DISCOVER

THE

Secrecs of the

Laetoli Footprints
Table of Contents

Scope and Sequence

Day One – Foldable of the Story

Day Two – Anthropology Formula to Find Height

Day Three – Scatter Plot and Track ways Measurements

Day Four – Scaled Drawing and Conclusion

Extension – Locomotion Lab

Appendixes

1 Student booklet
2 Miscellaneous Footprint Patterns
3 Background Research for the Track ways
4 Foldable Information Outline
5 Anthropology Formula
6 Scatter Plot Data Table
7 Scatter Plot Coordinates
8 Footprint Measurements Outline
9 Scaled Drawing Coordinates
10 Locomotion Lab
11 Rubric for Assessment

Includes link to free on-line video clip and link to download copy of the trackway
Day One

Anticipatory Set

1. Put students into groups of four. Ask them to designate a speaker. Handout one diagram of the footprint patterns to each group. Ask them to interpret the pattern and present a scenario to explain the pattern. Have a copy of the footprint patterns ready so that you can display the patterns to the class as each group comes up to present their scenario. Ask the class for other interpretations for the different footprint patterns. Find the footprint patterns attached in Appendix 1.

2. Ask the students if they felt comfortable with their explanations of the footprint patterns. Encourage students to share.

3. Explain to students they have interpreted the footprint patterns, but is their interpretation what actually happened? Lead students to understand they presented theories based on direct and indirect evidence, but how the patterns were actually created cannot be definitively proven, although their theories may be widely accepted in the class.

4. Pose the inquiry question: What can rocks reveal about our past?

5. Explain to students they will be studying the most famous set of footprints in the world. They will be studying the Laetoli Footprints discovered in Laetoli, Tanzania in 1978 by a group of paleontologists led by the famous Mary Leakey. Read to students the story of the discovery of the Laetoli footprints taken from Teacher’s Domain found in Appendix 2. Additional research from other sites is cited and included.
A video clip for a visual is available at:
www.science.discovery.com/videos/100-greatest-discoveries-shorts-laetoli-footprints.htm

A more complete version of this clip is available at unitedstreaming.com in a clip called ‘Our Ancestors’.

Today students will complete a 4 frame foldable telling the story of the Laetoli Footprints. This will be the cover page for the project.

Take an 11 by 17 sized piece of paper and fold in the edges so they meet in the center of the page. It will fold to 8.5 by 11 size. Cut the 2 flaps in half so that there are 4 flaps. Record the story underneath the flaps and illustrate the story on the front of the flap.

```
+----------+----------+
|          |          |
|          |          |
+----------+----------+
|          |          |
```

The outline for information to be included under the flaps can be found in Appendix 2. Have the students use the outline to tell the story adding in extra details they have learned today. [They will all draw the paleontologists throwing elephant poop at each other!] The information in the outline must be included.
Day Two

1. Today students will calculate their height using a formula developed by anthropologists to determine height when the entire skeleton is not available. They must also measure their foot length.

2. You will need measuring tapes for the students, one for each group of 2.

3. I suggest taping two measuring tapes on the wall end to end to create a ‘wall of height’ so that students are able to verify their height after determining it using the formula.

4. You may want to have calculators available for the students as well.

5. Make sure you note that the formula is gender specific.

6. The anthropology formula is Appendix 4.

7. Make sure they measure their foot length as well and record onto their paper. They should have the outline in Appendix three copied out in its entirety as this is page 2 in the project.

Have Fun – You will be surprised at the accuracy of the results!
Day Three and Four

Watch [http://www.youtube.com/watch?v=0EZi_EAyIoQ](http://www.youtube.com/watch?v=0EZi_EAyIoQ)
This clip details protecting the site.

1. Today students will plot their height and foot length on a graph and create a line of best fit on a scatter plot.

2. A black line master for collecting the class data for height and foot length is Appendix 5. Students will need to call out their data and you will record on the data collection table. I give each student a data collection table and they also record the data. This is page 3 in the project.

3. Hand out a piece of graph paper and plot height on x axis and foot length on y axis. This is page 4 in the project.

4. A copy of the axis measurements I use is Appendix 6.

5. I have scanned the track way into the document but you can download a diagram of the track way from: [http://www.teachersdomain.org/resource/tdc02.sci.life.evo.laetolitrack/](http://www.teachersdomain.org/resource/tdc02.sci.life.evo.laetolitrack/)

6. Copy the track way for the students. You will first have to calculate the scale of the track way. You will find a template for this and a key at Appendix 7. This is page 5 in the project. Have the students copy neatly onto lined paper.

7. Use the scale and measure the length of the hominid one’s footprint. [See my key] Do the same for hominid 2.
8. Use the scatter plot graph to locate the hominids foot length on x axis. Have students draw a line from the measurement to the line of best fit. Draw a line from the point of intersection on the line of best fit to y axis. Read the height of the hominid off y axis. Hominid 1 is approximately 125 cm tall and hominid 2 is approximately 75 cm tall.

9. Have students take a piece of 8.5 by 11 paper and draw a scale with x and y axis. Measure y axis in centimeters to 20 centimeters. Have students draw themself standing beside both hominids using a 10 to 1 ratio. So if the student is 145 centimeters tall, they will be 14.5 centimeters tall in their scaled drawing. See my example at Appendix 8. This is page 6 in the project.

**Day Five**

1. Have students write a conclusion for the project. Check Appendix 8 for a copy of the conclusion format I use. The conclusion is page 7 in the project. Challenge them to do additional research and offer their interpretation of the track way.

**Extension**

Locomotion Lab is Appendix 9

**Rubric**

Appendix 10. Copy for each student and have them staple to the back of the project. This will be page 8 in the project.
Student Booklet

I sometimes use a student booklet to compress time or for students who need adaptations.
<table>
<thead>
<tr>
<th><strong>When</strong></th>
<th>Time [3.6 million years ago]</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Where</strong></td>
<td>Place [Laetoli, Tanzania in Africa]</td>
</tr>
<tr>
<td><strong>What</strong></td>
<td>Volcanic Eruption [deposits carbonitite ash]</td>
</tr>
<tr>
<td><strong>How</strong></td>
<td>It rains hard turning the ash into a muddy cement.</td>
</tr>
<tr>
<td><strong>Who</strong></td>
<td>3 Hominids and several animals</td>
</tr>
<tr>
<td><strong>What</strong></td>
<td>Walk through the mud [Hominids speculated to be Australopithecus Afarensis] [Species of animals include birds, the pongid ape family, rhinoceroses, elephants, hyenas and giraffes.]</td>
</tr>
</tbody>
</table>

| **What** | The volcano erupts again depositing more ash which fills the footprints. The ash contains lime. |
| **Why** | That causes the mud to harden and preserves the footprints in volcanic tuff and sediment covers the footprints. |

| **How** | Erosion reveals the footprints again. |
| **When** | 1978 |
| **Who** | Paleontologists working with Mary Leakey |
| **Why** | Discovery is significant because footprints reveal that hominids walked upright, more than 2 million years earlier than previously determined by anthropologists. |

Name_______________________
Block_______
Using an Anthropology Formula

**Purpose:**
To estimate our height, calculate it using the height formula, and verify by measuring at the wall of height.

**Equipment:**
measuring tape, paper, pencil

**Procedure:**
1. Estimate your height in centimeters. Record this.
   Estimate of Height: ________cm.
2. Using the measuring tape, measure your tibia [ankle to knee]
   Tibia length: ________cm
3. Using the measuring tape, measure your humerus [elbow to shoulder]
   Humerus length: ________cm

Use the following table to calculate your height. You must show all your work.

**Boys**
- Boys: 2.38 X [tibia] + 77.4=_______cm
- 2.89 X [humerus] + 69.5=_______cm
- Add your answers together and divide by 2 to find the average.
  - Average:__________cm

**Girls**
- Girls: 2.35 X [tibia] + 73.6=_______cm
- 2.75 X [humerus] + 70.4=_______cm
- Add your answers together and divide by 2 to find the average.
  - Average:__________cm
Use a tape measure and measure your height and compare with your calculated answer.

Height measured by formula __________ cm
Height measured at height wall __________ cm
Foot length measured with ruler __________ cm

Conclusion
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________

Unscramble the words and use the letters to complete the sentence.

SONTOALRGOITPH

DHIINOM

NAATAIZN

RIPTNFOTSO
## Scatter Plot Data Collection

<table>
<thead>
<tr>
<th>Student Name</th>
<th>Height cm</th>
<th>Foot Size cm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The Relationship Between Foot Length and Height
What is Map Scale?

Maps are made to scale. In each case, the scale represents the ratio of a distance on the map to the actual distance on the ground. A ratio is a comparison using the same units.

Measure the scale on the Laetoli track way map.

Simplify the Scale

Measure and Record Tracks:

Hominid One

G2/3-7

Calculate the length of the footprint

G2/3-8

Calculate the length of the footprint

Height of Hominid 1

Hominid Two

G1-10

Calculate the length of the footprint

G1-11

Calculate the length of the footprint

Height of Hominid 2
Scaled Drawing of Hominid 1, 2 and Myself
In the first two boxes, you will exchange three text messages with either Mary Leakey or one of the hominids who walked on the Laetoli track way. You will text first and the hominid will text back. Your text messages should demonstrate factual understanding of the project. Use texting abbreviations. You must interpret your text messages using proper spelling and grammar in the last two boxes.
# The Secrets of the Laetoli Footprints

**Name__________________**

<table>
<thead>
<tr>
<th>CRITERION</th>
<th>Not Evident</th>
<th>Establishing</th>
<th>Developing</th>
<th>Extending</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td><strong>Title Page</strong>&lt;br&gt;Formation of Laetoli Footprints - Illustrate the formation and discovery of the Laetoli Footprints</td>
<td>Not completed</td>
<td>Not colored and/or completed with minimal effort.</td>
<td>Colored and completed with good effort.</td>
<td>Colored and completed with exceptional effort and extra details noted.</td>
</tr>
<tr>
<td><strong>Anthropology Formula:</strong> Using the length of the humerus and tibia bone to determine height</td>
<td>Not completed</td>
<td>Not all measurements are done. No conclusion or puzzle not attempted.</td>
<td>Measurements are completed. Conclusion is not developed and puzzle is completed.</td>
<td>Measurements are completed. Conclusion and puzzle are completed with extra effort.</td>
</tr>
<tr>
<td><strong>Scatter Plot</strong>&lt;br&gt;Graph foot length versus height for classmates</td>
<td>Not completed</td>
<td>Some data is not graphed. Interpolating lines are missing. No line of best fit drawn.</td>
<td>All data is graphed. Line of best fit is present. Some labels are missing. Interpolating lines are missing.</td>
<td>All data is graphed. Line of best fit is in red pencil or pen. All titles and labels are present.</td>
</tr>
<tr>
<td><strong>Measure Hominid and footprints at Laetoli using scaled ratios and use scatterplot to determine height of the hominids. Scaled drawing of student beside the two hominids that created the Laetoli track way.</strong></td>
<td>Not completed</td>
<td>Some calculations are present. Hominid heights are measured incorrectly. Drawing is not completed.</td>
<td>All calculations are present. Drawing is drawn to scale. Drawing is present, drawn in pencil and labeled.</td>
<td>Drawing is done professionally with scale, title, labels and in pencil. Drawing is colored in pencil crayon.</td>
</tr>
<tr>
<td><strong>Analysis</strong>&lt;br&gt;Do I collect and record my results neatly and accurately?&lt;br&gt;Can I turn my results into a graph?&lt;br&gt;Can I describe my data and draw conclusions based on them?&lt;br&gt;Do my text messages demonstrate factual understanding?</td>
<td>Not completed</td>
<td>I do not organize my data neatly and draw simple graphs and sketches. I draw obvious conclusions. My texts do not reflect project details.</td>
<td>I can perform calculations on data and produce graphs and charts that are appropriate to the task. I can draw simple conclusions based on the data produced. My text messages reflect factual knowledge of project.</td>
<td>I can convert data into useful forms using calculations, graphs and drawings. I can draw more difficult conclusions based on trends in my data.</td>
</tr>
</tbody>
</table>

**Comments**

_______________________________________________________________________________
_______________________________________________________________________________
Alternate conclusion page
**Conclusion**

Use Costa's levels of questioning as you answer the inquiry question for the project:

Inquiry Question: What can rocks reveal about our past?

Incorporate four Costa level terms into your conclusion.

<table>
<thead>
<tr>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Define</td>
<td>Analyze</td>
<td>Evaluate</td>
</tr>
<tr>
<td>Describe</td>
<td>Compare</td>
<td>Hypothesize</td>
</tr>
<tr>
<td>Identify</td>
<td>Contrast</td>
<td>Imagine</td>
</tr>
<tr>
<td>List</td>
<td>Group</td>
<td>Judge</td>
</tr>
<tr>
<td>Name</td>
<td>Sequence</td>
<td>Predict</td>
</tr>
<tr>
<td>Observe</td>
<td>Infer</td>
<td>Speculate</td>
</tr>
<tr>
<td>Recite</td>
<td>Synthesize</td>
<td>Apply</td>
</tr>
</tbody>
</table>
Appendixes

Footprint patterns

Additional activities
The Laetoli Footprints

One of the world’s greatest one hundred discoveries is a track way of fossilized footprints found in Laetoli, Tanzania and made 3.6 million years ago. Laetoli lies near an ancient volcano in Tanzania, Africa. In ancient times, the volcano erupted and covered the area in hot ash. Shortly afterwards, rain turned the ash to mud. Animals crossing the area left footprints in the wet ash. The Australopithecus hominids (very early humans) also left their footprints. The sun dried the footprints and as more ash fell, the footprints were covered and remained hidden for nearly four million years.

In 1978, the famous anthropologist Mary Leakey and her team discovered the footprints when they were working in the Laetoli area. Two paleontologists were fooling around throwing dried elephant dung at each other. One of scientists ducked to avoid the flying dung and made the amazing discovery. The arrangement of the footprints suggests that they were made by two adults and a child. The scientists studied, photographed, and made casts (molds) of the footprints. Leakey decided that they should preserve the footprints so that scientists in the future could analyze them using more advanced technology. The team covered up the prints with five layers of sand and soil, and capped the mound with large boulders.

The footprints were remarkable for many reasons. The shape of the footprints suggests that all three walked upright, as we do which was 2 million years earlier than scientists had previously thought. The footprints also recorded behavior. The arrangement of the footprints suggested that the hominids were social and that they travelled together in groups.
Appendix 2

Story of the Discovery of the Laetoli Footprints
–Taken from Teacher Domain Website

Thank goodness for the irrepressible urge of humans (and other animals) to joke and play around in nearly any situation. Sometimes, it pays big dividends. It certainly did in 1976, when paleoanthropologist Andrew Hill and a colleague were tossing elephant dung at each other in Laetoli, a hominid archeological site in Tanzania. As Hill dived out of the way, he stumbled on what turned out to be one of the wonders of prehistoric finds: a trail of hominid footprints about 3.6 million years old.

The majority of the Laetoli footprint site was excavated in 1978. Until then, the oldest known footprints of human ancestors were tens of thousands of years old. But this trail, some 80 feet long and preserved in cement like volcanic ash, had been made by some of the first upright-walking hominids. An almost unimaginable sequence of events preserved what paleontologist Ian Tattersall calls a fossil of human behavior -- prehistoric walking.

Initially, a nearby volcano called Sadiman erupted a cloud of fine ash, like beach sand, that left a layer on the landscape. Then a light rain fell onto the ash to create something like wet cement -- an ideal material for trapping footprints. Birds and mammals left a great number of prints, but, spectacularly, so did a pair of hominids, one large and one small, trekking across the ash. (Some analysts conclude that it is possible to detect the trail of a third, smaller individual whose tracks overlap the footprints left by one of the others.) A subsequent eruption from Sadiman dropped more ash, sealing the footprints like a laminated driver's license. Finally, erosion over millions of years unveiled the prints for Hill and other researchers in Mary Leakey's group to discover.

The prints, say experts on hominid body structure, are strikingly different from those of a chimpanzee, and in fact are hardly distinguishable from those of modern humans. The only known hominid fossils of that age in that location are those of Lucy and her kind, the small-brained but upright-walking hominids classified as *Australopithecus afarensis*. Some analysts have noted that the smaller of the two clearest trails bears telltale signs that suggest whoever left the prints was burdened on one side -- perhaps a female carrying an infant on her hip. While the detailed interpretation of the prints remains a matter of debate, they remain an extraordinary and fascinating fossil find, preserving a moment in prehistoric time.
The Formation of the Laetoli Footprints

You must recreate the story of the formation and discovery of the Laetoli Footprints in a 4 flap foldable. Story must be illustrated and colored. The front of the flap displays the illustration and a brief caption. Under the flap tell the story in your own words. Below is an outline of information to include. You may add extra details.

Frame One

When  Time [3.6 million years ago]
Where  Place [Laetoli, Tanzania in Africa]
What  Volcanic Eruption [deposits carbonitite ash]
How  It rains hard turning the ash into a muddy cement.

Frame Two

Who  3 Hominids and several animals
What  Walk through the mud
[Hominids speculated to be Australopithecus Afarensis]
[Species of animals include birds, the pongid ape family, rhinoceroses, elephants, hyenas and giraffes.]
Frame Three

What  The volcano erupts again depositing more ash which fills the footprints. The ash contains lime.
Why  That causes the mud to harden and preserves the footprints in volcanic tuff and sediment covers the footprints.

Frame Four

How  Erosion reveals the footprints again.
When  1978
Who  Paleontologists working with Mary Leakey
Why  Discovery is significant because footprints reveal that hominids walked upright, more than 2 million years earlier than previously determined by anthropologists.
Laetoli Footprints- An Anthropology Formula

Purpose:
To estimate our height, calculate it using the height formula, and verify by measuring at the wall of height.

Equipment:
measuring tape, paper, pencil

Procedure:
1. Estimate your height in centimeters. Record this.
   Estimate of Height: __________cm.

2. Using the measuring tape, measure your tibia [ankle to knee]
   Tibia length: __________cm.

3. Using the measuring tape, measure your humerus [elbow to shoulder]
   Humerus length: __________cm.
2. Use the following table to calculate your height.
   You must show all your work.

**Boys**

Boys: \(2.38 \times [\text{tibia}] + 77.4 = \) ________ cm  
\(2.89 \times [\text{humerus}] + 69.5 = \) ________ cm  
Add your answers together and divide by 2 to find the average.  
**Average:** ________ cm

**Girls**

Girls: \(2.35 \times [\text{tibia}] + 73.6 = \) ________ cm  
\(2.75 \times [\text{humerus}] + 70.4 = \) ________ cm  
Add your answers together and divide by 2 to find the average.  
**Average:** ________ cm

Go to the height wall and measure your height and compare with your calculated answer.  
**Actual Height:** ________ cm  
**Foot Length:** ________ cm  

Comparison__________________________________________
## Appendix 5 Scatter Plot Data Collection

<table>
<thead>
<tr>
<th>Student Name</th>
<th>Height (cm)</th>
<th>Foot Size (cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix 6-Graph Coordinates

Relationship Between Height and Foot Length

Height in Centimetres
Scale Measurement and Laetoli Footprints

What is Map Scale?
Maps are made to scale. In each case, the scale represents the ratio of a distance on the map to the actual distance on the ground. A ratio is a comparison using the same units.

Measure the scale on the Laetoli Track way Map.

________________

Simplify the Scale

___________________________________________
___________________________________________

Measure and Record Tracks:
Hominid One
G2/3-7___________
Calculate the length of the footprint
_________________________________

G2/3-8___________
Calculate the length of the footprint
_________________________________
Hominid Two

G1-10 ___________

Calculate the length of the footprint
_________________________________

G1- 11___________

Calculate the length of the footprint
_________________________________

Use the scatter plot graph and locate the hominids foot length on x axis. Draw a line from this measurement to the line of best fit. Draw a line from the point of intersection over to y axis. Read the height of the hominid off y axis.

Use a piece of paper and draw a scale with x and y axis. Measure y axis in centimeters to 20 centimeters. Draw yourself standing beside both hominids using a scale of 10 to 1. So if you are 145 centimeters tall, you will be 14.5 centimeters tall in your scaled drawing.
Scale Measurement and Laetoli Trackways

What is Map Scale?
Maps are made to scale. In each case, the scale represents the ratio of a distance on the map to the actual distance on the ground. A ratio is a comparison using the same units.

Measure the line on the Laetoli Trackways Map.

\[ 5 \text{ cm} \quad \text{or} \quad 50 \text{ mm} \]

Simplify the Scale

\[
\begin{align*}
5 \text{ cm} &= 1 \text{ m} & 5 \text{ cm} &= 100 \text{ cm} & 1 \to 20 \\
50 \text{ mm} &= 1000 \text{ mm} & 1 \to 20 \end{align*}
\]

Measure and Record Tracks:
Hominid One
G2/3-7 1 cm or 10 mm

Calculate the length of the footprint

\[ 20 \text{ cm} \]

G2/3-8 1 cm

Calculate the length of the footprint

\[ 20 \text{ cm} \]

Hominid Two
G1-10 6 mm

Calculate the length of the footprint

\[ \frac{6}{120} = 0.05 \text{ cm} \]

G1-11 6 mm

Calculate the length of the footprint

\[ \frac{6}{120} = 0.05 \text{ cm} \]

Draw yourself and the Hominids to scale using a 1-10 ratio.
The Hominids and Myself to Scale

Scale 10 mm = 10 cm  10 mm = 100 mm

10-1
Laetoli Trackway: An Anthropology Formula

**Purpose:**
To estimate our height, calculate it using the height formula, and verify by measuring on the wall of height.

**Equipment:**
- measuring tape, paper, pencil

**Procedures:**
1. Estimate your height in centimeters. Record this estimate as height 179 cm.
2. Using the measuring tape, measure your tibia (ankle-knee).
   - Tibia length 59 cm
3. Using the measuring tape, measure your humerus (Elbow to shoulder).
   - Humerus length 32 cm
4. Use the following table to calculate your height. You must show all your work.
   - Add your answers together and divide by 2. Take the average.
   - Average 102 cm
   - Girls: 2.35 x (G + H + T) + 165 cm = 110 cm
   - 2.36 x (N + H + T) + 165 cm = 110 cm
5. Go to the height wall and measure your height and compare with your calculated answer.
   - Actual Height 144 cm
   - Foot length 23 cm

<table>
<thead>
<tr>
<th>Name</th>
<th>Height cm</th>
<th>Foot Size cm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shahla</td>
<td>147</td>
<td>23</td>
</tr>
<tr>
<td>Tiffany</td>
<td>146</td>
<td>23</td>
</tr>
<tr>
<td>Alex</td>
<td>169</td>
<td>25</td>
</tr>
<tr>
<td>Cassandra</td>
<td>149</td>
<td>23</td>
</tr>
<tr>
<td>Eliana</td>
<td>145</td>
<td>22</td>
</tr>
<tr>
<td>Tamara</td>
<td>161</td>
<td>24</td>
</tr>
<tr>
<td>Mariah</td>
<td>144</td>
<td>23</td>
</tr>
<tr>
<td>Madina</td>
<td>165</td>
<td>24</td>
</tr>
<tr>
<td>Jordan</td>
<td>152</td>
<td>24</td>
</tr>
<tr>
<td>Kameron</td>
<td>156</td>
<td>24</td>
</tr>
<tr>
<td>Alexy</td>
<td>154</td>
<td>24</td>
</tr>
<tr>
<td>Maggie</td>
<td>165</td>
<td>25</td>
</tr>
<tr>
<td>Remy</td>
<td>160</td>
<td>24</td>
</tr>
<tr>
<td>Meggan</td>
<td>146</td>
<td>21</td>
</tr>
<tr>
<td>Holland</td>
<td>155</td>
<td>24</td>
</tr>
<tr>
<td>Sharnan</td>
<td>154</td>
<td>24</td>
</tr>
<tr>
<td>Carly</td>
<td>159</td>
<td>24</td>
</tr>
<tr>
<td>Joey</td>
<td>161</td>
<td>24</td>
</tr>
<tr>
<td>Donna</td>
<td>154</td>
<td>24</td>
</tr>
<tr>
<td>Sierra</td>
<td>160</td>
<td>25</td>
</tr>
<tr>
<td>Cotton</td>
<td>177</td>
<td>28</td>
</tr>
<tr>
<td>Kennedy</td>
<td>159</td>
<td>23</td>
</tr>
<tr>
<td>Brett</td>
<td>140</td>
<td>25</td>
</tr>
<tr>
<td>Austin</td>
<td>140</td>
<td>24</td>
</tr>
<tr>
<td>Charlie</td>
<td>150</td>
<td>24</td>
</tr>
<tr>
<td>Jacob</td>
<td>150</td>
<td>23</td>
</tr>
<tr>
<td>Taylor</td>
<td>162</td>
<td>21</td>
</tr>
</tbody>
</table>

Graph showing correlation between height and foot length.
Scale Measurement Last 2 Trackway

What is a map scale?
Maps are made to scale. In each case the scale represents the real or a distance on the map to the actual distance on the ground. A ratio is a comparison using the same units.

Measure the line on the Last 2 Trackway Map.
50 mm = 2.5 cm

Calculate the scale.
50 mm = 1 cm = 100 mm = 1 dm
50 mm = 1 cm = 100 mm = 1 dm

Measure and record tracks.
Hominid one
GA/3/7 2000 cm

Calculate the length of the footprint.
16 cm = 0.160 m
16 cm = 0.160 m

Hominid two
GA/3/5 1800 cm

Calculate the length of the footprint.
30 cm = 0.300 m

Scale 16 mm = 1 cm
10-11 10 cm = 1 mm

The Hadza and Myself to Scale

Diagram showing the size of a human compared to a Hadza figure.

MyPhone
This phone belongs to __________________________

Your shorthand text with 3 questions:
1. Sup how r u?
2. Wow r u hot?
3. Or u makin' footprints?

Responder's shorthand text with 3 answers:
1. I'm goin' just chillin' in ethiopia
2. Not really it rained so my feet r muddy
3. Ya lots o' them gtg bye

Your text interpreted:
1. What's up how are you?
2. Wow are you hot?
3. Oh are you making footprints?

Responder's text interpreted:
1. I'm great i'm just chillin in ethiopia
2. Not really it rained so my feet are muddy
3. Yes lots of them got to go bye
Thanks for purchasing this product.

See other products designed by Merry In The Middle

http://www.teacherspayteachers.com/Store/Merry-In-The-Middle