Citizenship & Identity
Loan Box

Pupils’ Pack Key Stage 3
Information Sheets & Worksheets
Introduction

The objects in this Citizenship & Identity Loan Box are replicas or photographs of scientific instruments used or invented by a scientist called Sir Francis Galton, who lived from 1822 – 1911.

Galton studied identity and was one of the key figures in developing the fingerprinting technique used by the police today.

Using the objects in the Loan Box and the worksheets, you are going to explore the following topics:
- The Body & Identity
- What is Identity?
- Fingerprinting & Forensic Science
- Individual Privacy & Human Rights

Sir Francis Galton
Enquiry 1
The Body and Identity
Have a look at the photo-card of the following instrument:

(Actual Size)

This object was used by Sir Francis Galton to measure strength. How do you think it worked?

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Similar objects are used today to measure strength. Who might use such an object and for what reasons?

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Have a look at the following object from the Loan Box:

This is a replica of a head spanner which Galton used to take head measurements for his research.

How to use a Head Spanner:

**Length of Head**

**Stage 1**  Pull Rod A back until only the black cap projects in the inside of the frame. Clamp Rod A firmly in place using Screw D.

**Stage 2**  Pull Rod B back until only the black cap projects in the inside of the frame. It is not required for this measurement.

**Stage 3**  Pull Rod C back into a similar position

**Stage 4**  Place the black cap of Rod A against the centre of the subject's forehead. Shift Rod C inwards until it touches the most projecting part of the back of the head.

**Stage 5**  Clamp Screw F tightly. Remove the spanner and read off the scale at C for the measurement of head length.
Enquiry 1: The Body & Identity

**Breadth of Head**

Stage 1-3 Repeat as before
Stage 4 Place the black cap of Rod A just above the subject's ear. Shift Rod C inwards until it reaches the corresponding position just above the subject's other ear.
Stage 5 Clamp Screw F tightly. Remove the spanner and read off the scale at C (as before) for the measurement of head breadth.

**Height of head**

Stage 1 Unclamp both screws at D and F.
Stage 2 Rods C and A must now be used as earplugs - take care not to push the rods too firmly into the ears.
Stage 3 Clamp Screws D and F tightly.
Stage 4 Unclamp Screw E and gently lower Rod B onto the top of the subject's head.
Stage 5 Clamp Screw E tightly, and read off the scale at B for measurement of head height.
You are going to be Sir Francis Galton. Use the head spanner and measuring tapes to take down your key measurements. **Use the head spanner to take the starred (*) measurements**, and the tape measure to take the others. (It helps to work in pairs when taking measurements).

### 's Vital Statistics

<table>
<thead>
<tr>
<th></th>
<th>Cm</th>
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<tbody>
<tr>
<td>Head length*</td>
<td></td>
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<tr>
<td>Head breadth*</td>
<td></td>
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<tr>
<td>Head height*</td>
<td></td>
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<tr>
<td>Head circumference</td>
<td></td>
</tr>
<tr>
<td>Forearm length</td>
<td></td>
</tr>
<tr>
<td>Upperarm length</td>
<td></td>
</tr>
<tr>
<td>Hand span</td>
<td></td>
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<tr>
<td>Arm span</td>
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</table>

Compare your results with the rest of your group. How do you compare?

If you have time, choose one of the measurements above (e.g. hand span) and draw a bar graph, mapping your personal measurement against the rest of your group's measurements and against the group average.
Galton set up an **Anthropometric Laboratory**. (Anthropometric means the study of human body measurements). He asked volunteers to drop in, be measured, and take a series of tests. He hoped this information would tell him more about the physical identity of people in Britain.

He created this form to record the information he collected: look at the **Anthropometric Laboratory Form** from the Loan Box.

Apart from measuring weight, height, eye colour, arms and hands, list four other things Galton tested

<table>
<thead>
<tr>
<th>Physical Characteristics</th>
<th>Which member(s) of my family do I share this with?</th>
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</tbody>
</table>
Enquiry 2
What is Identity?
Enquiry 2: What is Identity?

Have a look at the following object from the Loan Box:

This is a replica of a box of artificial eyes used by Sir Francis Galton to identify different eye colours.

Do any of these eye colours match yours?

Do you think this is the full range of eye colours that exist?

The colour of your eyes is important to some people. Who might find this information useful and why?

Every person’s iris is unique. Scientists are now experimenting with iris scanning. Iris scanning can be used to identify someone. Do you think this is a good idea, or not? Why?
Enquiry 2: What is Identity?  

Have a look at the following object from the Loan Box:

This is a replica of a **box of hair samples** used by Sir Francis Galton to identify different hair colours.

Do any of these hair colours match yours?

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How useful is hair **colour** for identifying someone?

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What **other information about hair** might be useful to identify someone?

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If you wanted to disguise your identity, how could you change your physical appearance?

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Enquiry 2: What is Identity?

Have a look at the following objects from the Loan Box. These are called **composite photographs**. This means that the photos of several people are laid on top of each other to produce a single image of a “new person”

![Composite Photographs](image)

Galton made composite photographs using the photographs of:

- Members of the same family
- Criminals
- Army officers
- Public school boys

What was Galton looking for? Why do you think he might have done this?

_________________________________________________________________
_________________________________________________________________

Photo A is composed of the pictures of 6 members of the same family - a man and his two sons, and the man's brother and his two sons. Photo B contains the photos of a woman and her two daughters. By looking at composite photographs of different generations, Galton hoped to learn more about **heredity**, looking at the physical features which are inherited by the next generation.

If your were to make one image using photographs of each member of your family, what obvious features would you see (e.g. small face, brown eyes, long nose etc)?

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When looking for a criminal, police ask witnesses to describe the suspect(s). What do the police sometimes do with this information to help them find the suspect?

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_________________________________________________________________
Like everything else in our bodies, hair and eye colour is largely determined by our genes.

Think about how people look. There are some physical characteristics that we are born with, like eye colour, which are determined by our genes. There are other physical characteristics that are affected by our environment or lifestyle, such as our weight. **See if you can add to the lists below.**

**Physical characteristics that are determined by:**

<table>
<thead>
<tr>
<th>Genes</th>
<th>Environment &amp; Experiences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye colour</td>
<td>Weight</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Enquiry 2: What is Identity?  

How important do you think physical characteristics are when looking at who a person is?

In order to think more fully about who you are, answer the following questions.

**Where are you from?**

**What do you look like?**

**Do you enjoy any sports? Which?**

**What sort of music do you like?**

**What do you like doing in your spare time?**

**What do you want to do when you leave school?**

**What do you dislike doing?**

**How do you think your teachers describe you?**

**How do you think friends describe you?**
Enquiry 2: What is Identity?  
Sheet 5b

Do you always behave the same with your parents as you do with your friends?

________________________________________________________________________

What were you like 5 years ago? Have your interests and personality changed?

________________________________________________________________________

What do you want to be doing in 10 years' time?

________________________________________________________________________

The answers to these questions begin to tell us something about your identity, but an individual's identity is much more complex than just the answers to 12 questions. Look at your answers to the questions above:

Are you the same person all the time or are you different? Think about how you look, feel and behave).

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What might alter the way you look or behave?

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What is wrong with thinking about "who you are" just in terms of how you look?

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Enquiry 3
Fingerprinting & Forensic Science
Take a fingerprint kit from the Loan Box: make sure you have:
- ink strips
- cards of the three main fingerprint types
- a magnifying glass

How to take a fingerprint

1. Cover your desk in newspaper
2. Open up an ink strip
3. Roll a fingertip from left to right in the ink. Make sure you cover the whole of your finger, from A to B and right down to C.
4. Gently roll your finger in the box on the next worksheet. Roll slowly (just once, not back and forth) from A to B and right down to C.
5. This is how your print should look:

6. Repeat for the rest of your fingers and thumbs

Note: you will find it easier to take your prints if you fold your worksheet over the edge of your desk. Fold along the lines marked.
Enquiry 3: Fingerprinting & Forensics

Recorded On:

............................

The Fingerprints Of:

............................

<table>
<thead>
<tr>
<th>Right Hand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thumb</td>
</tr>
<tr>
<td>Fingerprint Type</td>
</tr>
<tr>
<td>___________________</td>
</tr>
<tr>
<td>Fold</td>
</tr>
<tr>
<td>___________________</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Left Hand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thumb</td>
</tr>
<tr>
<td>Fingerprint Type</td>
</tr>
<tr>
<td>___________________</td>
</tr>
<tr>
<td>Fold</td>
</tr>
<tr>
<td>___________________</td>
</tr>
</tbody>
</table>
Enquiry 3: Fingerprinting & Forensics

The three main types of fingerprint are called **whorls**, **loops** and **arches**. Study very carefully the cards which illustrate these three types of fingerprint.

Now, using the magnifying glass, examine your prints on the previous sheet. Try to label each print with either "whorl", "loop" or "arch".

- You are likely to have a combination of whorls, loops and arches
- Your prints will probably not be all the same type, though it is possible

Compare your prints with the rest of your group.
Which is the most common type of print?
Key fingerprint facts:

- Every individual’s fingerprints are unique
- Your fingerprints are permanent – they do not change throughout your life
- Even identical twins have different fingerprints
- For over 100 years fingerprinting has been the key method used by police to identify criminals or eliminate innocent suspects from their enquiries

Read the information on the next sheet about "Sir Francis Galton and the Development of Fingerprinting", and answer the following questions:

What were the key points made by Sir Francis Galton in his book "Fingerprints"?

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When and where was the UK’s first fingerprint bureau established? And why?

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_________________________________________________________________
Sir Francis Galton & The Development of Fingerprinting

Today we all know that our fingerprints are unique and can be used to identify us and even help solve a crime. We think the first case to be solved using fingerprinting was in Ancient Rome, when a murderer, leaving behind a bloody hand-print was caught red-handed!

Sir Francis Galton (1822-1911) is known as the pioneer of modern fingerprinting. This means he discovered that no two fingerprints are exactly the same and wrote about his discoveries and his research.

Galton began his work on this exciting area in 1850 and in 1892 published his book, ‘Fingerprints’, where he wrote down 2 important discoveries: that every fingerprint is unique and that fingerprints do not change over a person’s lifetime. Galton also calculated that the odds of two fingerprints being exactly the same were one in 64 billion.

Galton wrote notes as to how to describe and identify fingerprints. These ‘minutia’ or characteristics of fingerprints are still in use today and they are often referred to as ‘Galton’s details’. They identify fingerprints by grouping the patterns into ‘arches’, ‘loops’ and ‘whorls’.

Galton’s work inspired others. Most notably Sir Edward R. Henry. He developed a way of organising or classifying fingerprints. This system became known as the ‘Galton-Henry’ system. It was used and still is used to help the Police. In 1901 the first fingerprint bureau in the UK was set up at Scotland Yard. It stored the fingerprints of criminals charged with offences.

Have a look at the Fingerprint Forms from the Loan Box. They are used to take suspects' fingerprints as soon as they arrive at the police station. The one with black print is used by City of London Police’s Specialist Crime Department. The other one is an FBI Fingerprint Form.
Enquiry 3: Fingerprinting & Forensics

Take the following object from the Loan Box: it is a replica of Sir Francis Galton's homemade fingerprint examiner.

Use the replica to examine the set of fingerprints contained in the Loan Box. When using the print examiner, place the fingerprint on the surface under the lens. Lower your eye right down to the lens. If necessary, move the fingerprint up slightly towards the lens until the print comes into focus.

On the back of the prints you will find a letter A-I.

- In the table below, fill in either **whorl**, **loop** or **arch** for each print.
- Two of the prints belong to the same individual. Circle the letters of the two you think are the same.

<table>
<thead>
<tr>
<th>Fingerprint</th>
<th>Whorl, Loop or Arch?</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td></td>
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<td>D</td>
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<td>E</td>
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<td>F</td>
<td></td>
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<td>G</td>
<td></td>
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<tr>
<td>H</td>
<td></td>
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<tr>
<td>I</td>
<td></td>
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</table>
Enquiry 3: Fingerprinting & Forensics

There are a number of physical features which give evidence about individual identity:
- Measurements - head, hands etc
- Eye colour
- Hair colour

There are also several types of evidence which give information about identity:
- Photographs
- Fingerprints

Fill in the table below. How good are they as sources of information about individual identity? Are they unique to every individual? Are they easy to alter?

<table>
<thead>
<tr>
<th>Evidence</th>
<th>How useful?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body measurements</td>
<td></td>
</tr>
<tr>
<td>Eye colour</td>
<td></td>
</tr>
<tr>
<td>Hair colour</td>
<td></td>
</tr>
<tr>
<td>Fingerprints</td>
<td></td>
</tr>
<tr>
<td>Photographs</td>
<td></td>
</tr>
</tbody>
</table>

Think about the following 5 situations. They are all situations where detectives might want to establish someone's identity.

1. To identify a criminal
2. To eliminate innocent suspects from an investigation
3. To find a missing person
4. To identify a dead body
5. To identify someone who is unconscious or suffering from amnesia
With these situations in mind, think of other physical features which the police could use to identify someone. Next to each, comment on how reliable you feel it is as a source of evidence.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Reliability?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teeth</td>
<td></td>
</tr>
</tbody>
</table>

In addition to fingerprinting, what other types of evidence or scientific techniques are used by police to identify someone? Again, next to each, comment on how reliable you feel it is as a source of evidence.

<table>
<thead>
<tr>
<th>Evidence</th>
<th>Reliability?</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCTV footage</td>
<td></td>
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</tbody>
</table>
Enquiry 4
Individual Privacy & Human Rights
Your Human Rights

The United Nations is an organisation of countries. Today there are 191 member countries. The UN was set up after the Second World War. Its aims are to keep peace, to develop friendly relations among nations, to help solve international problems and to promote respect for human rights and freedoms.

In 1948 the UN passed The Universal Declaration of Human Rights. This was a list of 30 basic human rights for everyone.

In 1950 a special Human Rights Court was set up in Strasbourg, France. Anyone who felt that their human rights had not been respected could take their case there.

In 1998 the Human Rights Act was passed in the UK. This means that you do not need to go to France if you feel your human rights have been violated. For the first time, human rights are a central part of the country's law and apply to all its citizens.

The Human Rights Act lists 16 basic human rights for all UK citizens. Here are 12 of them:

- Right to life
- Freedom from torture
- Freedom from slavery and forced labour
- Right to liberty and security
- Right to a fair trial
- No punishment without law
- Right to respect for private and family life
- Freedom of thought, beliefs and religion
- Freedom of expression
- Freedom to gather in groups, and to protest
- Right to marry
- Freedom from discrimination
There are a number of techniques which enable the police and the government to find out information about individuals - fingerprinting, CCTV cameras, voice recordings etc.

**Now look closely at Article 8 of the Human Rights Act:**

"Everyone has the right to respect for their private and family life, home and correspondence"

This act is intended to guard against intrusion into someone's privacy or family by the police or government unless there is a very good reason.

As a result of this new Human Rights Act, many UK policies are now being altered:
- Prison authorities cannot interfere with a prisoner's private mail
- Police cannot tap an individual's telephone without legal authority
- People cannot be secretly filmed

**What do you think? Give reasons for your answers.**

Is it ever acceptable to intrude into someone's privacy?

What about surveillance equipment? Is it OK to use CCTV cameras to prevent crime? Are there some places where you shouldn't place cameras?

Do you think the government and the police know too much information about us, or not enough?
Think about the media attention that celebrities, footballers, and the Royal Family receive. The media and newspapers have been accused of going too far in their search for headlines and a story. Do you think that this attention is an infringement of their right to privacy under Article 8 of the Human Rights Act? The media defends its actions by saying it is in the public interest.

What do you think? Look at these newspaper headlines below. In groups, decide which ones you think are in the public interest and ought to be reported in the press, and which ones you think are a media intrusion.

Cute photos of singer's kids in park!

MPs enjoy luxury holidays at taxpayers’ expense...

Premiership footballer is regular wifebeater

Joe Bloggs earns £300,000 a year. His house is worth £1 million. Where did his money come from? We investigate...

Nude pictures of radio star on beach!

WE EXPOSE OLYMPIC ATHLETE’S DRUGS SHAME

Singer’s mum in cancer scare shocker
The Identity Card Debate

Look at the identity cards in the Loan Box. One of these is from the Second World War: these ID cards were abolished in 1952. Compare this to the ID card which is currently in use in France.

Identity Card Facts

- The government has announced that it is considering the introduction of a form of identity card for UK citizens
- The card would be called an "Entitlement" Card
- The card's purpose would be to:
  - fight terrorism,
  - reduce benefit fraud by checking rights to receive NHS treatment, education and state benefits
  - reduce illegal immigration
- The information stored on the card would include a photograph and personal information
- The card might also contain biometric information: DNA profiles, fingerprints, hand or facial characteristics and speech patterns
- This scheme would be the first ID scheme in the UK since the Second World War
- Basic plastic cards would cost £1.3billion, while cards able to hold data like fingerprints and iris patterns would cost £3.1billion
- According to current proposals, card ownership would be compulsory, but there would be no legal requirement to carry it at all times
Read the following arguments. Mark next to each whether you think it is an argument in favour (F) of the introduction of identity cards, or against (A):

"The innocent have nothing to hide"

Spokeswoman for the democracy campaign group Charter 88 "We should not need to carry a card and have our privacy infringed in order to affirm our right as citizens to have use of public services like education and healthcare".

"The entitlement card would be used to clamp down on fraud by checking rights to receive NHS treatment, education and state benefits".

"The UK, perhaps, in comparison to other countries, is a relatively unpoliced society". Home Office

"Terrorists are unlikely to be deterred by forging a piece of plastic"

John Wadham, director of civil rights organization Liberty: "ID cards make us suspects not citizens, that's why all innocent citizens should oppose them."

John Abbot, director general of the National Criminal Intelligence Service: "An entitlement card could have a major impact in the prevention of certain areas of organised crime - e.g. widespread benefits fraud."

"An investigation by the Sunday Mirror revealed an array of fake European passports and IDs for sale".

"The scheme's running costs would be hundreds of millions of pounds per year."

"Identity theft and fraud cost the economy at least £1.3 billion per year".

"In the European Union, identity card schemes can be used for cross-border travel to other states within the Union"

"Identity Cards will regulate citizens' access to government services."

"Any form of identity card scheme would require a national database storing vast amounts of information on everyone."

"The scheme will help people gain entitlement to products and services provided by both the public and private services."
What about other countries?

- 12 of the 15 EU states have state-authorised identity cards
- Australia, New Zealand, the US and Japan have no identity cards

In Belgium, compulsory ID cards must be presented to the police if demanded, and detail the citizen’s blood group, as well as giving access to government services.

In Germany, ID cards are compulsory, and citizens must remember a PIN number to accompany them in order to obtain local government services.

In Italy, there is a voluntary ID card that can be used as a passport across the EU.

In France, voluntary ID cards with photographs give access to health, education, voting rights, and are needed for bank and post office transactions. The carrying of the card is nearly universal.

In Portugal, compulsory ID cards contain both photograph and fingerprints.
Group Discussion - The Identity Card Debate

In your group, you are going to hold a discussion about identity cards. Read carefully all the information on Sheets 4a-c, and think about the following questions. Nominate one member of your group to report back your opinion to the rest of the class. Remember to think of as many reasons as possible to back up your opinions...

- Assess how useful you think ID cards would be for:
  a. countering the threat of terrorism
  b. reducing benefit fraud
  c. reducing the number of illegal immigrants
- Are ID cards a cost effective answer to tackling crime?
- Would it be better to spend the money on other public services - e.g. more police officers?
- How easy would it be to fake a card?
- What would happen if a card were lost, stolen or damaged?
- Are ID cards against Article 8 of the Human Rights Act, or are they a necessary intrusion to improve policing of the country?
- What about an individual's right to anonymity and privacy?
- Would the cards make "identity theft" easier or harder?
- If the cards were issued, should they be compulsory or voluntary?
- If the cards were issued, what should they be used for?
- If the cards were issued, at what age should a young person get their first card?
- Would you have to carry the card at all times?
- If the cards were issued, what information would you put on them?
- Would the police be able to stop you at anytime and demand to see the card?
- Would you support free movement within the European Community, using ID cards instead of passports?
- Would the card scheme mean the creation of a "Big Brother" government database on all its citizens?
- Does your group support the introduction of Identity Cards into the UK?