# Tools of Engagement for Online Learning

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West of House
You are standing in an open field west of a white house, with a boarded front door.
There is a small mailbox here.

>_

# Welcome

- Quick introductions
  - Who, What, Where
- A Little Background Information

# Before we look at the tools and strategies, let's define a few terms.

- Engage
- Engagement
- Student Engagement
- Online Student Engagement

# Engage

- Occupy, attract, or involve (someone's interest or attention)

- http://www.oxforddictionaries.com/us/definition/american_english/engage#engage

# Engagement

- Difficult to define  - best I found was in the Oxford English Dictionary
- **“That which ~~engages or~~ induces to a course of action; an inducement, motive. Cf. (obs)”**
- Linda Deneen liked, “the fact of being entangled; involved or entangled conditions. *Obs*.”
- **Note both are obsolete**

# What does student engagement mean?

- In education, **student engagement** refers to the degree of attention, curiosity, interest, optimism, and passion that **students** show when they are learning or being taught, which extends to the level of motivation they have to learn and progress in their education.

- Student Engagement (2016, February 18). In S. Abbott (Ed.), The glossary of education reform. Retrieved from http://edglossary.org/student-engagement/

# Student Engagement in Online Classes

- Student engagement is a rendezvous between learning and the digital tools and techniques that excite students.

- Linda Dennen, Educause Quarterly Review, vol. 32, no. 4, 2009

# George Kuh on the engagement premise

- the more students study a subject, the more they know about it,
- and the more students practice and get feedback from faculty and staff members on their writing and collaborative problem solving,
- the deeper they come to understand what they are learning…

# Learning Environment Design

- consider both motivational and instructional influences on learners,
- Both require consideration of learner goals and capabilities together with cultural and environmental factors that affect attitudes and performance.

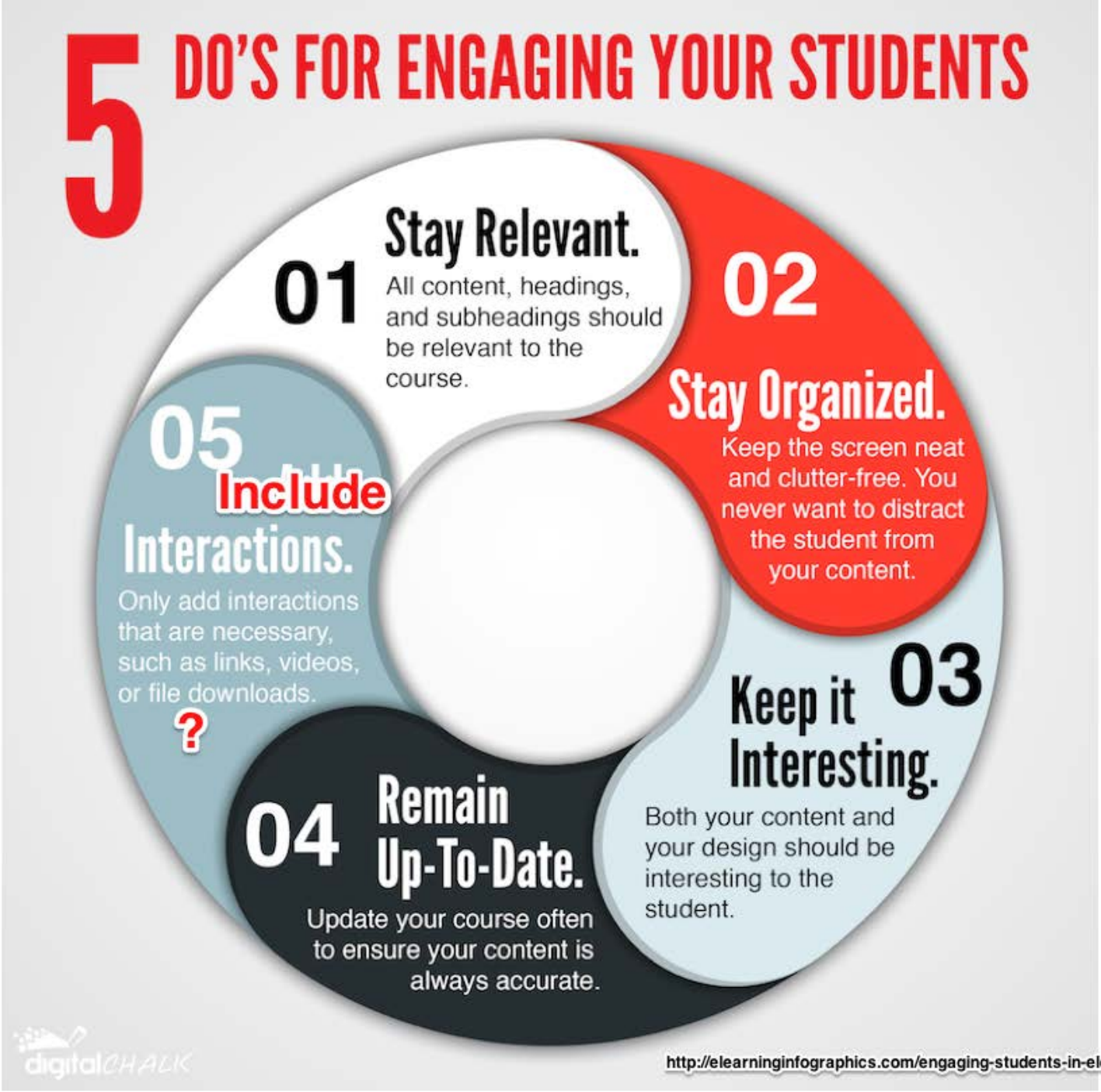
# Keller's ARCS Model for Design

- Attention
- Relevance
- Confidence
- Satisfaction

- Motivational design
- Adult learners – self-motivated learners

# The ARCS Process Includes:

- Knowing and identifying the elements of human motivation,
- Analyzing audience characteristics to determine motivational requirements,
- Identifying characteristics of instructional materials and processes that stimulate motivation,
- Selecting appropriate motivational tactics, and
- Applying and evaluating appropriate tactics.


5 DO'S FOR ENGAGING YOUR STUDENTS
01
Stay Relevant.
All content, headings, and subheadings should be relevant to the course.
02
Stay Organized.
Keep the screen neat and clutter-free. You never want to distract the student from your content.
03
Keep it Interesting.
Both your content and your design should be interesting to the student.
04
Remain Up-To-Date.
Update your course often to ensure your content is always accurate.
05
Include Interactions.
Only add interactions that are necessary, such as links, videos, or file downloads.
?
digitalCHALK
http://elearninginfographics.com/engaging-students-in-elearning-infographic/

# Interest theory

- For engagement to occur, the activities or tasks must be personally meaningful (Hidi, 2000).
- This brings into play the importance of the instructor creating a class that can have personal meaning to the students as well as embracing the social aspects of learning.

# Self-directed learners want to know:

- what is due and when
- the purpose of the activity
- how it will be evaluated.
- They also want some say in when they work,
- expect what they need to be available when it should be, and
- often want to work ahead.

# Some of the more important design elements for a successful online course include

- **Start Here Folder** - promotes clear navigation
- **Instructor Introduction** - builds teaching presence
- **Student Introductions** - builds community
- **Class Management Statement** - spells nearly everything out for expectations both for the students AND for the instructor
- **Due Dates Link –** allows for self-directed learning
- **Organization and Navigation** - Content organized into folders in order to "chunk" course into manageable pieces and specific instructions included to guide student activity.
- **Discussion Are**as - one for each main topic, one for introductions, and one for off topic discussions if desired. - Contributes to both social presence and cognitive presence and when the instructor comments, then teaching presence is there as well.
- **Announcements** let students know that you are there and keeps them updated on class activities. (I also send as emails.)

- **Practice activities** - establishes cognitive presence

# Instructor Presence

- Direct – use multiple means of interacting with your students
  - Introduction: picture and video?
  - Discussion: not too early nor too much
  - Announcements: brief and timely
  - Email: as needed (more on this later)
  - Journals: private (instructor only), directed (rubric), 1st
  - Feedback: timely, positive, relevant, encouraging
- Indirect
  - Course Design
  - Course Navigation
  - Course Materials and Activities

  Your course is a reflection of YOU!

# Early Communication Builds Teaching Pressence

- Send an email to students BEFORE semester starts.
- Not all will see it, but those that do are greatly appreciative
- Post first in the discussion area – model what you want to see
- A welcome announcement telling them what to do first
- About this class – quick overview for orientation

# Mini-lectures

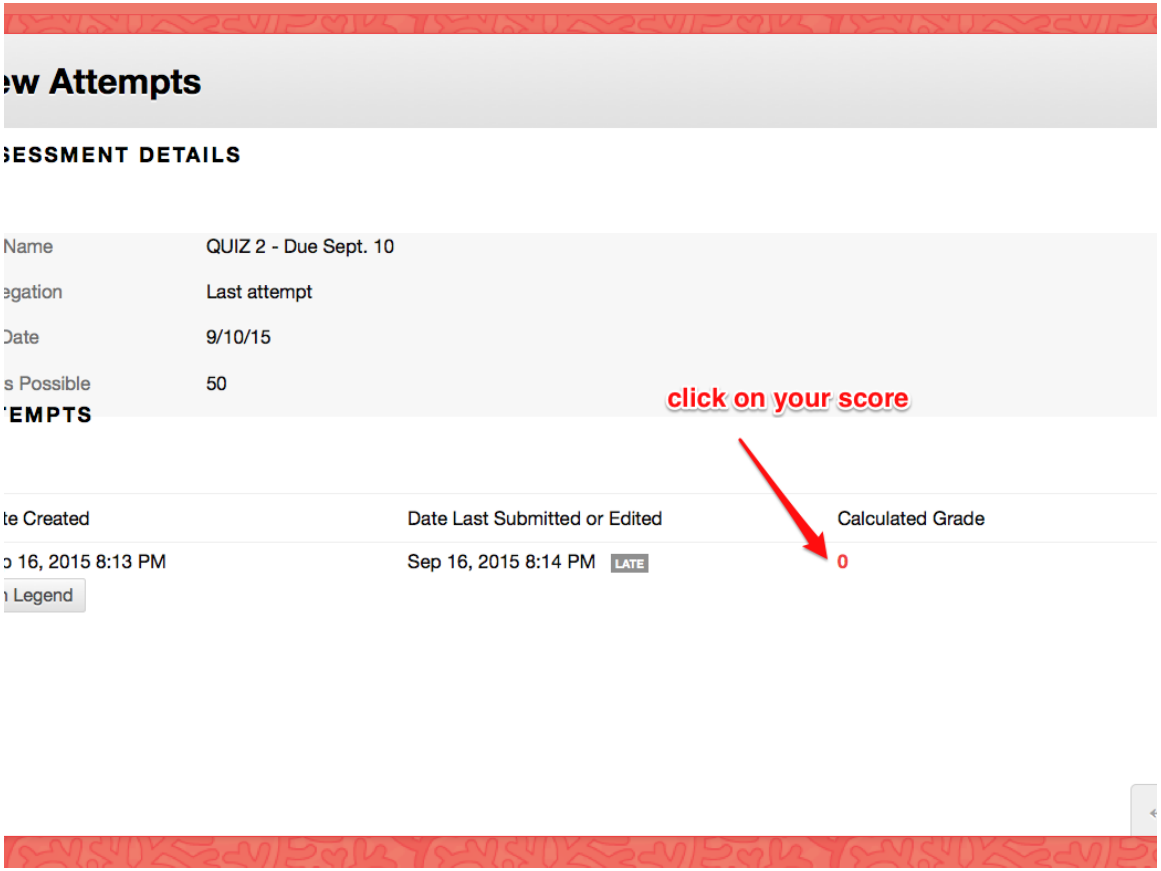
- Podcasts – keep them short – audio only
- Videos – if capturing live lectures – CHUNK THEM PLEASE!
- Tutorials – Skitch (also useful for navigation issues)
- Screencasts- Jing (free) Camtasia (purchase) Screencast-o-matic (free)

# Podcasts

- Audacity (FREE) software - allows you to record and edit sounds.
- http://audacity.sourceforge.net/download/
- Record an short talk for students to download and listen – a little music in the background spices up the podcasts.

# Voice over PowerPoint/Lecture Capture

- Articulate – Kind of expensive
- Camtasia – not so pricey
- Echo360 – very interesting and allows tracking of interactions (we are piloting this now)
- Kaltura – not sure of price
- Tegrity- not so good right now
- Top Hat - ?
- PowerPoint – anyone?




# Tutorials

Can be used to explain how to access course resources.

Annotated screen shots- easy-peasy.

# Immediate Feedback Promotes Self-regulated Learning

- Feedback is a vital part of the learning process during which misconceptions are corrected. It is most effective when the feedback is both immediate and in sufficient detail for the student to initiate corrective action (Waldrop, Justen & Adams 1986).
- With animations and computer models, the learner can obtain immediate feedback on his/her responses and incorrect answers can be changed as part of the acquisition of new knowledge.

# Course Management Suggestions to Encourage Self-regulated Learning

- Have several activities/assignments due very early, this shows your expectation for their behavior.
- Use Rubrics for scoring – this gives students guidelines to monitor their performance.
- Put your energy in at the beginning – correcting, adjusting, and explaining then students understand expectations and things move more smoothly the rest of the semester.

# Please note:

- There is NO ONE way to teach your course
- Each course is unique
- Each instructor is unique

HOWEVER

- Some consistency in structure and design helps students as they move from course-to-course

# Learning

- is a process  not a product.
- involves change in knowledge, beliefs, behaviors, or attitudes – over time and is lasting.
- is not something that is done to students but rather something that students themselves do.

*How Learning Works : seven research-based principles for smart teaching* / Susan A. Ambrose [and others] ; foreword by Richard E. Mayer.

# Student centered learning

- The responsibility to do the work is placed in the students' hands.
- Give them the tools, rules, guidelines, etc., but it is up to them to do the work.

# Building a community

- Discussion Boards
  - Guided Introductions
    - Who you are, your major, career goals, “one fun thing” and include a photo  (builds community)
    - Post first and model what you want to see
  - Module (unit, weekly)
    - Relevant – can vary (reinforces course content)
    - Grading Rubric provided

*Most important interaction in my study for promoting student success

# Discussions will be different

- Content heavy – i.e. science
- Tell me one new thing that you learned while reading the chapter.

# Grading Rubric for Posting (KISS)

**3 points total**

1 points if accepted by instructor

1 point for including page number

1 point for responding to another student's post. (Must be relevant and add to the content and not just an "I agree" type post.)

- (if your post is not accepted, you will receive an email from me and your post will be deleted). (See below for requirements for acceptance.)

# Accepted posts must fit the following criteria:

- aligns with the directions
- is unique (if someone has chosen your topic, you need to choose another one)
- is composed of at least three sentences
- has only minor grammatical and spelling errors
- is accurate
- is on time
- must include page number

# A Different Type of Post

- Tell us how you did on the Kinsey quiz.
  - Were there any surprises?

Rubric is more complex – but still not as complex as many.

| **Content** | |
|---|---|
| 5 | Discussion is thoughtful and supported with concrete evidence. |
| 3-4 | Discussion is thoughtful, but not supported with concrete evidence |
| 1-2 | Discussion is superficial and may or may not be supported with concrete evidence. |
| 0-1 | Discussion is limited and no evidence is presented. |
| **Context** | |
| 2 | Discussion is written in paragraph form and follows grammar and spelling conventions. |
| 0-1 | Discussion is not organized or does not follow grammar and spelling conventions. |
| **Interaction** | |
| 2 | Response is made to at least one other student post. Response is thoughtful and appropriate. |
| 0 | No response is made to another student's post. |
| **Timeliness** | |
| 1 | Posted on time. |
| 0 | Posted late. NOTE: your total score will be zero if you miss the deadline. |
| **10 possible** | Total Points Possible |

# Other student-to-student interaction possibilities

- Group work – group projects
- Course wiki
- Chat
- Peer evaluations
- Team quizzes
- Peer tutoring

# 7th principle of Learning

"To become self-directed learners, students must learn to monitor and adjust their approaches to learning"

- Eberly Center for Teaching and Excellence at CarnegieMellon

# Metacognition

- Thinking about thinking
- Higher-order thinking that enables understanding, analysis, and control of one's cognitive processes, especially when engaged in learning.
- In other words, the more we can teach students to be actively thinking about thinking as they learn, the more effective their learning will be. (Kuhn, 2000)

# Metacognition Tool –Journal

- After reviewing exams
- Private – Instructor only
- After reviewing your results for Exam 1 tell me:
  - 1) were you satisfied with your score?
  - 2) what did you do to study for this exam,
  - 3) what will you do differently for the next exam?
- After last exam
  - 3)what will you take with you from this class for your next science course?

Important to respond to 1st - see rubric

# Journal Rubric

- 3 points
- 1 point  for each question
- But to earn point – must answer questions 2 & 3 with specific activity
- Can earn missing point(s) with a second correct post
- Feedback I try to comment on first and others as needed

# Exam 4 Journal Post q 2 & 3 only

- For this exam I studied the powerpoints, taking notes and making flashcards, I did the homeworks and reviewed them before taking the test, I also filled out the study guide and had my roommates quiz me on it.
- From this class I'm going to take away that, redoing homeworks even not for a score, works really well for me as a study method and that I excell when studying multiples days in advance a little each day instead of doing a lot only a night or a couple nights ahead of time. Thanks for the semester!

# Another journal

- I am very satisfied with my score. This is the best score I have ever gotten on a test and I am proud of myself.
- To study for this test, I started studying early, I read through each chapter and took notes on them, and I reviewed the Power Point slides and homework.
- The concepts that I learned in this class will definitely apply to other science classes I may take in the future. I will use my knowledge to excel in the subjects that we learned about and hopefully learn even more. I will also take away study strategies that I used in this class. With such dense information (usually a lot of information in science courses) studying can be hard, **but over the weeks I learned how to study successfully.** Thanks for guiding us through this course over the semester! (my emphasis)

# Rubrics

- Scoring tool
- Reflects instructor's expectations
- Guidelines for students – promotes self-directed learning
- Promotes consistency in grading
- Reduces grading time
- Reduces "why this grade?" questions
- KISS
- Does take time to build but worth it

# Analytics for Metacognition

- How am I doing?
- Shows student how their performance stacks up against other students
- Self-regulated learning
- Metacognition

# How am I doing?

**BIOL-0271-03 Physiology (2016SP) - Online (03)**

*This report provides summary information about a single student compared to the other students in the same site. This report can help you see how much a student is using a site compared to the site cohort.*

**Legend**

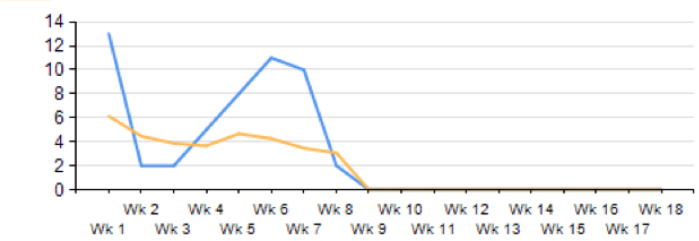
| | |
|---|---|
| > Avg. + 10% | Within Avg. +/- % |
| < Avg. - 10% | NA |

**Your Total Activity Compared to the Course Average**

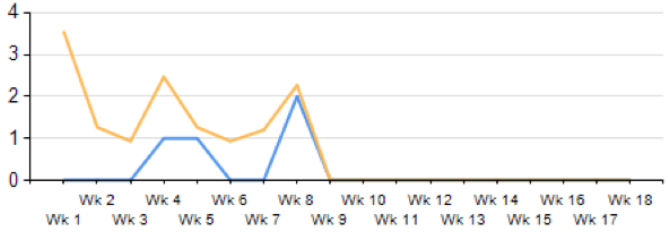
| | Course Accesses | Time in Course (Min.) | Interactions | Submissions | Grade Center Total Score |
|---|---|---|---|---|---|
| Student | 53 | 714 | 414 | 4 | You 48.6% |
| Avg. | 33.6 | 1194.6 | 513.4 | 13.9 | Avg. 76.9% |

**Your Course Accesses vs. Avg.**

Shelby Crowe Average:

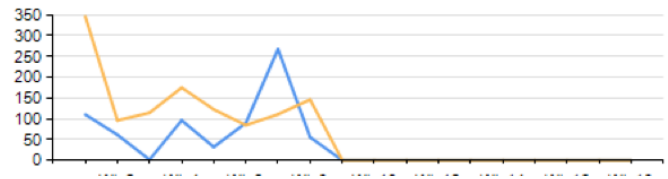



**Your Submissions vs. Avg.**




**Your Interactions vs. Avg.**

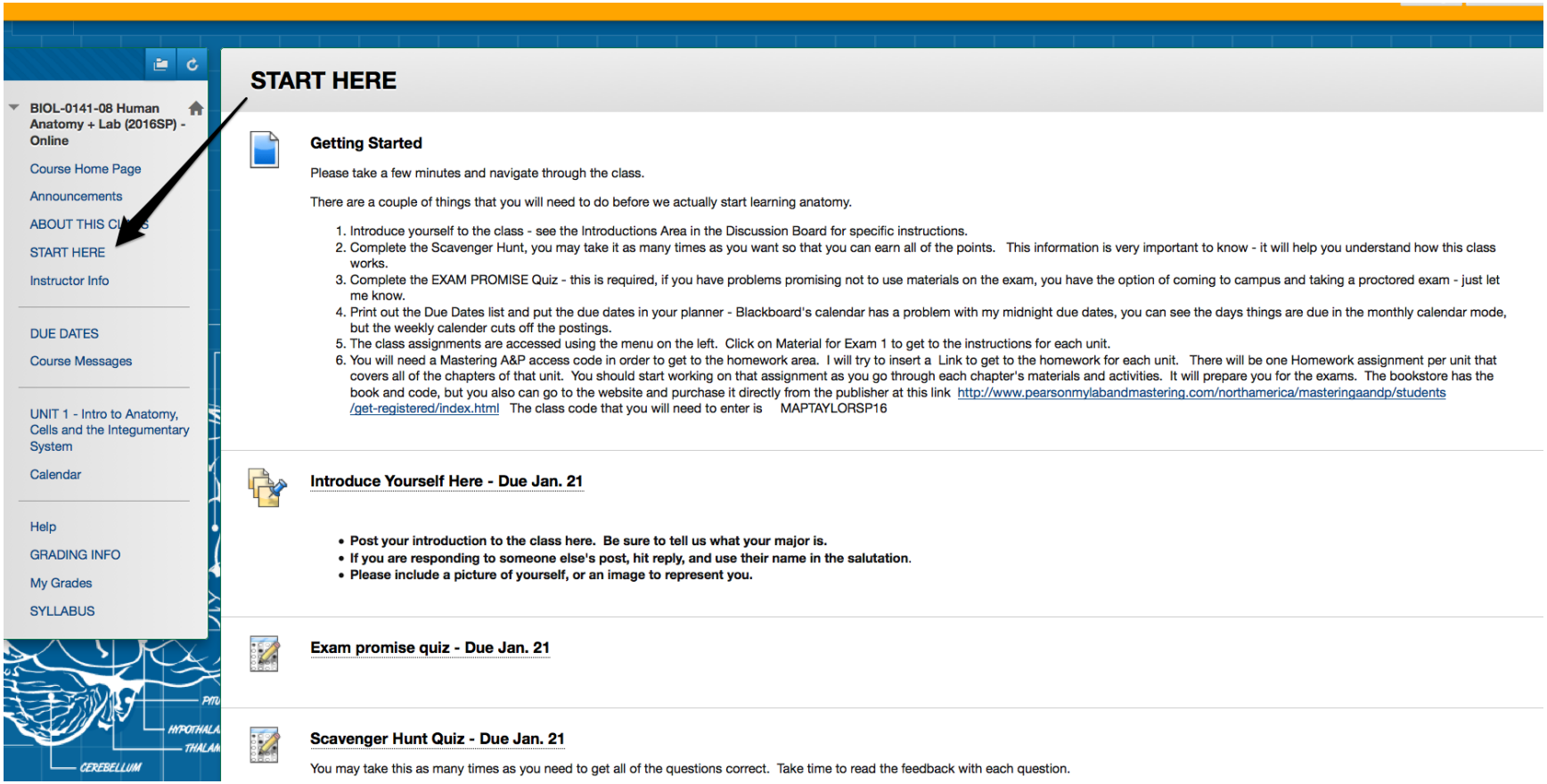

**Your Time in Course (min.) vs. Avg.**



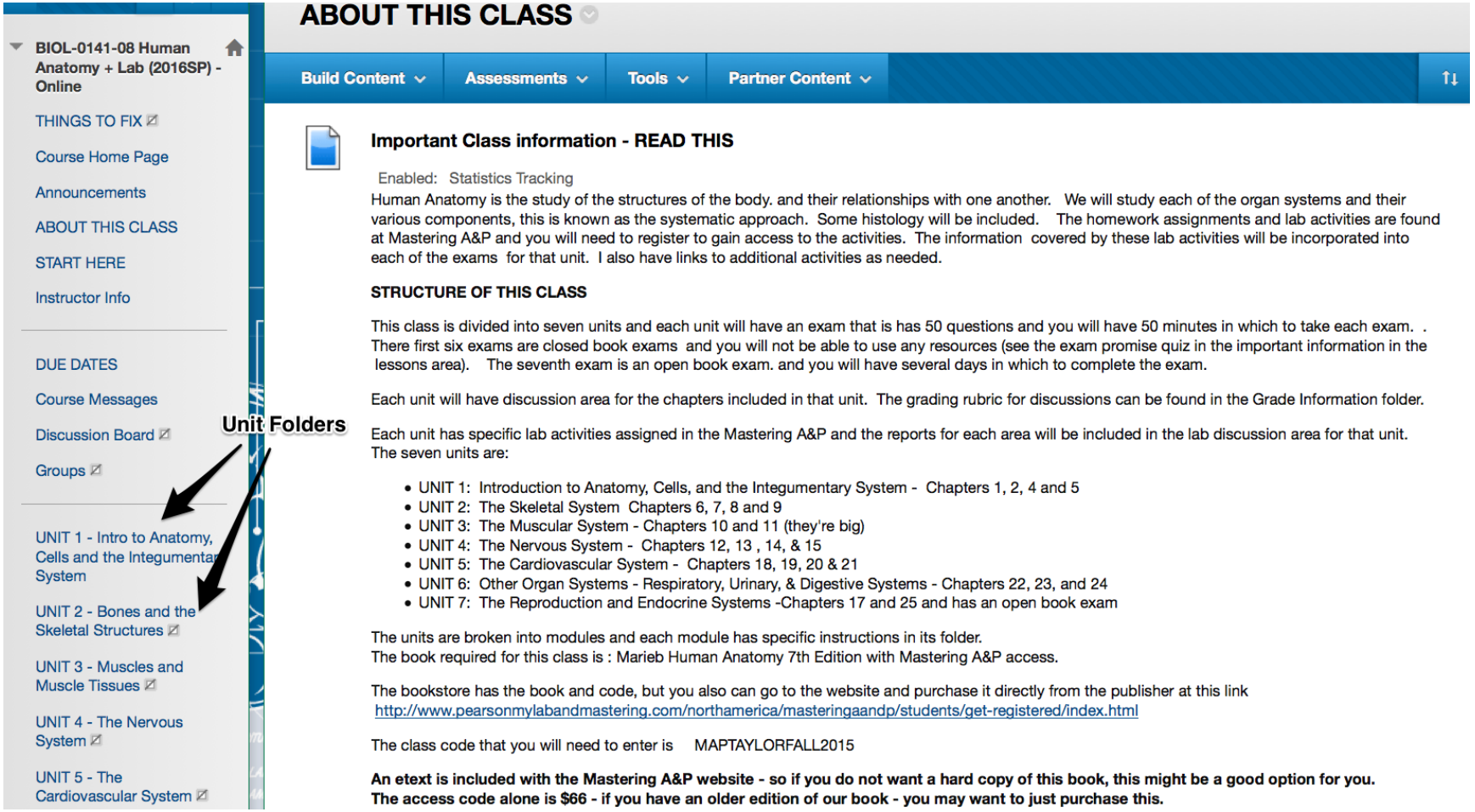
# Design Tools to Promote Engagement

- Start Here Page
- Folders for Chunking
- Clear navigation
- DUE DATE List and Link (self-directed learners want to know what is due and when)
- Scavenger Hunt Quiz
- Mini-tutorials – annotated screen shots (SKITCH)

# START HERE page– every course should have one



# Folders for Chunking and Easy Navigation



# Chunking

- *Chunking* refers to the strategy of breaking down information into bite-sized pieces so the brain can more easily digest new information.
- Working memory can accept only 5-7 pieces of new information at a time. Information must go through working memory to be assimilated into long-term memory.
- Think of this as a series of neurons (nerve cells) activating one another – neurons that fire together wire together.
- http://theelearningcoach.com/elearning_design/chunking-information/

BIOL-0271-01 Physiology (2015SU) - Online
ABOUT THIS CLASS
START HERE
Course Home Page
Announcements
McGraw-Hill CONNECT
DUE DATES

Material for Exam 1
Material for Exam 2
Material for Exam 3
Material for Exam 4
Course Messages

STUDY TIPS AND SUGGESTIONS
My Grades
Calendar

SYLLABUS
Help
Journals

# DUE DATES

MULTIPLE FORMATS

**Due Dates - PRINT THIS OUT**

Attached Files: 271 SU 15 due dates.docx (17.897 KB)

| DUE DATE | ASSIGNMENT |
|---|---|
| June 3 | Scavenger hunt quiz & Exam Promise Quiz Due |
| June 3 | Introduction in discussion area & reply |
| June 4 | Homework 1 and Mod 1 Discussion posting & reply |
| June 5 | Homework 2 and Mod 2 Discussion posting & reply |
| June 8 | Homework 3 and Mod 3 Discussion posting & reply |
| | |
| **June 10** | **EXAM 1 opens on June 8** |
| | |
| June 11 | Journal post for Exam 1 |
| June 12 | Homework 4 Mod 4 Discussion posting & reply |
| June 16 | Homework 5 and Mod 5 Discussion posting & reply |
| June 19 | Homework 6 and Mod 6 Discussion posting & reply |
| | |
| **June 22** | **EXAM 2 –opens on June 20** |

# Scavenger Hunt Quiz

- Points count towards grade – may take multiple times until full points awarded
- Important course information
- Not just syllabus information, but some “how to” things as well
- Forces finding specific details about course
- Example: Are you allowed to use your notes on test? Yes or no and then have feedback with correct answer.

# Scavenger Hunt Quiz

(can take multiple times in order to earn full credit)

Save All Answers | Close Window

**QUESTION 1**

Is it necessary to get the access code for Mastering A&P?

- A. Yes, that is where the homework is found and I've been there.
- B. Yes, but I haven't gone yet, but know I need to since that is where the homework is found.
- C. no.

**QUESTION 2**

Are you permitted to use resources on the exams?

- A. NO
- B. yes

**QUESTION 3**

Where are the instructions for the discussion posts found?

- A. There are discussion posts?
- B. In the lessons area under class assignments for each unit and chapter
- C. I don't know.

**QUESTION 4**

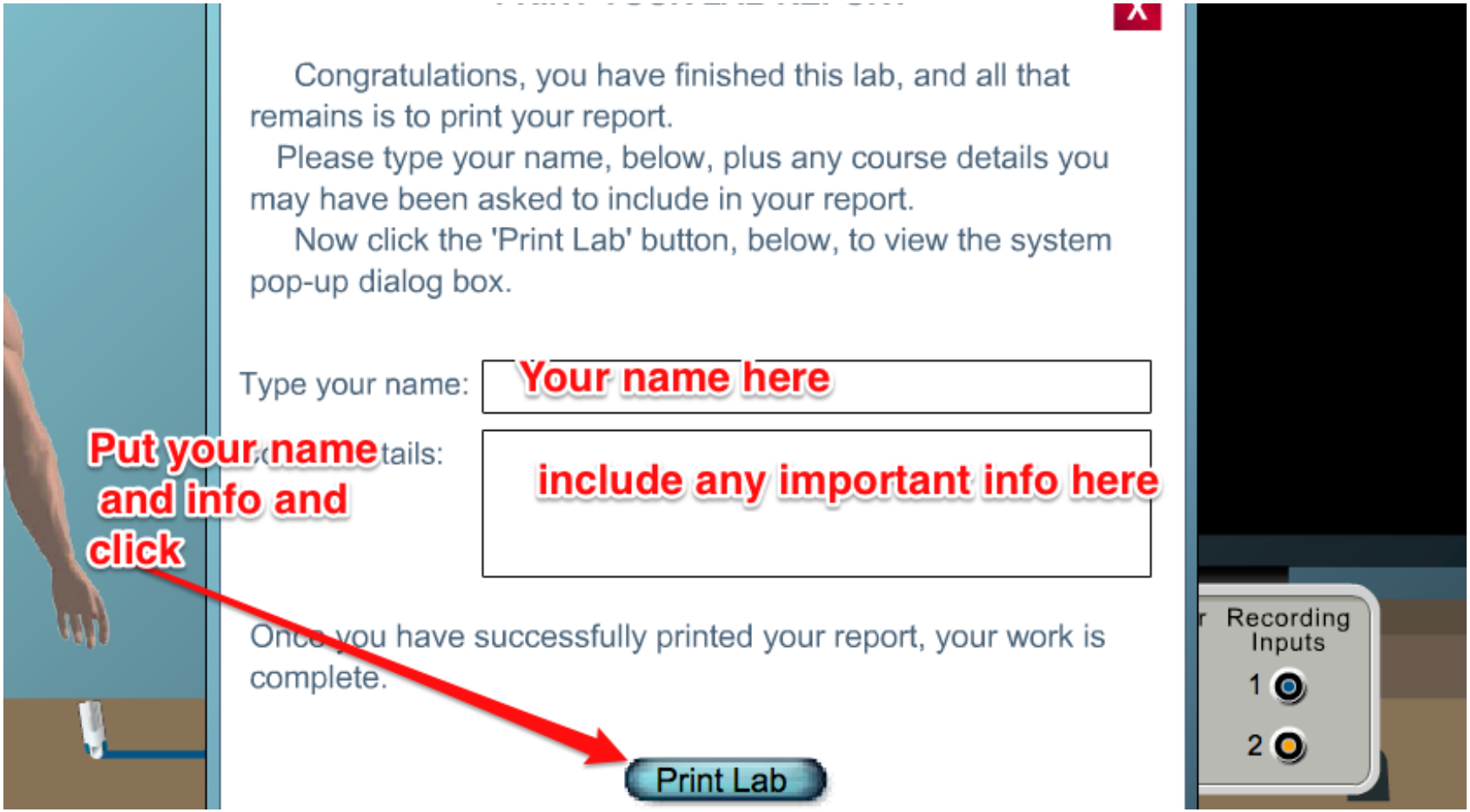
What do you need to do to see your grades?

- A. Come to the office

# TOOL - Skitch.com

- Can be used to develop tutorials
- Screen capture and annotate
- Because it requires Evernote, files are easily accessed
- Mobile friendly
- Needs to be installed – take screenshot, annotate, pull to desktop, insert
- Skitch.com  screen capture with annotations (need Evernote account) I used for this presentation and also use for step-by-step instructions for students

# Tutorial Example with SKITCH



# Warning!

- Don’t let technology get in the way of learning
- If the learning curve to use the technology is too steep then cognitive overload will occur and the student won’t learn what you need them to learn for your class.

# Practice Makes Perfect?

- As a neuroscientist, practice fascinates me because it is all about establishing pathways in the brain. The ability of the brain to form and re-form routes for specific thought patterns, and for those routes to become more deeply ingrained the more we exercise those thought patterns, makes it possible for us to learn and refine a multitude of wonderful skills throughout our lives.  Bill Jenkins, Ph.D.
- http://www.scilearn.com/blog/deliberate-practice-develops-expertise

# Quiz Tools

- Publisher provided – some are good, but all are expensive.  Helpful until instructor can develop own?
- Quizlet.com
- I've always suggested that students create their own – keeping a key so that they can check their work quickly.
- Gimp.com like Adobe Photoshop, but free to make your own images

# Interactive Tools Promote Engagement

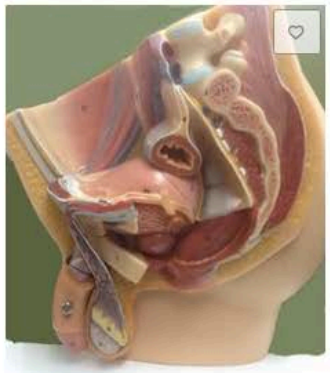
- Questions inserted into PowerPoint lectures -
- Thinglink.com lets you build your own interactions
- YouTube videos: search for content or build your own
- Practice Quizzes: formative tools - in Quizlet.com students can build their own quizzes and find others
- Interactive Homework – mostly publisher provided
- Scenario Based Learning and Simulations
  - Some are already out there
  - Build your own?

# Deb Taylor

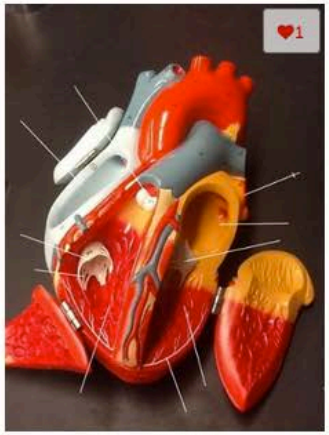
A happy ThingLink user.



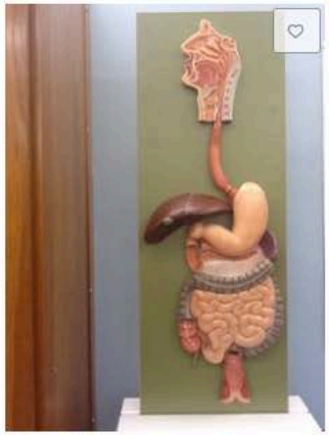
ADD NEW IMAGE



Male Reproductive structures
2 years ago

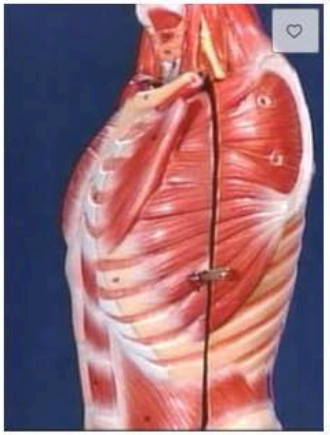


Anterior open heart
2 years ago

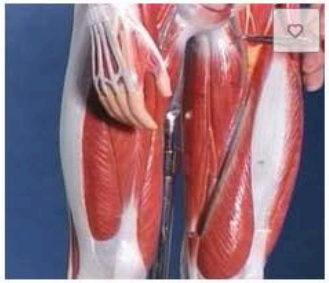


Digestive system
2 years ago

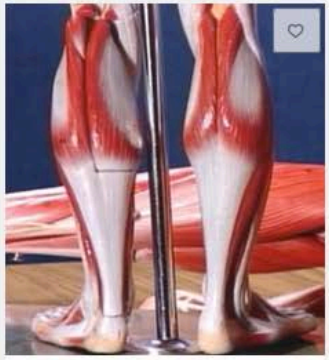
anterior respiratory model
2 years ago



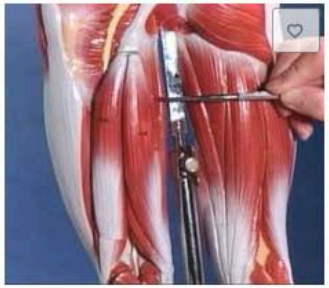
Lateral thoracic muscles
2 years ago



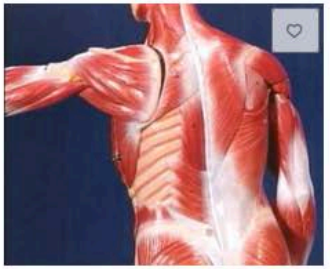
Anterior thigh muscles
2 years ago



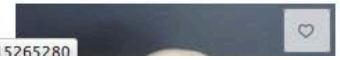
Posterior leg



Posterior thigh muscles
2 years ago



Superficial posterior muscles
2 years ago



# Learning and performance are best fostered when students engage in practice that

a) focuses on a specific goal or criterion for performance (again, learning objectives/outcomes),
b) targets an appropriate level of challenge relative to students' current performance, and
c) is of sufficient quantity and frequency to meet the performance criteria.

Specifically, research shows that the amount of time someone spends in deliberate practice is what predicts continued learning in a given field, rather than time spent in more generic practice.

(Ericsson, Krampe, & Tesch-Romer, 1993)

# Practice, Practice, Practice

- Formative assessments (not graded, but points given for doing)
- Homework over time (graded)
- If multiple choice questions on test then practice should be multiple choice, but if essay tests then essay practices.

# Publisher Provided (costly)

- McGraw-Hill
- Pearson
- Wiley
- Sapling Learning (still evolving)
- Others?

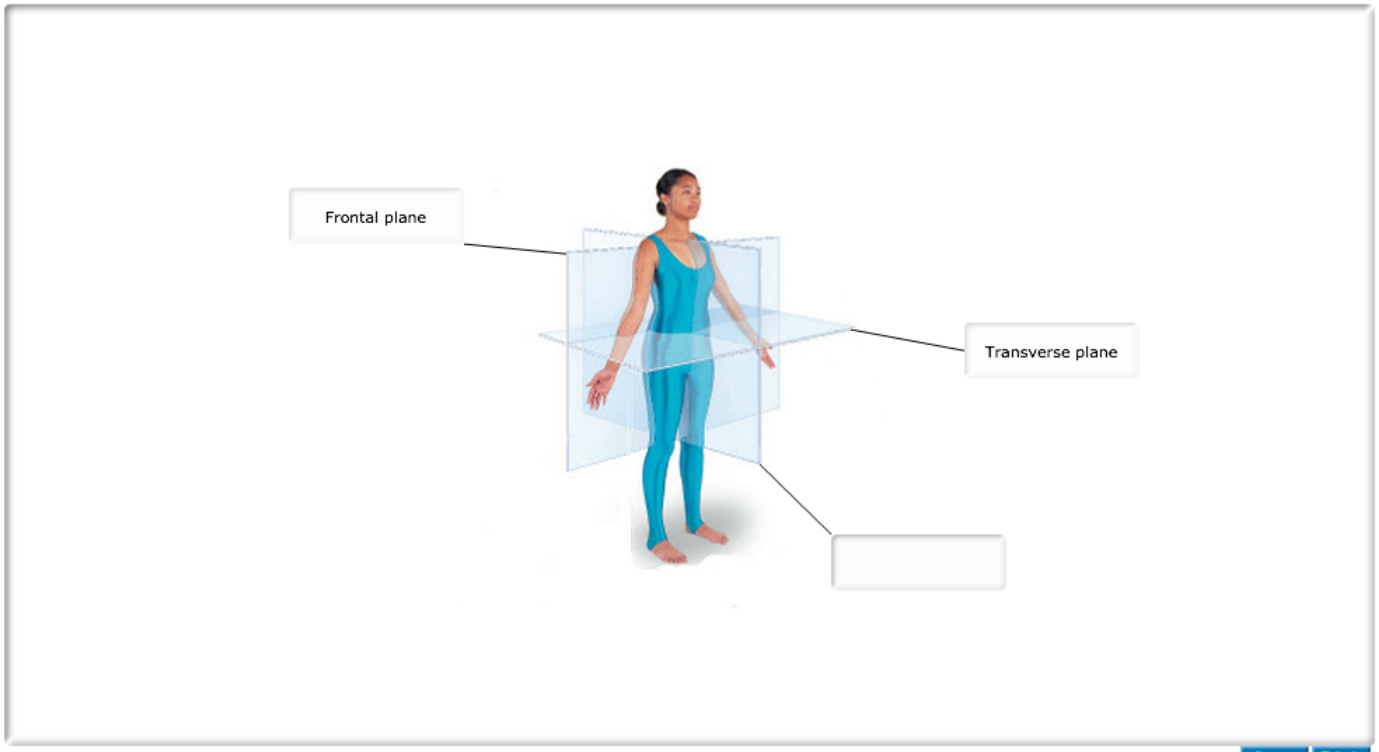
« previous | 10 of 20 | next »

**Item Type:** Activities | **Difficulty:** 1 | **Time:** 1m | Contact the Publisher **Manage this Item:** Standard View

## Part A

**Drag the appropriate labels to their respective targets.**

Median plane



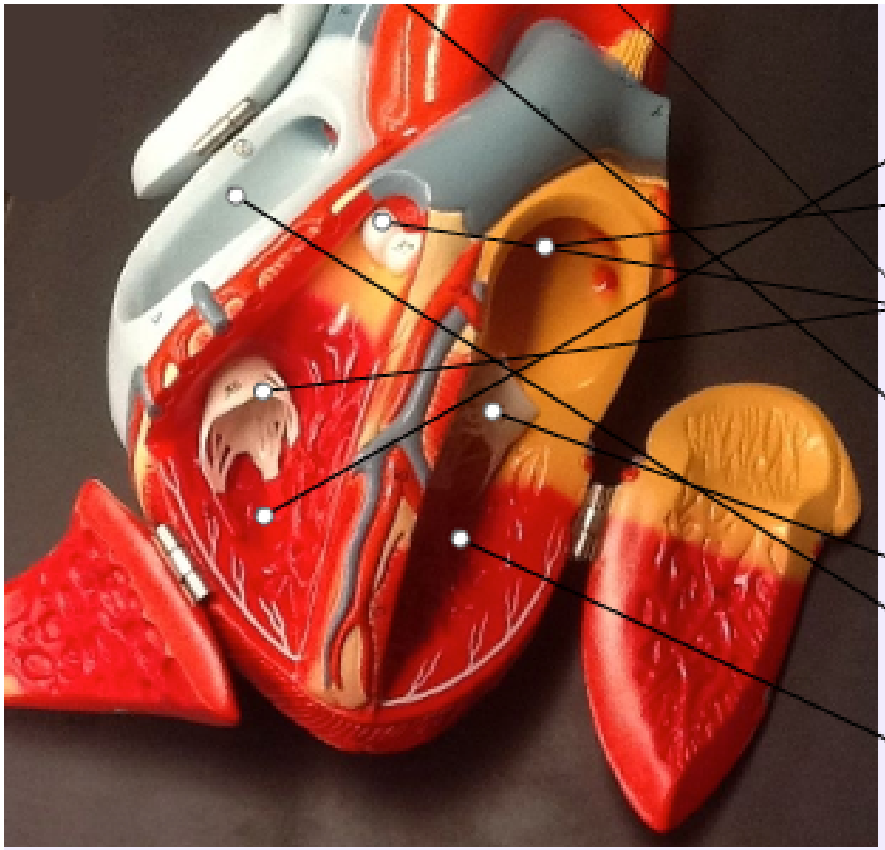

Submit My Answers Give Up

Provide Feedback Continue

# Build your own?

- Time consuming
- SoftChalk
- LMS?
- Test banks

# SoftChalk



right ventricle

left atrium

tricuspid valve

pulmonary semilunar valve

aortic arch

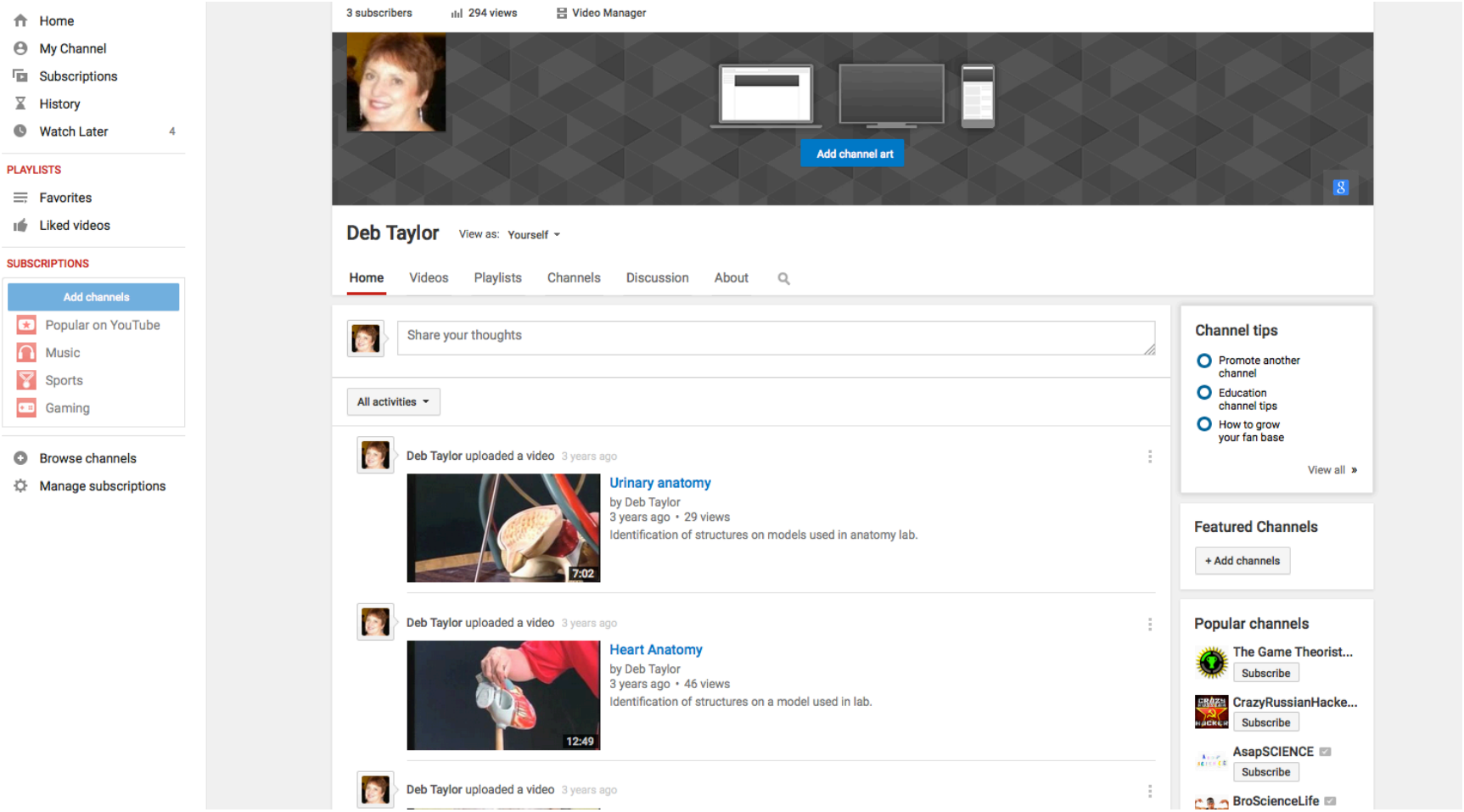
superior vena cava

bicuspid valve

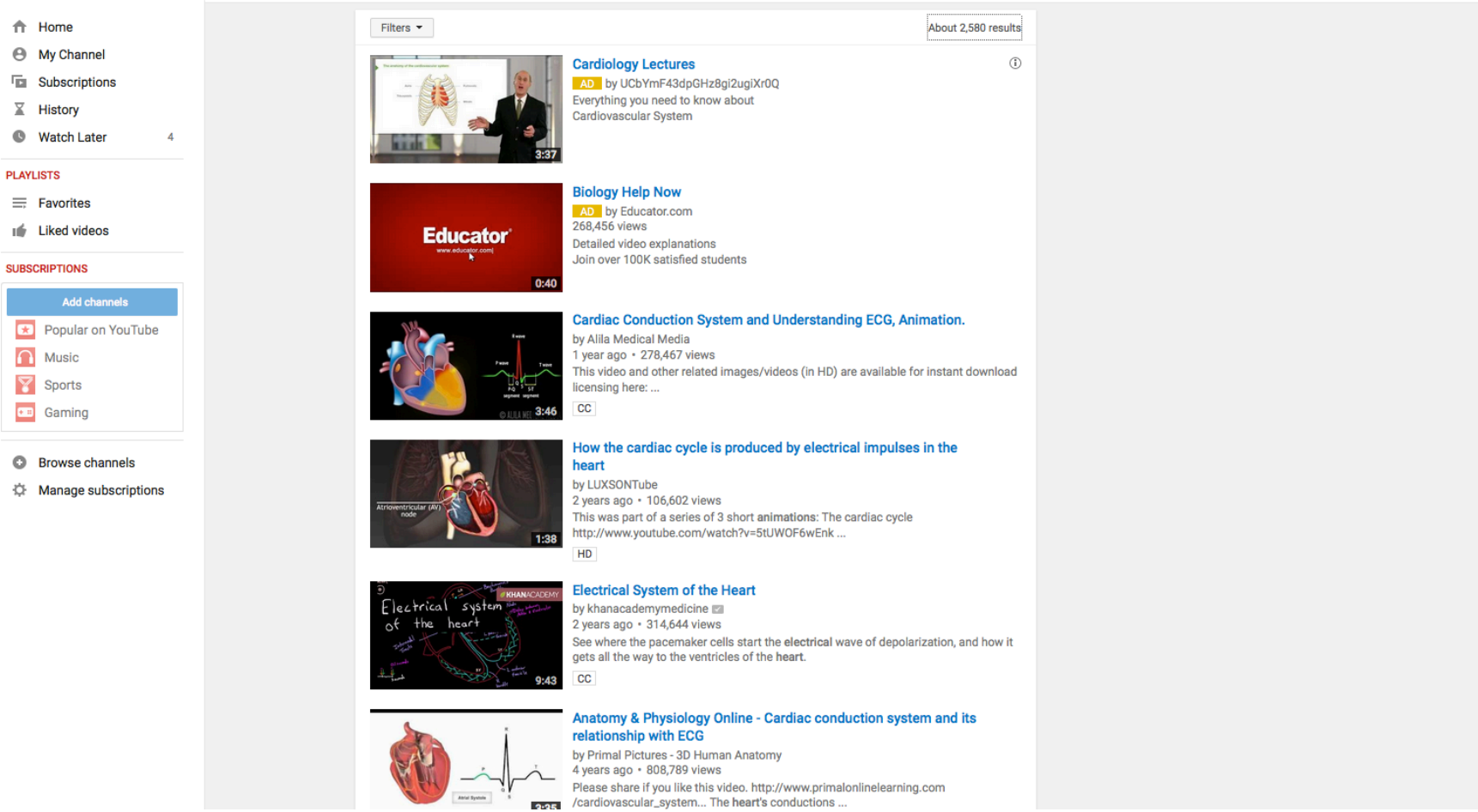
right atrium

left ventricle

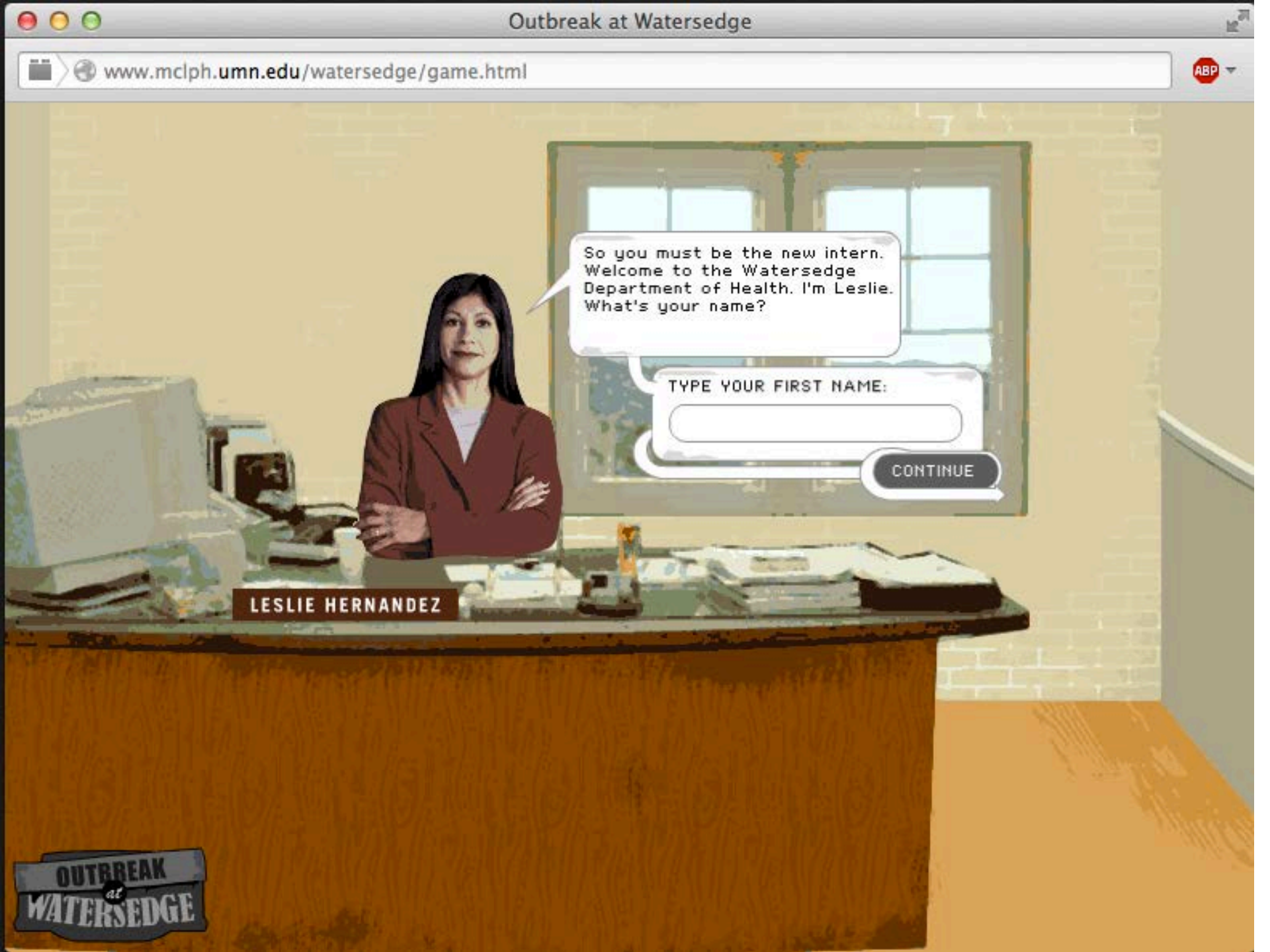
# YouTube – Your Own



# Or use others' videos



# Scenario Based Learning, Simulations, and Case Studies


Outbreak at Watersedge
www.mclph.umn.edu/watersedge/game.html
So you must be the new intern. Welcome to the Watersedge Department of Health. I'm Leslie. What's your name?
TYPE YOUR FIRST NAME:
CONTINUE
LESLIE HERNANDEZ
OUTBREAK at WATERSEDGE


Intro | Patient | Notebook | Quiz | Guide

## Cardiology Lab Introduction and Help

Welcome to the Virtual Cardiology Lab. The focus of
tool, and at each stage, the doctor will invite you to

Making a diagnosis is, in many respects, like detecti
of diseases and their symptoms. Since we assume y
tools. This information can be found in the "Basic Ca

### Learning Objectives

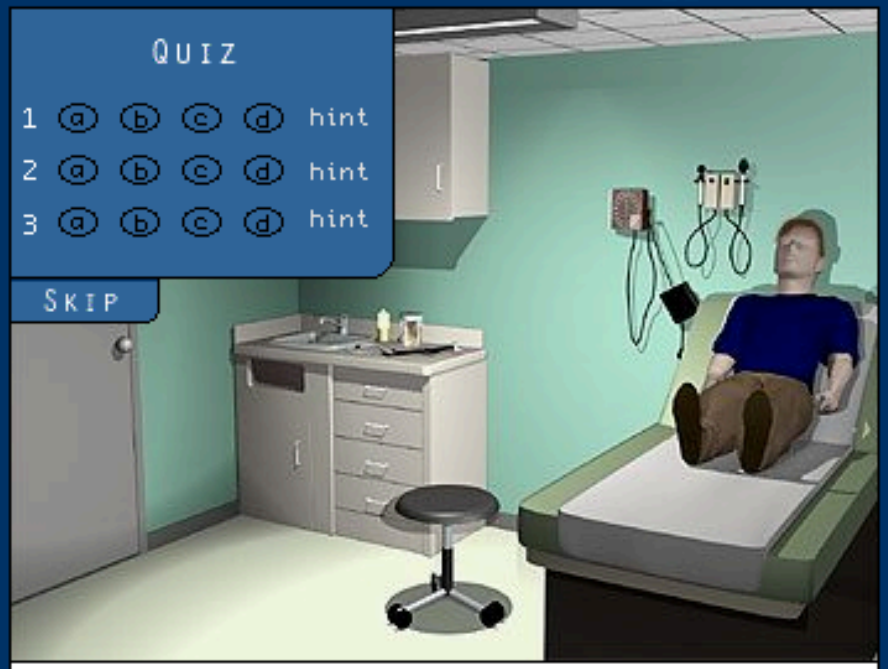
- Symptoms of a selection of heart diseases,
- Tools and techniques used for diagnosis. Wh
- Principles of pedigree analysis.

### Using the Virtual Lab

The lab interface is divided into two main areas: the
the lab notebook window will automatically update w

Icons below the tip window indicate the current secti

# HHMI Virtual Cardiology Lab




Use the Cardiology Guide and the Diagnostic Tools Guide to answer these questions on the auscultation exam and exam procedures.

Stetho

Intro | Patient B | Notebook | Quiz | Cardiology Guide | Diag Tools Guide

## Auscultation Quiz

(Answers to this quiz can be found by referencing the Cardiology Guide)

**1. When a doctor uses a stethoscope, what is being monitored?**

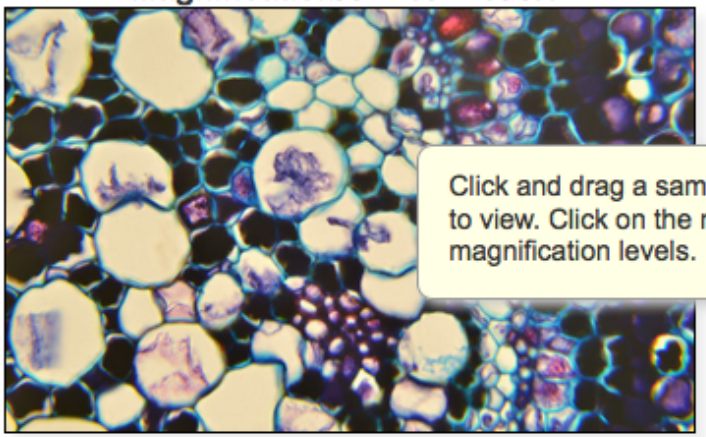
a) The sound made by the electricity spreading through the heart.
b) The sound made by the vibration of the heart and blood as pumping occurs.
c) The sound made by the contractile molecules of the muscles of the heart as they contract.
d) None of the above.

**2. Which of the following conditions can cause irregularities in the sound of the heart?**

a) Moderate bradycardia.
b) Mild mitral valve regurgitation.
c) Mild atherosclerosis of the coronary arteries.
d) Both a and b.

**3. What is a murmur?**

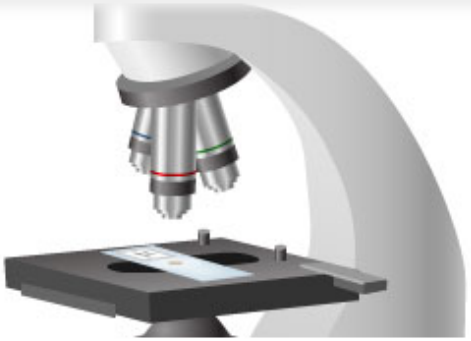
Magnification: 10 × 40 = 400X



Magnification: 10 × 4 = 40X

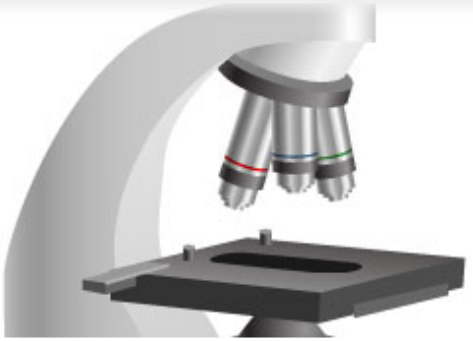
Click and drag a sample to the microscope to view. Click on the nosepiece to change magnification levels.

Fern root



Reset

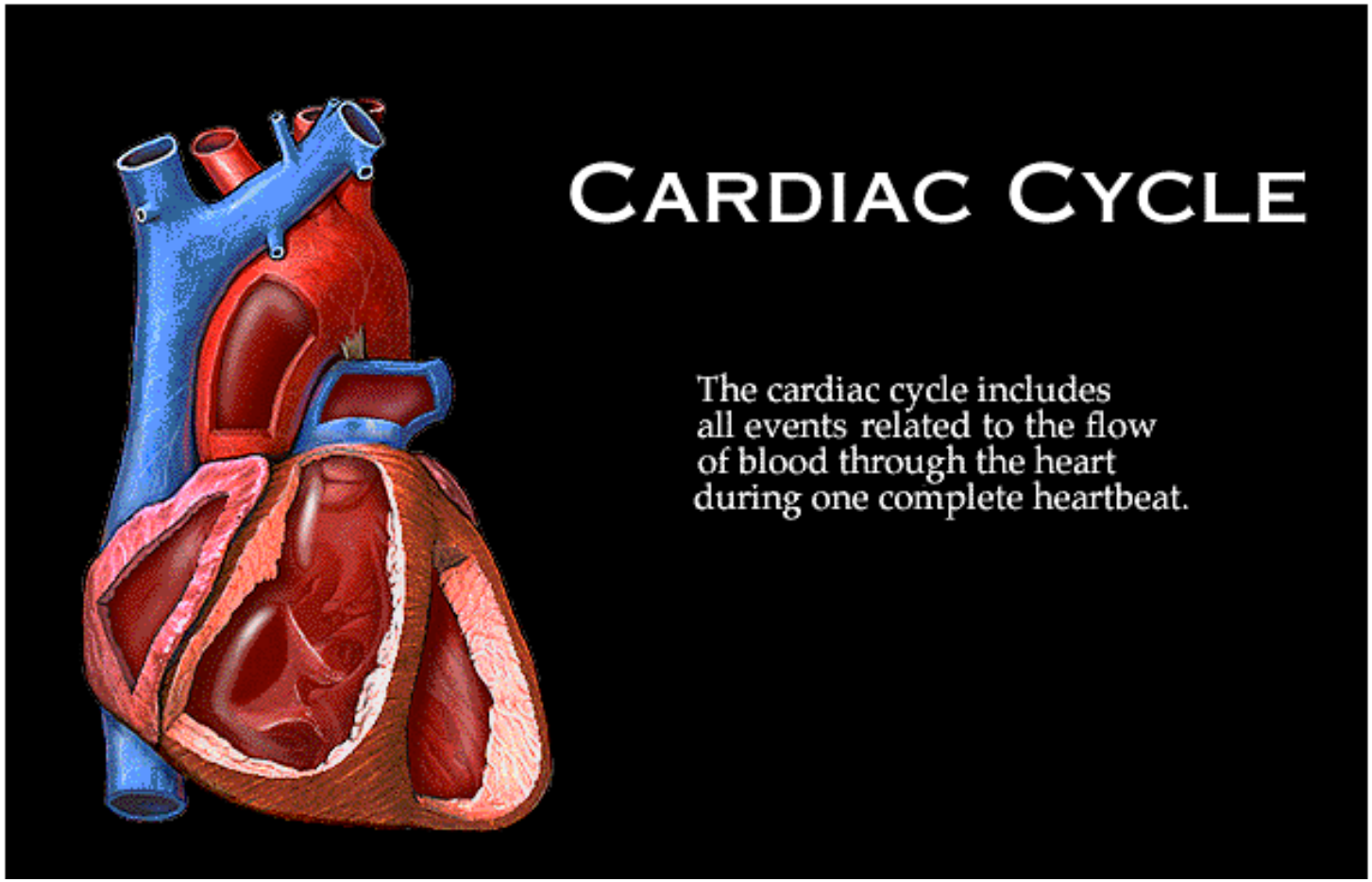
Help

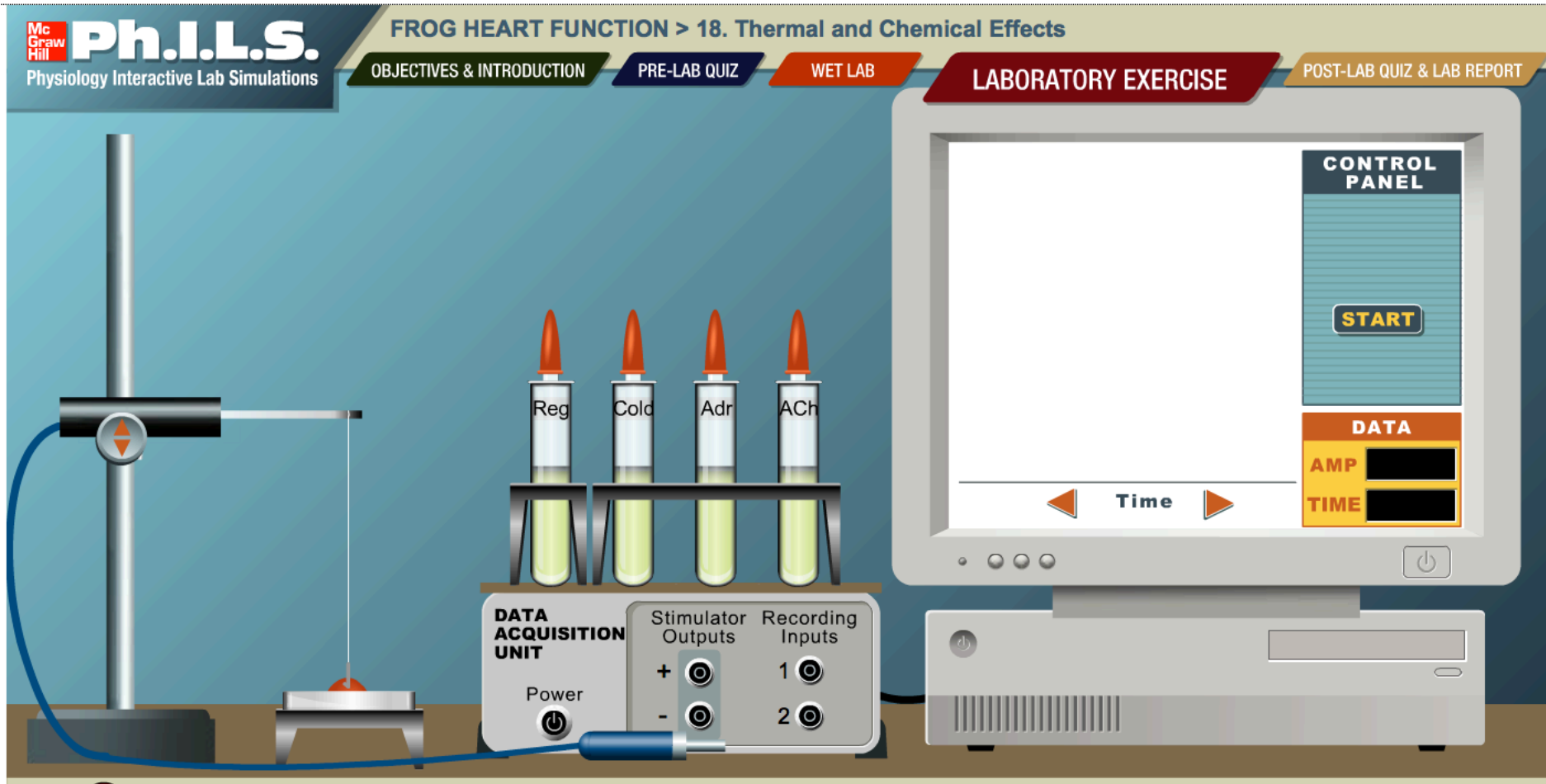


| Plant Tissues | Animal Tissues | Bacterial Samples | Unknown Samples |
|---|---|---|---|
| Fern root | Connective tissue | *Bacillus* | Unknown 1 |
| Fern stem | Cardiac muscle | *Coccus* | Unknown 2 |
| Cotton leaf | Motor nerve | Bulgarious | Unknown 3 |
| Female pine cone | Kidney | *Spirillum* | Unknown 4 |
| *Marchantia* archegonia | Ciliated epithelium | | Unknown 5 |

saplinglearning.com example

PREVIOUS
NEXT
REPLAY
RETURN FROM LINK
QUIZ
TOPIC MENU
GLOSSARY
HELP
NARRATION
ON
OFF
IPWEB HOME






STEPS: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 VIEW ALL

In this lab, you will apply different solutions to the exposed frog heart and monitor the contractions using a displacement transducer. This lab is composed of three experiments. In each experiment, you will use a pipette to add frog Ringer's solution onto the heart and then add a second solution which is either cold Ringer's, or a Ringer's solution containing acetylcholine or adrenaline. To start, click the power switch to turn on the Data Acquisition Unit.

Journal


Introduction

Quarantine office

Current view :: General Locations >> Quarantine office

**Possible actions for >> Quarantine office**

actions

collections

QUARANTINE INSPECTION PROCEDURES
AN INTERACTIVE LEARNING EXPERIENCE

# Quarantine Office

Move the cursor around in the environment window above. As you move over certain objects, a pop-up description will appear. Click on the object to find out more about it. There may be further actions associated with the object that you can take, that will help you progress the inspection process.

Certain objects (such as the Quarantine manual) should be collected to take with you through the rest of the scenario. You

# Find or Build?

- Finding – sometimes they are good, sometimes not.
- Building –
  - Articulate Storyline - $$$ (Windows only)
  - SBL Interactive http://www.sblinteractive.org
  - free- somewhat steep learning curve (Windows only)

# In conclusion

- It is possible to build an engaging course.
- Yes, it takes work and it takes time as well as a great deal of planning, however it is worth it when you see your students succeed.
- Any Questions?

- Thank you!

# Resources and References


- http://elearninginfographics.com/engaging-students-in-elearning-infographic/
- http://www.cmu.edu/teaching/principles/learning.html
- http://www.hhmi.org/biointeractive/cardiology-virtual-lab
- http://www.Saplinglearning.com
- http://shop.mheducation.com/search.html?searchQuery=Ph.I.L.S
- http://www.mclph.umn.edu/watersedge/game.html
- http://www.Skitch.com
- http://www.Thinglink.com
- *How Learning Works : seven research-based principles for smart teaching* / Susan A. Ambrose [and others] ; foreword by Richard E. Mayer.
- https://coi.athabascau.ca/

- http://www.scilearn.com/blog/teaching-metacognition-thinking-about-thinking
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- http://www.cmu.edu/teaching/principles/learning.html
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