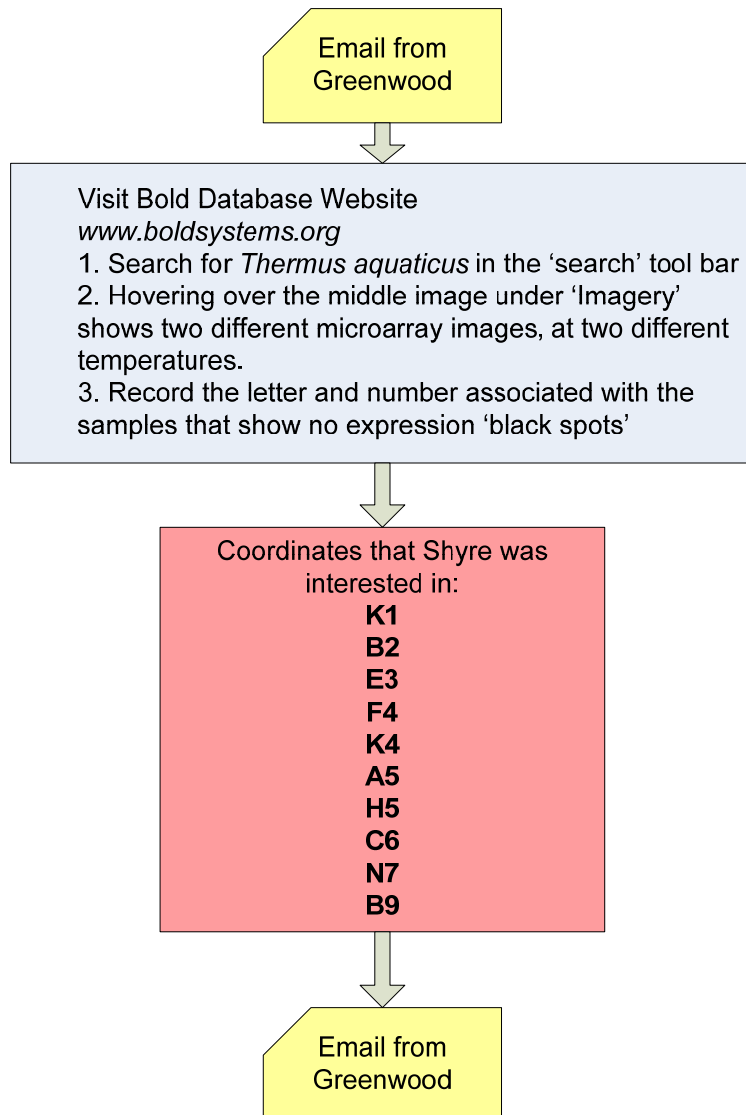


HISTORY OF BIOLOGY

■ Teacher's Walkthrough

MISSION 13: A BOLD ADVENTURE

A) WORKFLOW



HISTORY OF BIOLOGY

■ Teacher's Walkthrough

B) EMAILS, CLUES, OBJECTS

	Contents	Explanation
EMAIL	<p>M13: INTRO EMAIL From: Dr. Jordan Greenwood Subject: Last thing Shyre was working on</p> <p>Dear user,</p> <p>The last research paper Shyre and I were working on before he disappeared was all about <i>Thermus aquaticus</i> and looking at genes critical for its survival. Remember that paper from 2 missions ago with the sequencing gel? Shyre was preparing our data for submission to the BOLD database. BOLD stands for the Barcode of Life Data System which stores DNA barcode records. Similar to the UPC codes you find on everything you buy, scientists are using unique DNA sequences to 'barcode' individual species.</p> <p>We still use Linnaeus' binomial naming system to classify and identify living things. 1.7 million species have already been described, but scientists think that there are as many as 10-100 million eukaryotic species alive today! The International Barcode of Life is an initiative involving 26 countries to identify and assign unique DNA barcode to every species on the planet. For more information about DNA Barcoding, click here.</p> <p>Last I talked to Shyre, he was getting ready to submit our data on <i>Thermus aquaticus</i>. Why don't you go to the BOLD website and search for any information Shyre might have submitted on <i>Thermus aquaticus</i>: www.boldsystems.org</p> <p>Dr. Greenwood</p>	<p>The BOLD database is a real website and is hosting a page for the History of Biology game</p>
WEBSITE	<p>Bold Database: www.boldsystems.org</p> <ol style="list-style-type: none"> 1. Search for <i>Thermus aquaticus</i> in the 'search' tool bar 2. Hovering over the middle image under 'Imagery' shows two different microarray images, at two different temperatures. 3. Record the letter and number associated with the samples that show no expression 'black spots' 	
CLUE	<p>Coordinates that Shyre was interested in: K1, B2, E3, F4, K4, A5, H5, C6, N7, B9</p>	
EMAIL	<p>M13: VICTORY EMAIL From: Dr. Jordan Greenwood Subject: The last 10 genes</p> <p>Dear user,</p> <p>So it looks like Shyre had a particular interest in those 10 specific genes ...I wonder what it all means?</p>	

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	<p>From what I can tell, it looks like these 10 genes are important for this organism to cope with the stresses of living at high temperature.</p> <p>We must be getting closer! Stay sharp!</p> <p>Dr. Greenwood</p>	
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