INTRO TO BIOMETRICS WEBQUEST:

Part One: How long have humans been using biometrics and how has the technology changed?

1. What does the prefix “bio-­” mean?
2. What does the suffix “-­metric” mean?
3. Go to [http://tinyurl.com/mus5ct4](http://www.google.com/url?q=http%3A%2F%2Ftinyurl.com%2Fmus5ct4&amp;sa=D&amp;sntz=1&amp;usg=AFQjCNElq-d3gH7OpIlcn7hQ30arFqNLLQ)

According to the website, what is biometrics? Write the definition in the space below:

1. Go to [http://www.biometrics.gov/documents/biohistory.pdf](http://www.google.com/url?q=http%3A%2F%2Fwww.biometrics.gov%2Fdocuments%2Fbiohistory.pdf&amp;sa=D&amp;sntz=1&amp;usg=AFQjCNGF-GgVtx5Wuz6Ur_0HTOn1eVCH5Q)

What is the oldest and most basic way humans have recognized other humans?

How were fingerprints and handprints used in the past to identify people?

As humans became more mobile, a more accurate system of identifying people became necessary. The two methods mentioned were:

In what country did the system of indexing fingerprints begin (called the Henry System)?

In the 1990s and 2000s the field of biometrics began to explode. What brought about this increase?

Part Two: How is biometric technology related to middle school science (& math & STEM)?! Below are two broad subject areas you have studied in middle school. Brainstorm with your group ways in which biometrics might be related to each topic. Use the *clue words* to help you!

Life Science (*cells, tissues, organs, body structure, heredity, DNA, genes, biodiversity*):

1. Biometrics is related to life science because…….

Physical Science (*motion, forces, types of energy, circuits*)

1. Biometrics is related to physical science because…..

Part Three: What are some existing characteristics that are measured using biometric tech? Go to [http://science.howstuffworks.com/biometrics.htm](http://www.google.com/url?q=http%3A%2F%2Fscience.howstuffworks.com%2Fbiometrics.htm&amp;sa=D&amp;sntz=1&amp;usg=AFQjCNH14_E5NFwbYroSy0WN29AoyC-VGw)

* + What are the two types of characteristics used in biometrics?
  + Where are some common places biometric security is being used?
  + What are the three basic STEPS involved in biometrics?
  + What are the three COMPONENTS used by all biometric systems?
  + What is the purpose of a sensor?

Go to [http://www.biometrics.gov/ReferenceRoom/Introduction.aspx](http://www.google.com/url?q=http%3A%2F%2Fwww.biometrics.gov%2FReferenceRoom%2FIntroduction.aspx&amp;sa=D&amp;sntz=1&amp;usg=AFQjCNHGTwoicf5SOodaR2SYs16ZipvlpQ) and use the section “Technologies” to fill out the chart below. You may also use the “How Stuff Works” website to help you complete the chart: [http://science.howstuffworks.com/biometrics.htm](http://www.google.com/url?q=http%3A%2F%2Fscience.howstuffworks.com%2Fbiometrics.htm&amp;sa=D&amp;sntz=1&amp;usg=AFQjCNH14_E5NFwbYroSy0WN29AoyC-VGw)

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| --- | --- |
| Technology | Brief Description |
|  |  |
|  |  |
|  |  |
| Dynamic Signature (aka Handwriting)  \*Hint: Look at “How Stuff Works” site to find a description. |  |
|  |  |
|  |  |
|  |  |
| Speaker Recognition (aka Voiceprint)  \*Hint: Look at “How Stuff Works” site to find a description. |  |

Helpful websites:

Dr. Reugsegger’s page: [http://bme.osu.edu/people/ruegsegger.1](http://www.google.com/url?q=http%3A%2F%2Fbme.osu.edu%2Fpeople%2Fruegsegger.1&amp;sa=D&amp;sntz=1&amp;usg=AFQjCNF1vekXosqvQJMncLdeJNLX_dAatw)

OSU Department of Biomedical Engineering page: [http://bme.osu.edu/department](http://www.google.com/url?q=http%3A%2F%2Fbme.osu.edu%2Fdepartment&amp;sa=D&amp;sntz=1&amp;usg=AFQjCNFLeriqjT9_p3aEezRPxWwn4Fh5wA) National Science and Technology Council’s Website:

[http://www.biometrics.gov/ReferenceRoom/Introduction.aspx](http://www.google.com/url?q=http%3A%2F%2Fwww.biometrics.gov%2FReferenceRoom%2FIntroduction.aspx&amp;sa=D&amp;sntz=1&amp;usg=AFQjCNHGTwoicf5SOodaR2SYs16ZipvlpQ) [http://www.biometrics.gov/Documents/FAQ.pdf](http://www.google.com/url?q=http%3A%2F%2Fwww.biometrics.gov%2FDocuments%2FFAQ.pdf&amp;sa=D&amp;sntz=1&amp;usg=AFQjCNH3f2j5KyK43sdD_VHtir4J5Yht9A) [http://www.biometrics.gov/Documents/BioHistory.pdf](http://www.google.com/url?q=http%3A%2F%2Fwww.biometrics.gov%2FDocuments%2FBioHistory.pdf&amp;sa=D&amp;sntz=1&amp;usg=AFQjCNFoueE67zZTya7RWjmTCo6PAdcKQg)

The Education Portal’s Website about Biometrics and Related Careers:

[http://education-­portal.com/directory/category/Biological\_and\_Biomedical\_Sciences/Bioinformati](http://www.google.com/url?q=http%3A%2F%2Feducation-portal.com%2Fdirectory%2Fcategory%2FBiological_and_Biomedical_Sciences%2FBioinformatics%2FBiometrics.html&amp;sa=D&amp;sntz=1&amp;usg=AFQjCNGXeihOb5_A9GXFKCg9OvH2Zt7N9g) [cs/Biometrics.html](http://www.google.com/url?q=http%3A%2F%2Feducation-portal.com%2Fdirectory%2Fcategory%2FBiological_and_Biomedical_Sciences%2FBioinformatics%2FBiometrics.html&amp;sa=D&amp;sntz=1&amp;usg=AFQjCNGXeihOb5_A9GXFKCg9OvH2Zt7N9g)

How Stuff Works -­ Biometrics:[http://science.howstuffworks.com/biometrics.htm](http://www.google.com/url?q=http%3A%2F%2Fscience.howstuffworks.com%2Fbiometrics.htm&amp;sa=D&amp;sntz=1&amp;usg=AFQjCNH14_E5NFwbYroSy0WN29AoyC-VGw)

Brainstorming Time……

1. Think of a problem that you would like to make better or improve upon here at school. Remember it could help students, teachers, principals, coaches, custodians, cooks. It could be something that is useful in any part of the building: classrooms, hallway, commons, gym, etc.

List some of the problems you would like to “fix” here at Davis:

Having troubles coming up with something? Talk with individuals around school and find out what they see as problems, things they would like improved.

1. Now that you have some problems to consider around the school, how could biometrics help solve them?
   1. Problem:

Solution:

* 1. Problem:

Solution:

* 1. Problem:

Solution: