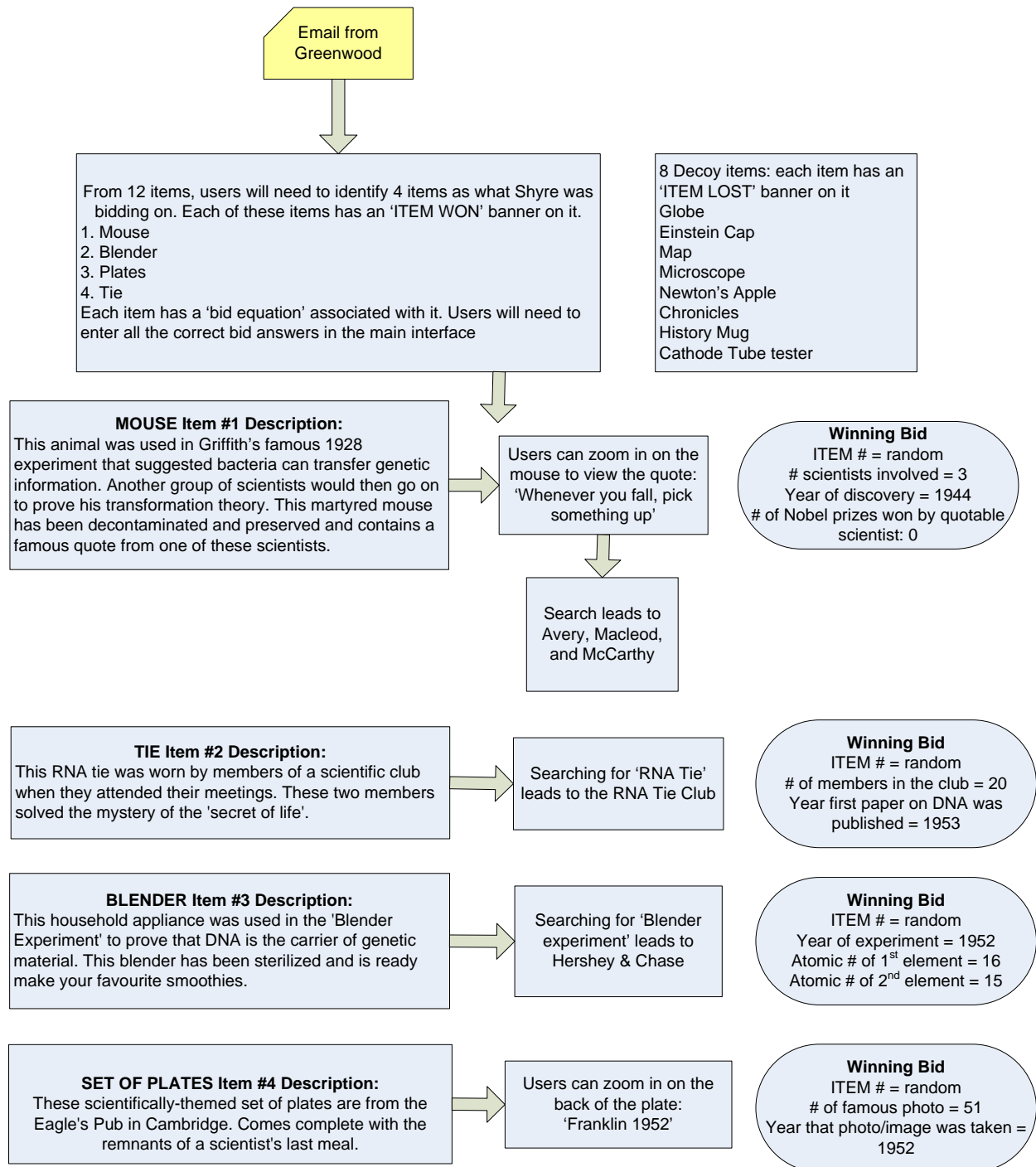


HISTORY OF BIOLOGY

Teacher's Walkthrough

MISSION 10: GOING ONCE, GOING TWICE

A) WORKFLOW



HISTORY OF BIOLOGY

■ Teacher's Walkthrough

B) EMAILS, CLUES, OBJECTS

	Contents	Explanation
EMAIL	<p>M10: INTRO EMAIL From: Dr. Jordan Greenwood Subject: Auction login</p> <p>Dear user, Hmmm, there appears to be a second volume of poetry and this one has a receipt marking page 28. I first thought the poem was significant, but perhaps the receipt is also important. I recognize the website - it's from Biobidder. I remember Shyre showing me some of the strange objects he was bidding on. He called them 'relics from my mentors'.</p> <p>I tried logging into the website, but it seems we need Shyre's login and password. You figured out the password, 1869nuclein, but we still need the login. Can you figure it out and enter the answer into the interface for me?</p> <p>Thanks, Dr. Greenwood</p>	
OBJECT	<p>Book of Poetry Select the book, then click on it and it opens to the page with a receipt in it. The login can be found at the top of the receipt: Account: shyreXXX (where X is a 4 digit random number)</p>	
EMAIL	<p>M10: Auction Site From: Dr. Jordan Greenwood Subject: What was Shyre bidding on?</p> <p>Dear user, That's it - thank you! Why don't we go login and see if we can figure out what his winning bids were for those four items! Click here to go to the auction site.</p> <p>Dr. Greenwood</p>	
WEBSITE	<p>Auction Site</p> <p>Login: shyreXXXX Password: 1869nuclein</p> <p>On the auction site, users need to identify the 4 items that Shyre was bidding on: the mouse, blender, tie, and plates. Each item has a winning bid formula associated with it</p>	

HISTORY OF BIOLOGY

■ Teacher's Walkthrough

	<p>MOUSE Item #1 Description: This animal was used in Griffith's famous 1928 experiment that suggested bacteria can transfer genetic information. Another group of scientists would then go on to prove his transformation theory. This martyred mouse has been decontaminated and preserved and contains a famous quote from one of these scientists.</p> <p>Winning Bid ITEM # = random # scientists involved = 3 Year of discovery = 1944 # of Nobel prizes won by quotable scientist: 0</p> <p>TIE Item #2 Description: This RNA tie was worn by members of a scientific club when they attended their meetings. These two members solved the mystery of the 'secret of life'.</p> <p>Winning Bid ITEM # = random # of members in the club = 20 Year first paper on DNA was published = 1953</p> <p>BLENDER Item #3 Description: This household appliance was used in the 'Blender Experiment' to prove that DNA is the carrier of genetic material. This blender has been sterilized and is ready make your favourite smoothies.</p> <p>Winning Bid ITEM # = random Year of experiment = 1952 Atomic # of 1st element = 16 Atomic # of 2nd element = 15</p> <p>SET OF PLATES Item #4 Description: These scientifically-themed set of plates are from the Eagle's Pub in Cambridge. Comes complete with the remnants of a scientist's last meal.</p> <p>Winning Bid ITEM # = random # of famous photo = 51 Year that photo/image was taken = 1952</p>	<p>Refers to the experiments done by Avery, Macleod and McCarthy Clicking on the magnifying glass brings up the quote: 'whenever you fall, pick something up' is from Avery</p> <p>Formula is random, but the answers to the components are on the left</p> <p>Searching for 'RNA tie' leads users to RNA Tie Club and Watson & Crick</p> <p>Searching for 'Blender Experiment' leads users to Hershey & Chase</p> <p>Clicking the magnifying glass shows the reverse side of the plates with 'Franklin, 1952' and the X-ray diffraction image.</p>
--	---	--

HISTORY OF BIOLOGY

■ Teacher's Walkthrough

EMAIL	<p>M10: VICTORY EMAIL From: Dr. Jordan Greenwood Subject: What an interesting group! These scientists that you just learned about were all involved in crucial experiments around the identification, function, and structure of DNA.</p> <p>Avery, MacLeod, McCarthy Avery, MacLeod & McCarthy built on Griffith's experiments to determine what cellular component was responsible for Griffith's observations that bacteria could transfer genetic information. The trio showed that it was DNA (and not RNA, protein or another molecule) that had the ability to transform cells.</p> <p>Hershey-Chase Blender Experiment In 1952, Alfred Hershey and Martha Chase further conducted a series of experiments that confirmed that DNA was the genetic material that enters a bacterium during an infection by a bacteriophage (a virus that infects bacteria). These experiments convinced the scientific community that DNA alone was the genetic material responsible for heredity.</p> <p>Rosalind Franklin & Photo 51 Rosalind Franklin earned a PhD in physical chemistry and went on to use X-ray crystallography to determine that DNA was made up of 2 helical strands (not 3 as previously thought), with the sugar-phosphate backbone being on the outside of the DNA molecule. Unfortunately her data was passed on to Watson & Crick without her permission, and they were able to put together the final piece on how the bases paired on the inside of the helix. Watson, Crick, and Wilkins would go on to win a Nobel prize in 1962 for this work, but Franklin died four years earlier and awards cannot be given posthumously.</p> <p>Watson, Crick & the RNA Tie Club In 1953 Watson and Crick announced the structure of DNA, the molecule that carries genetic information. In 1954 they became members of the newly founded RNA Tie Club, whose goal was to understand the structure of RNA and how it contributed to protein formation. The RNA Tie club was a select men's club with 20 scientific members, one for each of the amino acids. Dr. Greenwood</p>	
-------	---	--