



FSP19

ANTHROPOMETRY

Teacher activity information

The Student Handouts that relate to these activities are found in **FSP25 – Personal Dossier** under the section Anthropometry Table.

What are anthropometric measurements? They are simply body dimensions.

The main thing about making anthropometric measurements is that the students must be **consistent**. This means that if a student measures Person X on Monday and then takes the same measurements from Person X on Tuesday (under the same conditions) they will get a very similar result.

They must also be **accurate**. This means that if a student measures Person X on Monday, and another student also measures Person X on Monday, they would both get very similar results.

To do this the students **MUST** follow a procedure so everyone is taking the measurements the same way. See below.

Equipment

- Tape measure (the Lufkin tapes are the best as they have even pressure and don't stretch).
- 1 meter ruler.
- 30 centimeter ruler.
- Marking chalk - a make-up eyebrow pencil is good – students can mark the sites to measure from (optional).
- Pen and worksheet to record results (**FSP25 Anthropometry Table handout**).
- Height chart – attached to a wall (pre-prepared).
- Arm span chart attached to a wall (pre-prepared).

Method

The students should work in groups of 3 all taking a turn at the 3 roles:

- Subject – the person being measured.
- Anthropometrist (measurer) – the person doing the measuring
- Recorder – the person writing down the measurements.

When a student is the anthropometrist, they should complete all of the measurements in the order that is on the worksheet. When they have taken the measurement, they call out to the recorder, who then repeats what was said and writes it down.

For example, the anthropometrist says, “twenty two point zero centimetres”, and the recorder repeats, “twenty two point zero centimetres” and writes it down on the **subject's** worksheet.

After the anthropometrist has completed one round of all of the measurements, they repeat them all again from the beginning.

The recorders do **NOT** tell the anthropometrist if their second measurement is close or far apart from their first measurement.

If the second measurement is a lot different (1cm or greater difference) than the first measurement, the anthropometrist should do a third measure after they have completed the second round of measurements.



Average of the measurements

Work out the average measurement by adding Measure 1 and Measure 2 and dividing by two.

If you have taken three measurements, you DO NOT average the three measurements but add together the two closest measurements and divide by two.

Eg: length lower arm:

Measure 1 =20cm, Measure 2 =19cm, Measure 3 =19.5cm.

Add 19 + 19.5 and divide by 2.

Average length = 19.25cm.

Measurement Techniques

In the **Personal Dossier**, students are asked to decide on a uniform and consistent method taking ALL of the measures.

The techniques below are a guide as to what is acceptable.

NB: These are NOT techniques as accredited by ISAK but are modified for this activity. The most important thing is that ALL students take the measurements the same way.

Anthropometric measures	Suggested Technique
<p>Standing height A chart with accurately marked intervals or a tape needs to be secured to the wall.</p>	<p>Feet together, heels, buttocks and upper part of back touching the wall. The head should not tilt upwards – check that the subject is looking straight ahead (chin slightly tucked in).</p> <p>The subject should breathe in, (keep heels on ground).</p> <p>The measurer places a ruler at on the top of the head with firm pressure and holds the ruler in place as the subject slips out from their position. The measurer reads the score to the recorder.</p>
<p>Arm span It is useful to use a corner of the room so only one mark needs to be made.</p>	<p>The subject stands with the back to the wall with the arms as horizontal as possible, palms facing forward, fingers fully extended. Measure from tip to tip of the third fingers.</p>
<p>Length lower arm Elbow to wrist</p>	<p>The measurement should be taken from the upper edge of the elbow bone to the wrist bone on the thumb side of the hand.</p>
<p>Length lower leg Knee to ankle</p>	<p>Subject should be seated, with their right ankle resting on their left knee. Measure from the fold of skin at the crease of the upper leg and lower leg and the ankle bone.</p>
<p>Length of foot Heel to longest toe</p>	<p>This should be the distance from the longest toe to the most posterior point on the heel of the foot while the subject is standing with their weight evenly distributed.</p>
<p>Circumference of head</p>	<p>Tape should be just above the eyebrows, above the ears and pulled fairly tight to compress the hair.</p>



FSP19 ANTHROPOMETRY

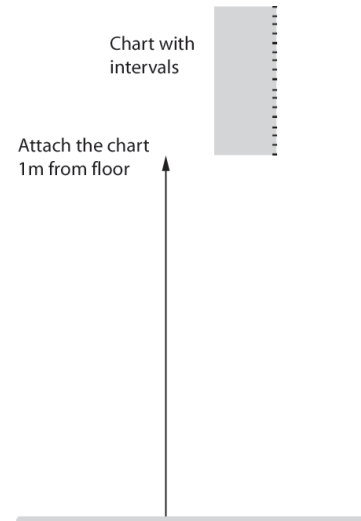
Teacher activity information

Making the measurement charts

Height

A piece of paper with 0.5cm intervals marked can be taped to the wall.

Rather than writing in all the intervals, determine the general range of heights within the class and complete a 30 to 40cm wall chart.



Arm span

The arm span measurement will be similar to the height of the students. Create an interval chart and attach to the wall 1 meter from a corner.

Students will stand with their fingertip of the third finger on the wall.

