

Breakout Boxes

A little booklet for my friends at HCPS.

Only to be used by those in HCPS.

Student remarks on benefits of breakout puzzles in my classroom.

-It is great at helping me to think outside the box. The answer is never obvious and I always have to think of what I know in a lot of different contexts.

-It makes me think more critically. You have to look at more than meets the eye; in the beginning, you take a look, and start to break it down into little pieces. I love problem solving and feel like I've become much, much better at it.

-They test your knowledge as well as your ability to work with others. My partners always see something that I don't see, and I always see something they don't see. They are fun and extremely challenging.

-They force you to think through all the possibilities and connections between things you've learned.

-They push us to use the knowledge we learned from the unit. They teach us how to take a big picture and find the smaller details. They also teach us to make new connections to what we already know.

-We often know the main goal of a puzzle. But the challenge comes when using our knowledge from the unit and critical thinking to break the puzzle into smaller pieces so we can decipher it.

-It helps us to build stronger meaning and retain the information we are given.

Purpose of this booklet:

Provide ideas for a variety of breakout games that are easy to make and implement in the classroom.

Breakout kits can be purchased through platform.breakoutedu.com for \$150. This includes access to an online platform in which you can make your own games. It also gives you access to already made games, including the following content areas:

- Science (82 games)
- Math (128 games)
- Social Studies (95 games)
- Language (96 games)
- Elementary (193 games)
- Library (21 games)
- Team Development (61 games)
- Holiday/Seasonal (54 games)
- Physical Education (6 games)
- The Arts (17 games)
- Computer Science (19 games)

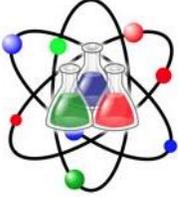
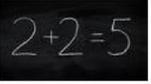
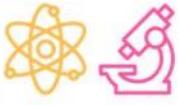
In some schools, you may be able to speak with a department chair/administrator/media specialist, etc... about purchasing a school or department kit. You could also make your own kit, purchasing supplies online.

The puzzles that I provide can be done easily without a kit if needed. Create a puzzle, and put each one into an envelope. Students have to solve on puzzle to get the second envelope, and so on. They may have to solve five envelopes in order to beat the game. The cost in that scenario is almost nothing, and still hits on the same points.

If you have any questions about games that I've made or would like to see some of my other puzzle ideas, contact me at ryan.bayne@hcps.org.

Common Themes

Instructions: Below is a puzzle. That's all I'm going to tell you. But within the puzzle is a secret code. If you can figure out the secret code, click [THIS LINK](#) and type in the code to get to the next page.

A 	B 	C 	D 
E 	F 	G 	H 
I 	J  Social Studies	K 	L 
M 	N  Writing	O 	P  READ

Concept:

The idea behind this puzzle is to find the odd item in each row. Each row has a common theme. The user must determine what the theme is and by finding the odd item out, they are able to generate the code.

To make this puzzle, I created a 4x4 table in Microsoft word. I inserted clip arts. The theme for each row was: Math/Science/Social Studies/Language Arts

Code:

BHIO

A breakout game on India

Siddhartha Gautama A	Eightfold Path B	Caste System C	Nepal ✕ D
Hindu Kush E	Tigris River F	Indus River G	Himalayas H
Hinduism I	Caste System J	Vedas/Upanishads K	Four Noble Truths L
Asoka M	Mauryan N	Gupta O	Hittites P

Another example of the previous puzzle. The themes in this puzzle (by row) are: Buddhism; Geographical landmarks in the Indus Valley; Hinduism; India leaders

I do not tell students what the theme is (or even give instructions). They have to find patterns within this.

Variations include doing the same puzzle, but by column; or a 5x5, 3x3, 6x6 grid, and so on. You could even arrange it so the puzzle spells out a certain word when they have the correct key.

Code: CFLP

True/False Puzzle

Hinduism is the third largest religion in the world, behind Christianity and Islam. (True: A False: Y)

The Indus and the Euphrates river are the two major rivers of the Indus Valley. (True: U False: S)

The Hindu Kush mountains are the tallest mountains in the world. (True: T False: O)

Hinduism and Buddhism both use the caste system, reincarnation, and the idea of karma in their beliefs (True: G False: K)

It is possible to reach the state of nirvana within one lifetime in Buddhism, but not Hinduism. (True: A False: R)

Concept:

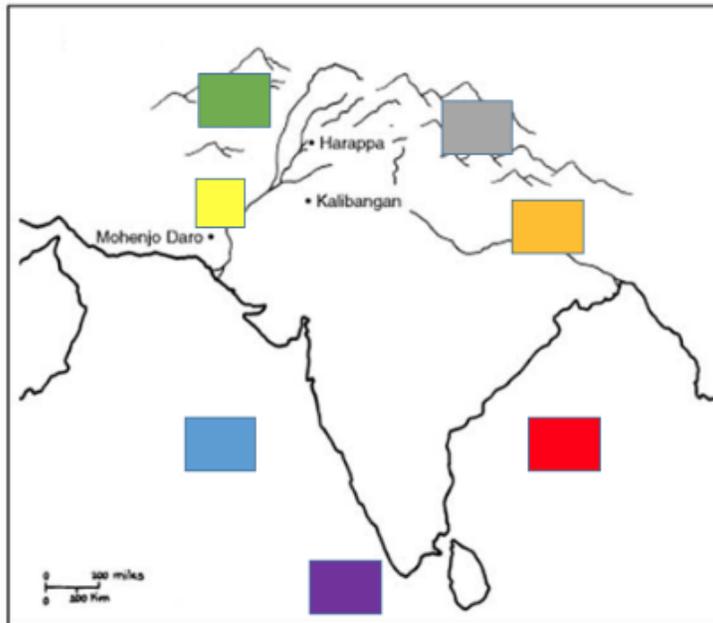
This is one of the first puzzles I gave to my students. They have to answer true/false for each question. Then, each answer is associated with a letter. The correct letter combination spells out the key. (In this case, ASOKA). This puzzle is not too difficult for students to figure out; however, I had them solve it before teaching most of the material.

Variation: The true/false answers may give them the correct letters, but not in the right order. Once they have the five correct letters, they'd have to unscramble them to make a word.

Another variation: Create two truths and a lie about multiple topics. Each truth/lie has a letter associated with it. They have to find the lie in each statement and use the letter associated with the incorrect statement. This could be really fun if students are not given instructions. They'd have to determine that in each set, there are two true statements and one false.

Code: ASOKA

Geography Theme

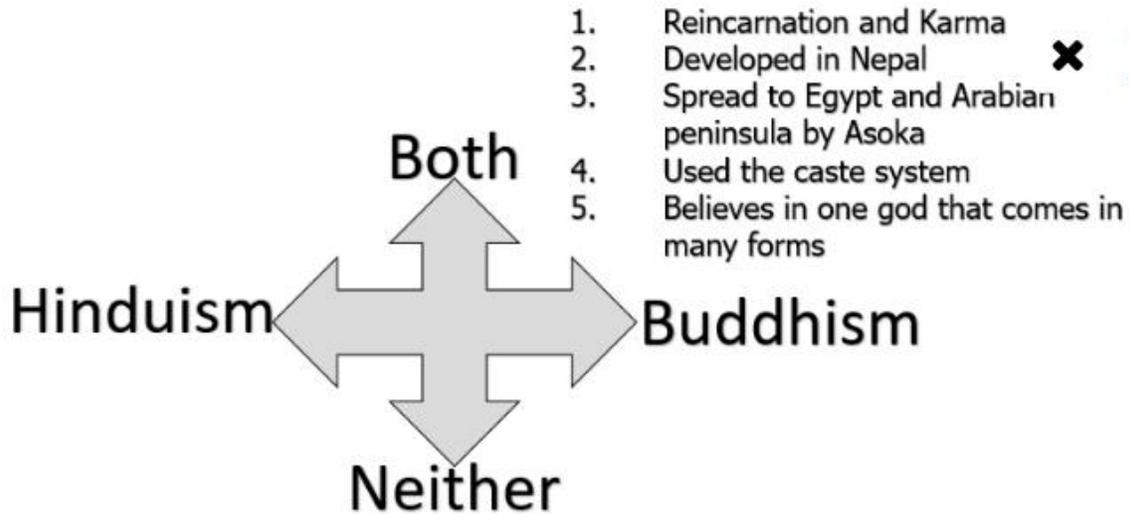


1. Arabian Sea
2. Himalayan Mountains
3. Hindu Kush Mountains
4. Indus River
5. Ganges River

Concept: Students knowledge of geography is tested. I copied an image of a blank map from google into a PowerPoint slide. Then, I listed five places I wanted them to identify. I inserted colored boxes (Insert the shape of a box) onto the map in various places. They must correctly identify each landmark by its color.

In this case, Blue-Gray-Green-Yellow-Orange

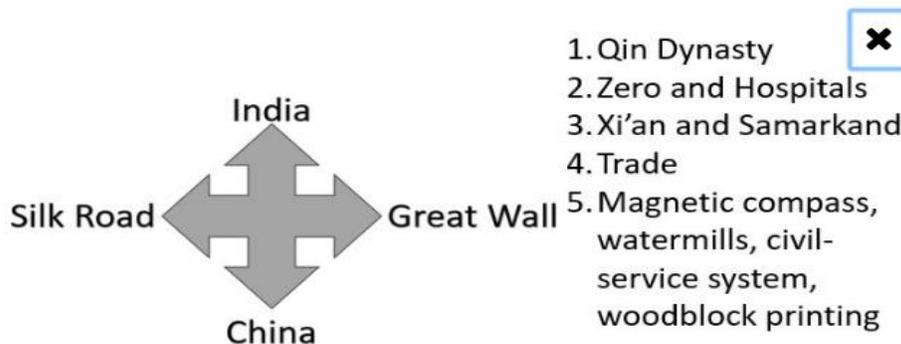
Directional Code



Concept: I inserted the multi-direction arrow into a blank PowerPoint slide. Then, I put a textbox on each side of the arrow with a different option. On the right part of the slide, I inserted a textbook with five descriptions.

Students are to sort which direction each description fits with.

Variations: Instead of both/neither, you may have four options from different units (China, India, Greece, Rome for instance). Sometimes I will include an option that **COULD** work with multiple directions, but **WILL** only work with one. Then, if the students do not enter the combination correctly, they have to think about which descriptions could have a second associated direction. In the case below, “Qin Dynasty” could work with ‘Great Wall,’ or ‘China’ for instance. However, it will only work for one.



No name, but brilliant

themo		ngo		lin		vad		ersat
tack								edthep
eo				plein				chin
ama				king				forave
rydif	fic					ultli		fein
theco				un				try.
thepe								opleo
f	_____	_____	_____	_____	_____			fea
red								them
on			go			lin		vad
ers!								

Concept: This puzzle was amazing, easy to make, and challenging for students to decipher. The idea? I wrote two sentences about a topic, but put a random amount of spacing at totally random places. If you read the message from left to right, ignoring the random spacing, it begins to make sense. Once the message begins to become clearer, the students use context clues within the message in order to fill in the blanks. The word used to fill in the blanks is the key.

Code: China

Hilarious message.

•!!!Snopaew taerg edam yeht. Aimatoposem fo
elpoep ecreif erew setittih eht!!!!

Concept: Super easy to make! Write a message backwards. That's it. In this case, I was thinking of a certain word. I wrote a message about that word, but did not mention the word itself. The message, when read correctly, is "The Hittites were fierce people of Mesopotamia. They made great weapons!" It is about their fierceness and their weapons. Based on that, the student must determine the word I am thinking of. In this case, it is iron—what the weapons were made of. In order to come to that conclusion, they first must figure out the steps to read the message properly, and then thinking of everything associated with this particular group.

For some really wicked fun, instead of having "Iron" as the password, you may have "nori" (Iron backwards). This is what I did, and I loved every minute of it.

Common Themes, another version

Sea – Plato – Alexander – Phidias - Hemlock

Pericles	Marathon	Draco	Zeus
Oligarchy	Monarchy	Philip I	Troy
Socrates	Sparta	Athens	Athena
Vote	Academy	Salamis	Democracy

Concept: This is for a color lock. At the top of the chart is five words. Then I created a table that is 4x4. They have to figure this out—each word at the top has one (well, perhaps more than one) word in the table that is connected with it. They have to figure out the associated word and determine the color of the associated word in order to pick the lock. This forces students to think critically about the connection between different words.

For instance, “Sea” – the battle of Salamis was fought at sea. Therefore, the first part of the combination is red. Plato started the Academy (Purple), but also was taught by Socrates (Green), so it could be either—but only one will work. They have to take note of which words have multiple possibilities in case the lock doesn’t work.

Geography Theme/Directional Code

- From Mesopotamia to Egypt 
- From Egypt to Indus valley
- From China to Mongolia
- From Tigris to Euphrates
- From Upper Nile to Lower Nile

Concept: This is a geography test. To make this, I simply put these phrases into a PowerPoint slide and used "Snipping Tool" to make a picture of it. Students see this and had to solve a directional lock. The combination was based on where one location was in reference to another. Oh, and to make the game even more exciting, I did not give students a map.

(Left/Right/Up/Left/Up)

Another Variation of Common Themes

Triangle	Circle	Star	Square
Phidias	Draco	Solon	Pericles
Athena	Aeschylus	Artemis	Apollo
Doric	Delian	Ionic	Corinthian
Socrates	Aristotle	Philip II	Plato
Thermopylae	Marathon	Salamis	Aegean

Concept: This is a shape lock, created by making a 6x4 table. The top column lists four shapes. Students have to figure out that each row has a common theme (the theme in the first row is government leaders of Athens). They have to pick out the odd one out in each row (Phidias in the first row). Then, they have to see what 'shape' column he is in (Triangle). They do this for all five rows and they can open the lock.

This is difficult because they tend to lock down columns rather than rows at first. They'll get it though!

The Equation

6 Matching questions

_____ Peloponnesian War	1) Marathon, Salamis, Thermopylae
_____ Persian War	2) Athens vs Sparta
_____ Trojan War	3) This led to a caste system being set up in India
_____ Aryan Invasion	4) This led to the people of China building a great wall
_____ Mongol Invasion	5) Led Greece to take over Persia, Egypt, and India.
_____ Alexander Conquest	6) Dardanelles Strait, the Odyssey, the Iliad

Mongol Invasion (Alexander Conquest (Trojan War + Peloponnesian War))*(Persian War + Mongol Invasion + Aryan Invasion)

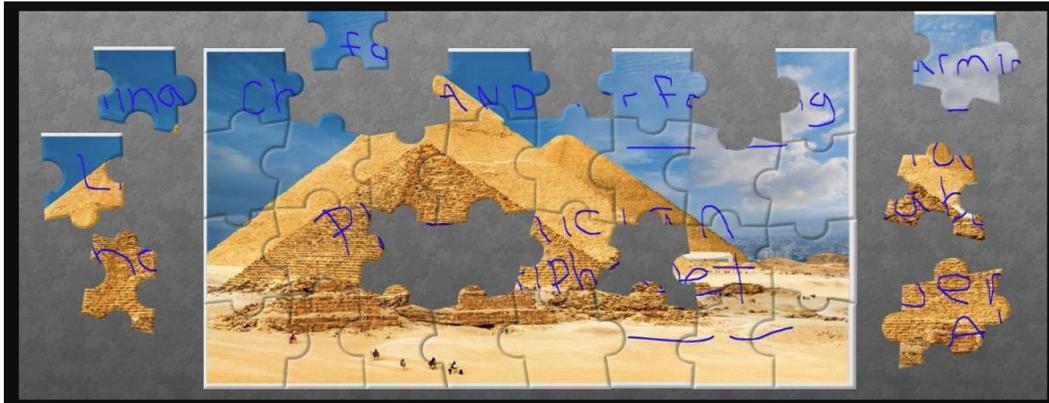
Combination: _____ ??? _____

Concept: This is brilliant! They have to first answer the matching questions. Once they do that, they have to plug the correct numbers into the equation below (Mongol Invasion would be '4' so every time "Mongol Invasion" appears in the equation, they put a '4' into it).

This is cross-curricular. They need to know the order of operations (and for that sake, so do I!).

See if you can figure out the combination!

The Puzzler



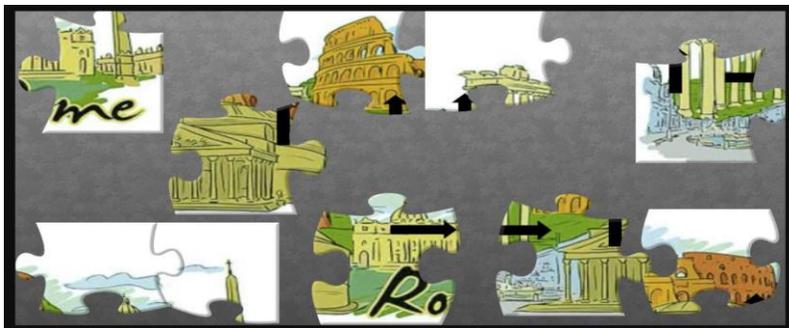
This is the final puzzle that I will give to you.

Concept: I copied an image of Egyptian pyramids into PowerPoint and wrote a message on it. I saved the picture file using 'Snipping tool' and imported it into [Jigsaw Planet](#). You can specify how many pieces and so on. Then, it generated a puzzle.

My original idea was for students to drag the pieces into the correct spot so they could read the message. Then, I thought, "That would be too nice." Instead, I put some pieces together and laid out the rest so they could see them. I used snipping tool to create the picture you see above, and saved it as a picture file.

The goal is for students to be able to visualize the entire thing put together. Once they can (and they do), they will see the message: "China land for farming... ___ ___; Phoenician Alphabet - ___ ___" From there, they will have to make their associations – about 10% of China land is good for farming, and the Phoenicians developed a 22 letter alphabet. Combination is 1022. Yes, they figure all this out.

Another puzzle example is below—put together a Roman puzzle and get a directional code.



The Word Scrambler

Roman Beginnings!

LAUG

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4

GUASUTSU

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6

SILJUU

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7

LIBPEANES

--	--	--	--	--	--	--	--	--

5

CATITNENNSO

--	--	--	--	--	--	--	--	--	--	--

MDSIJAU

--	--	--	--	--	--	--	--

3

XAP ARMAON

2

CUIBEPLR

--	--	--	--	--	--	--	--

1

--	--	--	--	--	--	--	--

1 2 3 4 5 6 7

Fine. One more.

I typed in key terms into <http://discovery.puzzlemaker.com> and it created a word scramble for me. They unscramble the words, and it leads them to a bonus word at the bottom. That bonus word is the key. This is a great way to introduce a new vocabulary word.

The PigPen Cipher

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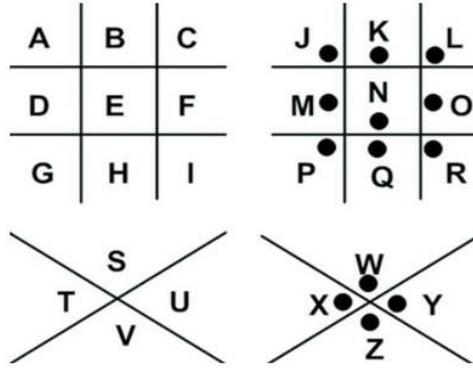
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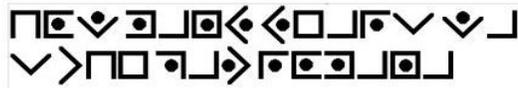
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Last one. I used the snipping tool a lot on this one. I googled “Pigpen Cipher” and snipped a picture of the cipher you see above. Then, I googled. “Pigpen translator” and <http://crypto.interactive-maths.com/pigpen-cipher.html> came up. I typed a message into it (in English), and it translated it for me. I snipped a picture of the translation and put it in a PowerPoint slide right below the cipher (see above). I put question marks on both sides of this slide because I knew the students would be thoroughly confused (and I loved every minute).

See if you can figure it out. By the way—it’s a question. Once they decipher everything, they need to answer the question, which is the code.

Links: These could be helpful in creating some of the puzzles mentioned in the previous pages.

[Discovery Puzzlemaker](#) (Create your own Word Searches, Cryptograms, Scrambles, etc...)

[Jigsaw Planet](#) (turn an image into a puzzle. Use 'snipping tool' to create an image of it.)

[Platform.breakout.edu](#) (Scroll down to their digital games and get ideas for your own)

[Pinterest](#) (type in breakout box ideas; they'll have quite a few).

[Pigpen Cipher](#) Your students will LOVE you for this one. Maybe.