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Using A Breakout Box to Encourage the 4Cs in the Classroom

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Using A Breakout Box to Encourage the 4Cs in the Classroom

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The practice and the need it addresses

What is a breakout box?

--Inspired by the escape room phenomenon, in which players work together to solve a series of puzzles and riddles using clues, hints and strategy to complete the objectives (e.g. leave the room within the time limit)

--A breakout box is a self-contained box with combination locks that are attached to solving puzzles or tasks for each lock. Students can work alone or in teams (or both) to complete content objectives or earn a reward ([Breakout.edu](http://breakout.edu)).

--I created one out of an old ammo can and used 5-digit alphanumeric Master Lock padlocks of different colors:



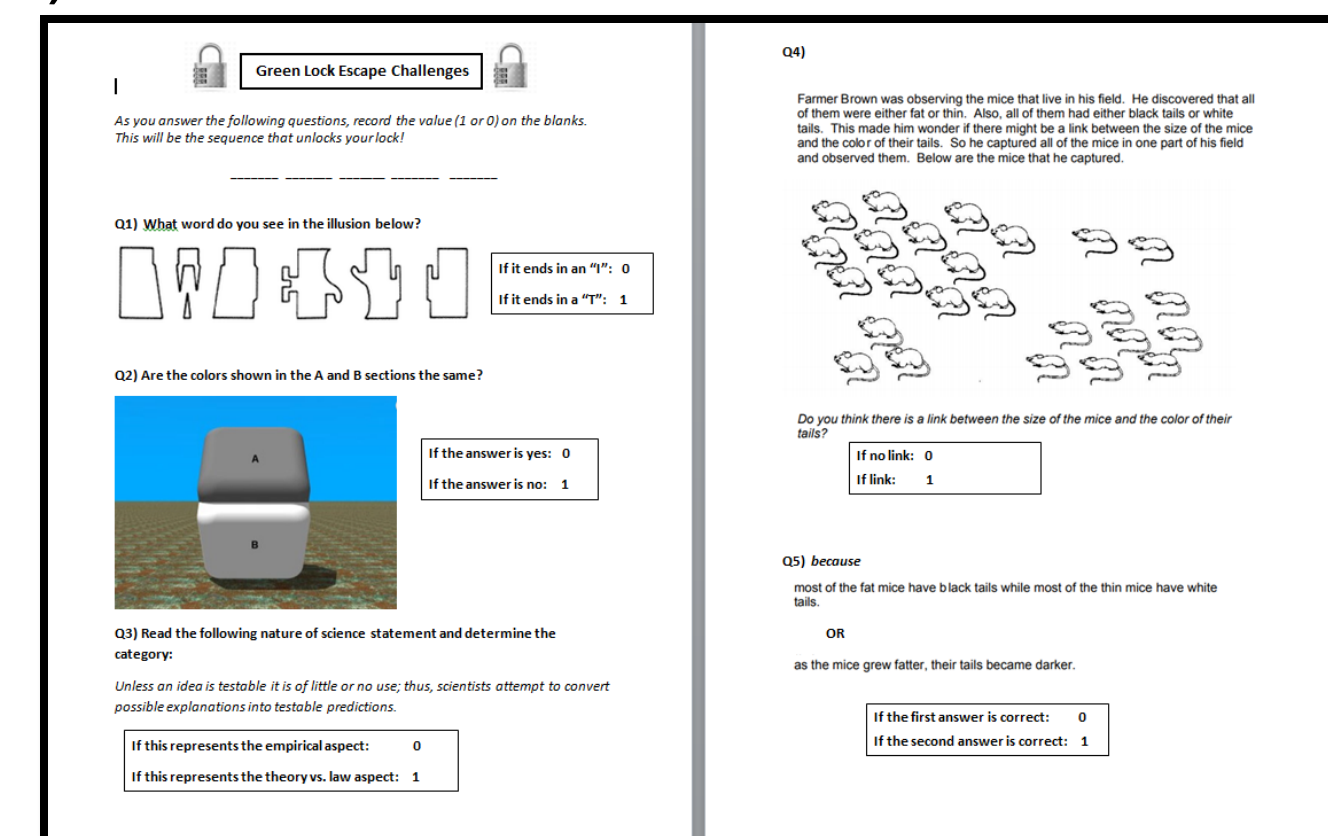
--Small groups can benefit from practicing the “4Cs” skills that will continue to be important in the 21st century (NEA, 2017):

Critical thinking
Communication
Collaboration
Creativity

Evidence this practice benefits UNLV Students

Using a breakout box in the classroom

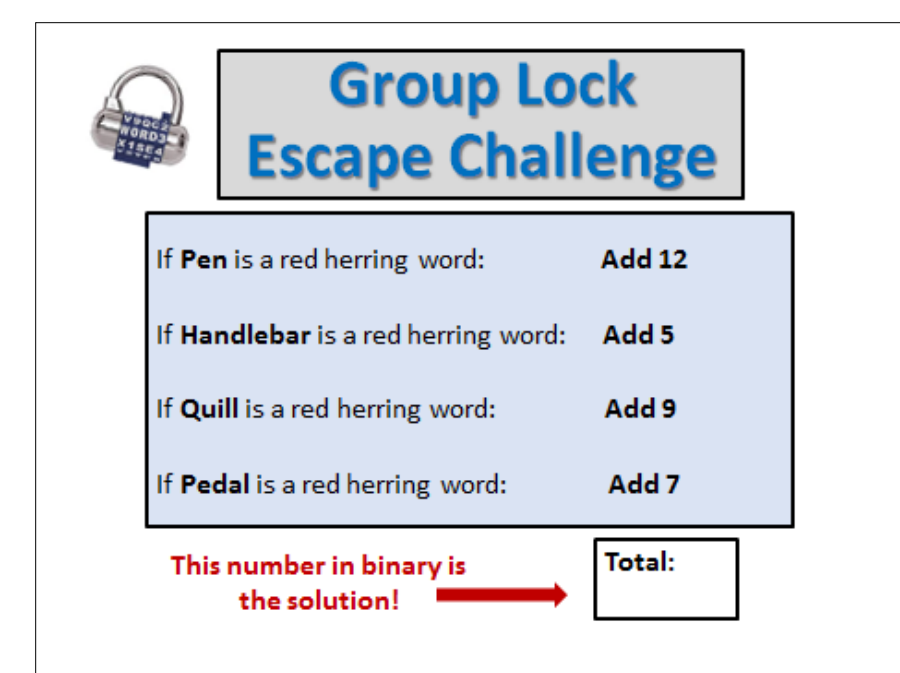
--I was enrolled in CIG 776 (Theoretical Foundations in Science Education) in Fall 2017, where I prepared a breakout box for my fellow doctoral students, with content-based puzzles to solve on the nature of science (our course content area):



--Students were assigned a colored lock, with a set of questions to solve to arrive at a code that opened their specific lock



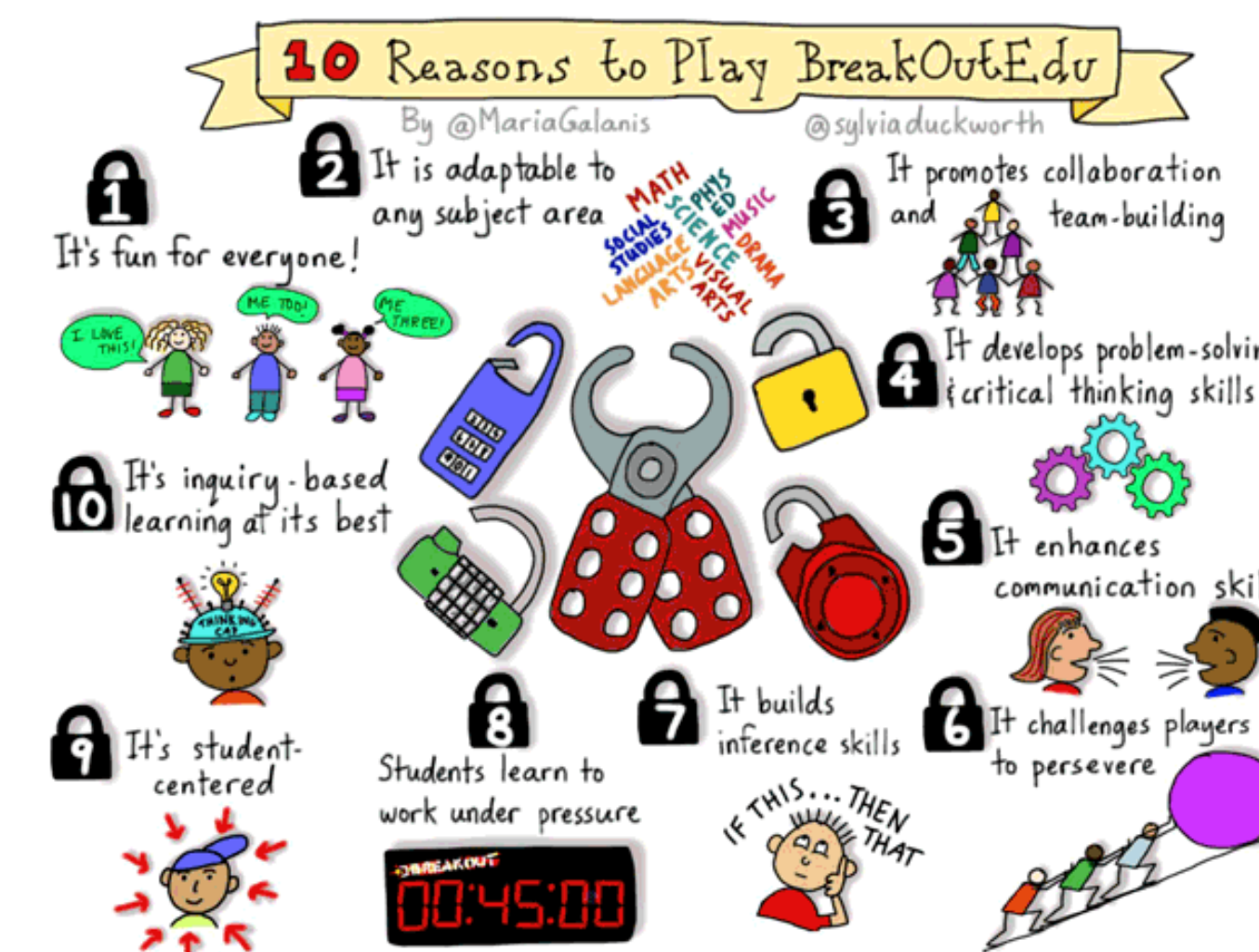
--Students also worked collaboratively to solve a group puzzle that served as the final lock on the box. When completed, they opened the box and revealed the reward!



Resources and where to find them

For information on breakout box activities:

Website:
<http://breakout.edu>



Article:
Breakout EDU Brings “Escape Room” Strategy to the Classroom (SLJ Review, Sept. 2016)
<http://www.slj.com/2016/09/reviews/tech/breakout-edu-brings-escape-room-strategy-to-the-classroom-slj-review/>

Article:
An Educator’s Guide to the 4Cs (NEA, 2017)
<http://www.nea.org/tools/52217.htm>

How other UNLV teachers might adopt this practice

The classroom possibilities are endless!

--A breakout box can be constructed from any container (e.g. clear plastic, tool box) and use a variety of locking options (e.g. numeric combination locks, keyed locks, hasp with individual locks attached, etc.)

--The puzzles/quests/tasks can be adapted for any content area and for a wide range of classroom sizes (although group sizes of 5 or less work best), and require one (or multiple) class periods to find the solution

--In the science classroom, the “code breaking” aspect also serves a metaphor for the endeavoring and problem-solving nature of science, in that the process:

- requires **multiple and varied steps** to achieve a solution
- uses **inference** to connect dots that are not readily apparent
- requires **creativity** and critical-thinking for solutions
- uses multiple senses to gather **evidence**
- requires **collaboration** and communication for effective solutions to complex problems

