Feedback Form

The Citizenship and Identity Loan Box

About the School

Name of School ______________________________________________________

Address

LEA _______________________________________________________

Name of Teacher _________________________________________________

About the pupils who used the Loan Box

Age of pupils _________________________________

Ability of pupils _________________________________

Total Number of pupils _________________________________

About the Lessons

What subject(s)/ curriculum area(s) was the Loan Box used to support?

__________________________________________________________________

How many lessons was the Loan Box used to support? _________________

About the Loan Box

Which activities or enquiries did you find the most useful or appropriate for your pupils? Please say why, if you can.

__________________________________________________________________

__________________________________________________________________

__________________________________________________________________

What skills and knowledge did the Loan Box help pupils to develop/acquire?
(e.g. knowledge about what Identity is, or about Francis Galton, or about Forensic Science, about crime and the role of fingerprinting, self-reflection on their identity, observation or debating skills, team work, mathematical skills, increased confidence or motivation, etc)

What kind of follow-up work did the pupils do based on themes/activities from the Loan Box?

________________________________________________________

Would you be interested in visiting UCL with a class and/or borrowing one of our other Loan Boxes (Geology, Archaeology, Bio-Diversity)?

________________________________________________________

Have you made or do you plan to make any visits elsewhere to support the themes in the Citizenship and Identity Loan Box? If yes, please say where

________________________________________________________

Did you find the Loan Box a useful and worthwhile resource? Please say why or why not and make any additional comments you can that will help us to improve the service

Many thanks for taking the time to fill in this form.