

Human Biology

HBI3T/Q11/task

Unit 3T AS Investigative Skills Assignment Task Sheet

Investigation into whether length of the lower arm can be used to predict height of a person

Introduction

In forensic science and archaeology, part of a person's skeleton may be discovered. It may be possible to estimate how tall the person was by using only part of the skeleton, or even a single bone.

You will investigate whether lower arm length can be used to predict a person's height reliably.

Materials

You are provided with

- a metre rule marked in mm
- a thin hard-backed book
- access to a wall-mounted height gauge
- access to a table or bench top adjacent to a wall
- access to a chair or stool
- access to a stepping stool.

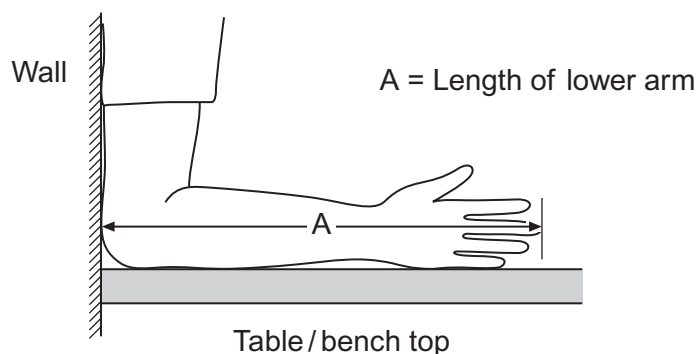
You may ask your teacher for any other apparatus you require.

Outline method

Read these instructions carefully before you start your investigation.

Measuring the length of the lower arm

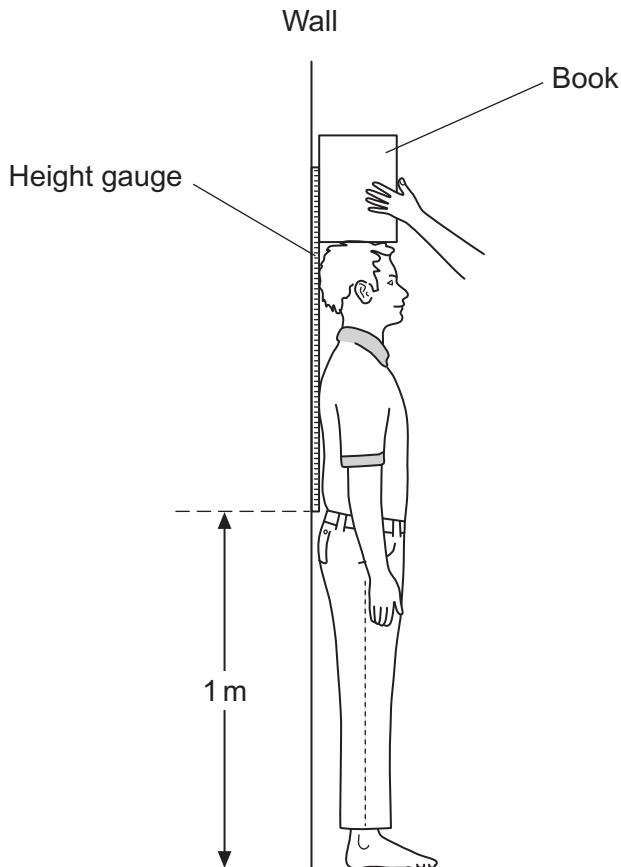
Measure each person's arm length using the method shown in the diagram.



1. Ask the person to sit down beside the bench or table with their back to the wall.
2. Ask the person to place the back of one upper arm firmly against the wall and to extend the lower arm and hand in a straight line along the table or bench top.
3. Use the metre rule to measure the distance between the wall and the tip of the longest finger, to the nearest mm. Measure to the end of the finger, not the finger nail.

Measuring height

Measure each person's height using the method shown in the diagram.



4. Ask the person to remove their shoes and stand up straight with their back against the wall, in front of the height gauge.
5. Hold the book next to the height gauge with its spine in contact with the wall, above the person's head. You may stand on the stepping stool if measuring a person taller than you.
6. Gently lower the book, keeping the full length of its spine in contact with the wall, until its bottom edge touches the top of the head of the person.
7. Holding the book in place, ask the person to step away from the wall.
8. Read the position of the bottom edge of the book on the height gauge.
9. Repeat steps 1 to 8 with at least nine more people.

Record the results of lower arm length and height for each of the people you measure in a suitable table on your results sheet.

You will need to decide for yourself

- whether to measure left or right lower arm.

You are **not** required to take into account the age or sex of the people you choose.

ISA HBI3T/Q11 Candidate Results Sheet: Stage 1**Investigation into whether length of the lower arm can be used to predict height of a person**

Centre Number

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Candidate Number

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Candidate Name

Record your data in a table in the space below.

(3 marks)

Hand in this sheet at the end of each practical session.

ISA HBI3T/Q11 Candidate Results Sheet: Stage 2**Investigation into whether length of the lower arm can be used to predict height of a person**Centre Number

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Candidate Number

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Candidate Name

Use the graph paper to plot a graph of your data. (5 marks)

Hand in this sheet at the end of each practical session.

Hand in this sheet at the end of each practical session.

