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Breakout Edu:
It's Time for Something Different

Breakout EDU

"It's time for something different"

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What is BreakoutEdu?
BreakoutEdu is a game based learning activity that "transfers the ownership of learning from the instructor to the student, making it easy to observe how learners approach problem solving and apply their knowledge." It is like an Escape Room activity. The games can cover any subject area and any grade level (up to & including adults). Teachers facilitate the games and students use critical thinking and cooperative learning skills to solve puzzles and challenges about a topic or topics. The solutions to the puzzles and challenges are combinations to various types of locks keeping a lockbox closed. The point of the game is to open all the locks and the lockbox before a set time has expired (usually about 45 minutes). The purpose of the games is to give students a fun, motivating way to learn or review content. "A Breakout EDU game provides learners with many opportunities to fail forward. Every unsuccessful attempt to open a lock forces the player to try again."

How do I get started?
First go to the BreakoutEdu.com site. There are a multitude of resources and instructions on the site. On the "What is BreakoutEdu" page they explain the reasoning behind the use of these immersive games for learning and have links to videos of classrooms in action using the BreakoutEdu immersive game activities. The direct link to that page is http://www.breakoutedu.com/about/. At the top of the page are links to other areas on BreakoutEdu.com.

Next go to the "Getting Started" page. The direct link to that page is http://www.breakoutedu.com/welcome/. The first important thing to do is click the "Register for Access" button. It is completely free and they will email a password to you so that you can access details for all the different free games already posted on their site. They keep the games password protected so clever students don't open a game and find the answers to the puzzles and challenges without working them out with their team.

After registering, I would check out the "Game Library" so that you can get an idea of all the games that have been made for all subject areas and grade levels. These are created and submitted by teachers and are free to use. You won't be able to open the detailed explanations and instructions of the games until you receive your password, but you can get an idea from the titles.

Another button on the Getting Started page is the "Purchase a Kit" button. They have a ready-made kit with everything you need to do a BreakoutEdu game with a group. There are ways to use the kit and the 5 locks with a whole class (I have included the steps of the system created by Lynne Herr on page 8). You could also get multiple kits so you can have students work in smaller cooperative groups. The kit from BreakoutEdu costs $125. On the cover page, there is a picture of what is contained in the kit. There is a larger and smaller lockbox; a hasp to hold all the locks; an invisible ink pen and UV flashlight; hint cards and reflection cards; a flash drive for digital clues (if needed); and the 5 different locks.

There is a way to make your own less expensive kits from items you purchase from Amazon.com or even Home Depot and other retail stores. You can type in BreakoutEdu on Amazon and they show lists of items to be included. For the larger lockbox, you can use a lockable tool box. The tool box does not need to be huge. In the kit from BreakoutEdu the dimensions of their large lockbox are about 10” x 10” x 5”. The smaller lockbox from the BreakoutEdu kit is meant to be locked with a 3-digit lock usually. On Amazon.com, you could buy a lockbox that has it’s on 3-digit lock. Here is a list of items I have purchased from Amazon.com to make my own kits in addition to the ones I bought from BreakoutEdu. These are just suggestions, there are many different alternatives of the same sorts of boxes and locks.

Open Source List

1. Stanley Tools and Consumer Storage STST13331 Essential Toolbox, 12.5", Black/Yellow

2. Vaultz Locking Utility Box with Combination Lock, Black on Black (VZ00192) – 3-digit combination lock that can be reset to different combinations. An alternative is to get a small 2 zipper pouch that can have a 3-digit lock holding the 2 zippers closed.

3. Master Lock 420 Lockout Hasp with Vinyl Coated Handle, 1" Inside Jaw Diameter

4. Wordlock PL-004-BK 5-Dial Combination Padlock, Black. Sometimes after several uses the letters MIGHT start to wear off. It is a good idea to put clear nail polish on them. I didn’t know this ahead of time, so I bought a white permanent ink pen and have re-written the letter on it.

5. Findway 5 UV Ultra Violet Blacklight 9 LED Flashlight Torch Light Outdoors

6. Set of 3 Invisible UV Blacklight Ink Marker Blue Red Yellow

7. Master Lock 1500iD Speed Dial Combination Lock, Assorted Colors – this is used as a Directional Lock. The BreakoutEdu kit comes with a different sort of Directional lock (and Wordlock). This Master Lock can be tricky if you do not follow the resetting instructions VERY carefully and exactly. Many teachers have set the locks and locked them, never to be able to open them again – I personally have a couple of these myself. You could buy the multilocks from BreakoutEdu that are for words and directions at this link: http://www.breakoutedu.com/storeold/multilocks .

8. Master Lock 140D Solid Brass Keyed Different Padlock with 1-9/16-Inch Wide Body, 1/4-Inch Shackle

9. Puroma 2 Pack Combination Lock 4 Digit Padlock for School Gym Locker, Sports Locker, Fence, Toolbox, Case, Hasp Storage(Black)

10. Master Lock 646T Set-Your-Own Combination 3 Digit Luggage Lock, 11/16-inch, 2-Pack (if using the pencil case pouch below).

11. Pencil Case, Homecube Big Capacity Pen Bag Makeup Pouch Durable Students Stationery with Double Zipper, Black (alternate to the 3-digit lockbox).

12. You can buy the reflection cards separately from the BreakoutEdu site – they are not required; they just help in reflecting about the game once it is done.

13. You can print out any sort of hint card that you like instead of buying them. 2 per group.

On the Getting Started Welcome page, there is a button for tutorials on how to set and reset all the different types of locks. The locks also come with written instructions in the packages, but these tutorials are handy if you misplace the written instructions. There is another button called "Design a Game". If you feel creative and up to it, you might want to make your own or have students create games. This page gives all sorts of directions and resources. IF you design games and submit them and they are accepted into the official game library, BreakoutEdu rewards you with different swag like tote bags, expansion packs and full kits.

Another great place to get ideas and support is the BreakoutEdu Facebook page. Teachers post games there and ask questions and give answers to problems or anything that might be confusing. Breakout Edu General Discussion link
https://www.facebook.com/groups/breakoutedu/?fref=nf

How do we play a BreakoutEdu game?

Look around for clues and artifacts that will help provide information needed to figure out the combinations to the locks.

- When you look for a game and choose one (or create one), the teachers have provided various artifacts to be given to the students or placed around the room.
- Some examples of artifacts are: jigsaw puzzles, posters with text circled in invisible ink to be viewed with the UV flash light, riddles, maps, and digital clues just to name a few.

Talk with your group and share what you're thinking about the clues. You might need to think outside the box to break into the box.

- Use the lock recording sheet to write down what you think the combination might be and show it to the facilitator before trying the lock.

Test out what you think you know! Try the combinations you think will open the box. If you're wrong, think some more and try again.

- Only have one person at a time trying out the combination.
- Don't grab the locks or boxes from each other.

Remove all the locks from the Breakout EDU kit before the timer runs out to complete the game.

- Place **open** locks on the lock parking lot sheet. Don't manipulate the lock more so that the code or combination isn't reset to some unknown set of numbers or letters.
- Usually there is a "We Broke Out" Sign inside the large lockbox. The students usually have a photo taken of them holding the sign. You could also have treats or prizes, though it is discouraged so that students are motivated by playing the game and succeeding, not earning a prize.

Tips for Success

Work together as a team.

The better you communicate and collaborate the more successful you will be.

If you solve a puzzle, make sure you the rest of your team knows.

Come together to review what you know before deciding as a team when to use your hint cards.

What are Hint Cards?

Two hint cards are available when **you and your team** decide that you are not able to move forward without a little help.

These hints are given to you by the facilitator of the game who is watching and observing the group.

Hints are not answers, just some information to help your group get over a hurdle or see the information

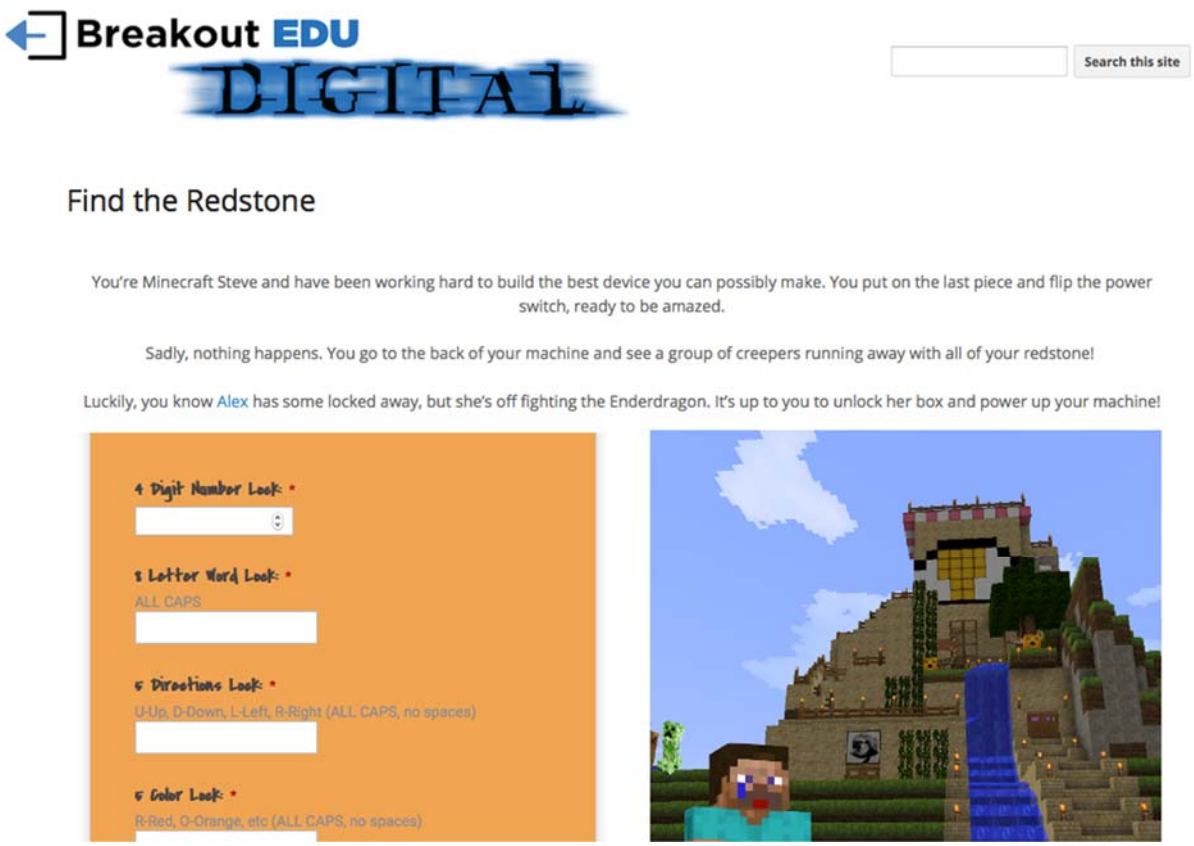
Debrief

Breakout EDU doesn't end when the box gets opened. Yes, the game task might be complete at that point, but some of the best magic is what happens during the debrief discussion.

The Reflection Cards include questions suitable for all Breakout EDU games and are used to facilitate a group discussion. The cards can be locked in the Breakout EDU box or distributed after the game concludes. There are also debriefing and reflection sheets available for writing down answers. On page 7, I have included one created by Kendra Waddell that is in the Sandbox General info-help folder on Google Drive.

Digital Breakouts

Another way to play Breakout games is through digital breakouts. Some of them can be found at http://www.breakoutedu.com/digital. I also have some saved on my class website at http://www.joyteach.com/Breakouts.html. Sometimes the district filter makes it difficult to reach them and other times they work perfectly (usually the ones I have saved on my website have no problems being played). You do not need the password to play these games. Teachers have created these games using Google Forms. There are hints and clues within the game story and links to help the students figure out the combinations for the locks. The locks are on the form to be typed in and submitted instead of a physical lock to unlock.
Sometimes the links and clues lead to a Google Document that needs a copy made. Either the students need to log into their own Google Account or I have logged into an account I made especially for the game. Here is a screenshot of a digital breakout related to Minecraft.



Breakout Game Reflection

Name _____ Game _____ Date _____

On a scale of 1 - 5, what was your opinion on today's activity when compared to routine class work? Circle One.

I loved it and cannot wait to do another one!	I liked it.	No opinion.	I didn't like it.	I hated it. Never, ever ask me to do this again!
5	4	3	2	1

Provide two reasons to support the answer you selected above.

1. _____
_____
2. _____
_____

Rate your participation throughout the game.

I rocked it out and was fully involved the whole time!	I worked toward a solution, but was off task some.	I wanted to be involved more, but didn't know how.	I was barely involved in finding solutions.	I did not contribute to solving the game.
5	4	3	2	1

Explain why you participated at the rate selected above. 20-word minimum.

3. _____
_____

Describe something that you learned or something that you were able to prove you knew by participating in the game.

4. _____
_____

What was your favorite clue or question in the game and why?

5. _____
_____

What should I know or do before trying another game like this?

6. _____
_____

How to Run Breakout EDU in a Class with One Breakout Box

By Lynne Herr lynneherr1@gmail.com

Why Use The One-Box Method Over Multiple Boxes for your Classroom

First: It's less locks and equipment for you to manage and reset between class periods.
Second: It costs less.
Third: The ticket system forces students to communicate about their work to develop answers for which the whole team is confident.
Fourth: It prevents students from hanging around the box fiddling with the locks trying to hack them. The focus is on the clues and solving them collaboratively.

Procedure for using the Ticket System to Run Breakout EDU with One Box for Your Class: *(Note this example is for the game Time Warp, which uses two 4-digit locks.)*

1. Divide your class into teams of 5-8 students. For most classrooms, that means 3-4 teams per class period.

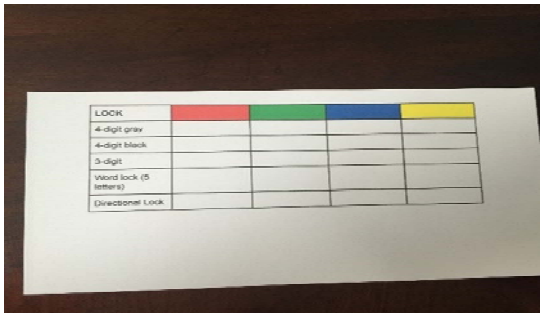
2. Assign each team a color: Blue, Red, Green, Yellow

3. Print a set of game clues for each team and color code them with a marker, or colored sticker tied to the team color. (NOTE: If the game uses the UV light, you can buy additional lights so each team can take their light at the appropriate time they discover it in the game, or they can use the light when they find it then return it to the original place where it was found. My preference is to have one color-coded flashlight per team inside one 3-digit lock box. When they figure out the code to the lock box, they remove their team's marked flashlight and set the box to 000. I keep the box on the table with me next to the Breakout EDU box.)

4. Place each set of color coded clues (I used the symbol you see in the photo just for visual interest) in its own area of the classroom to give space between groups. Any game pieces that must be shared by all teams should remain at the front of the room with the box. (I learned from Kim Alvarado that hiding clues can waste precious class time so consider the needs of your group as you decide whether or not you need to hide clues.)

5. Give each team a set of tickets and a combination recording sheet that match their team color. I've found that it works well to give the team 1-2 more tickets than the number of locks you have in the game.

6. Create a lock tally sheet with columns organized by team color (Mine is shown here and included below). This sheet will be kept at the box station under teacher supervision.



LOCK				
4-digit gray				
4-digit black				
3-digit				
Word lock (5 letters)				
Directional Lock				

7. Use a phone or ipad timer at the box station to set to 1 minute. Each colored ticket for a team is redeemable for one minute at the box to try to open any locks they want to try.

   TIP: To avoid confusion, take the ticket and put it *next to the box* while the team member attempts the locks during their minute, *then set it aside* for a future game. When the next student comes up, do the same. It will help you keep correct lock opening records as it's easy to get distracted during the flurry of activity in the game. For example, you'll glance down, see the green ticket, and remember to make the opened lock in the green column.

8. Use a second phone or ipad to launch the game countdown timer.

9. Only one person per team may redeem a ticket and attempt the locks. However, each ticket may be redeemed by a different person on the team.

10. Only one student may be at the box at a time. The next person in line to try the locks waits a designated distance from the box (perhaps marked with tape on the floor).

11. When a team opens a lock, the teacher marks it in the correct column on the tally sheet and rolls the numbers on the lock to the original starting point (it works well for me to have the lock "show" all zeros for number locks or a standard word such as "SPELL" for letter locks). NOTE: you are not resetting the lock combination, just putting the numbers at a common starting point to make each student's time with the locks most efficient and consistent from team to team.

12. Based on the tally sheet, the last team to open a lock hands it to the teacher to put into the storage box.

13. The first team to solve all locks records their time.

14. All teams compete for time. I compare it to heats in a track meet.

15. The last lock to be removed opens the box for the whole class. If the last team doesn't open the box in the designated time (suggested 2 min prior to class time ending) the teacher removes the remaining locks for the successful teams to see what's inside - typically the we broke out or epic fail posters.

16. *Each team should have the opportunity to earn additional tickets if they are needed to stay in the game.* This can be through team challenges (sing the Hokey Pokey through at least 3 body parts) or additional work directly related to the game's content such as an additional math or language arts challenge problem to be completed in 2 min or less.

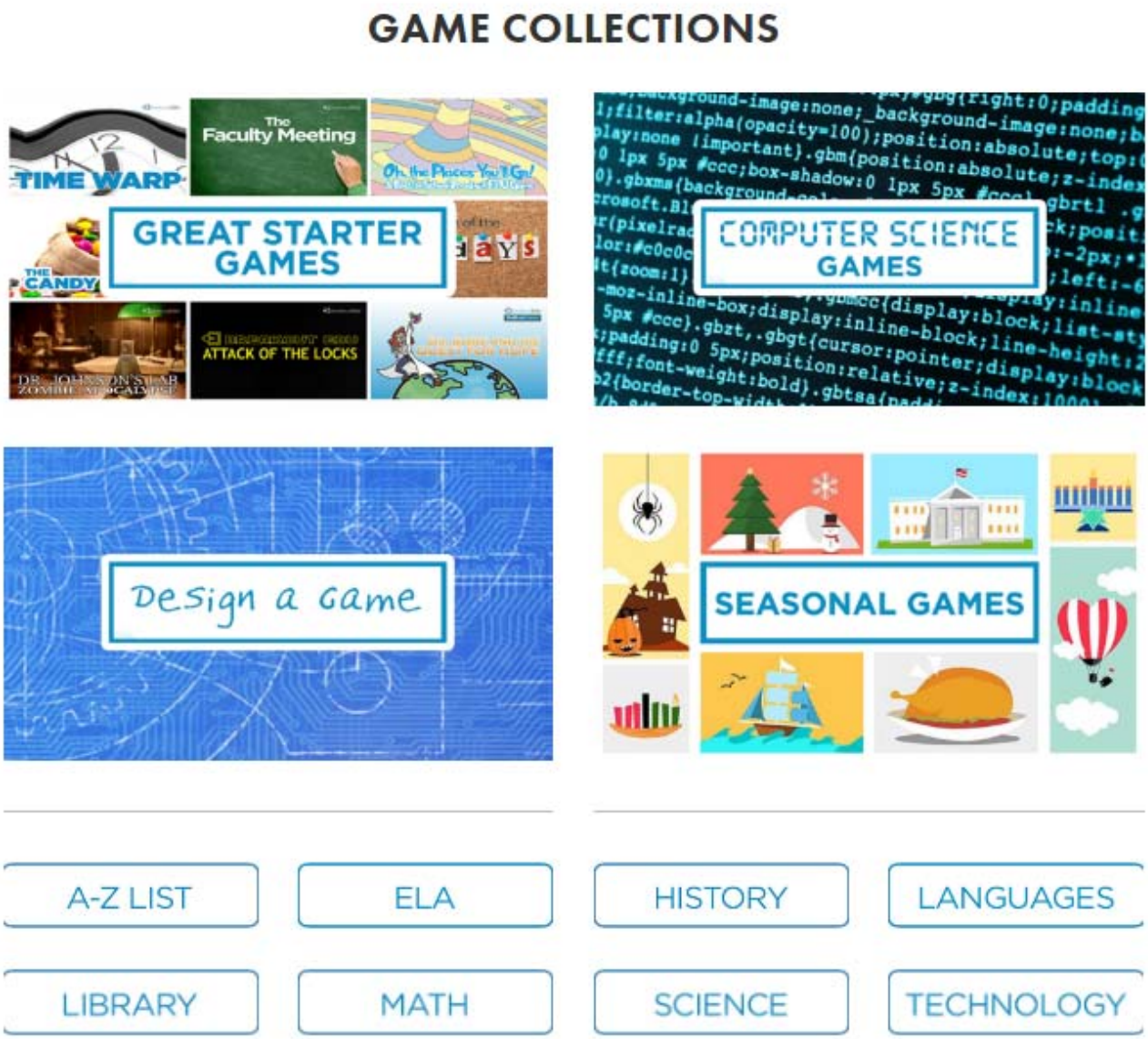
The teacher (box monitor) uses one colored Master Chart per class period to track team progress

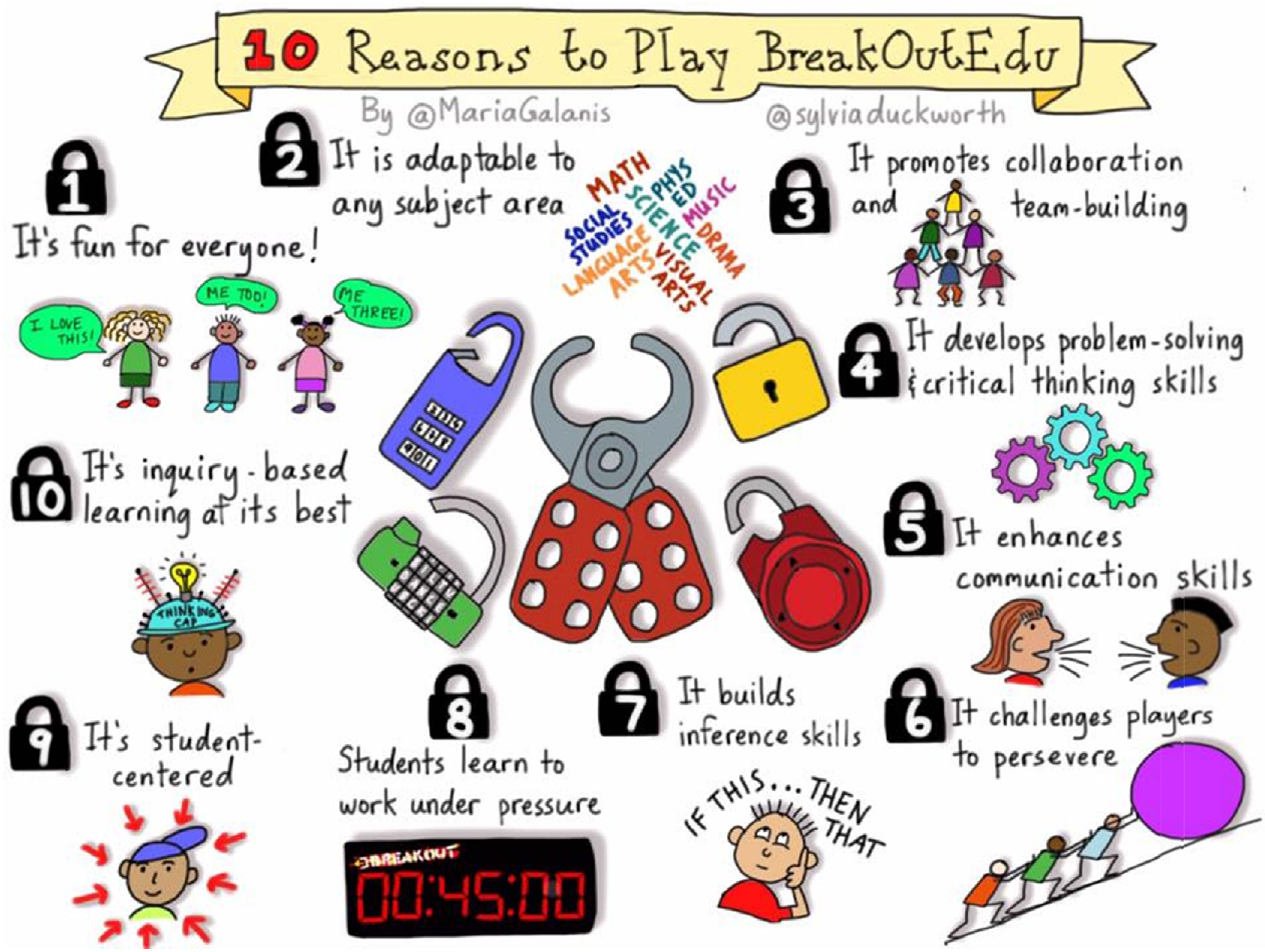
LOCK				

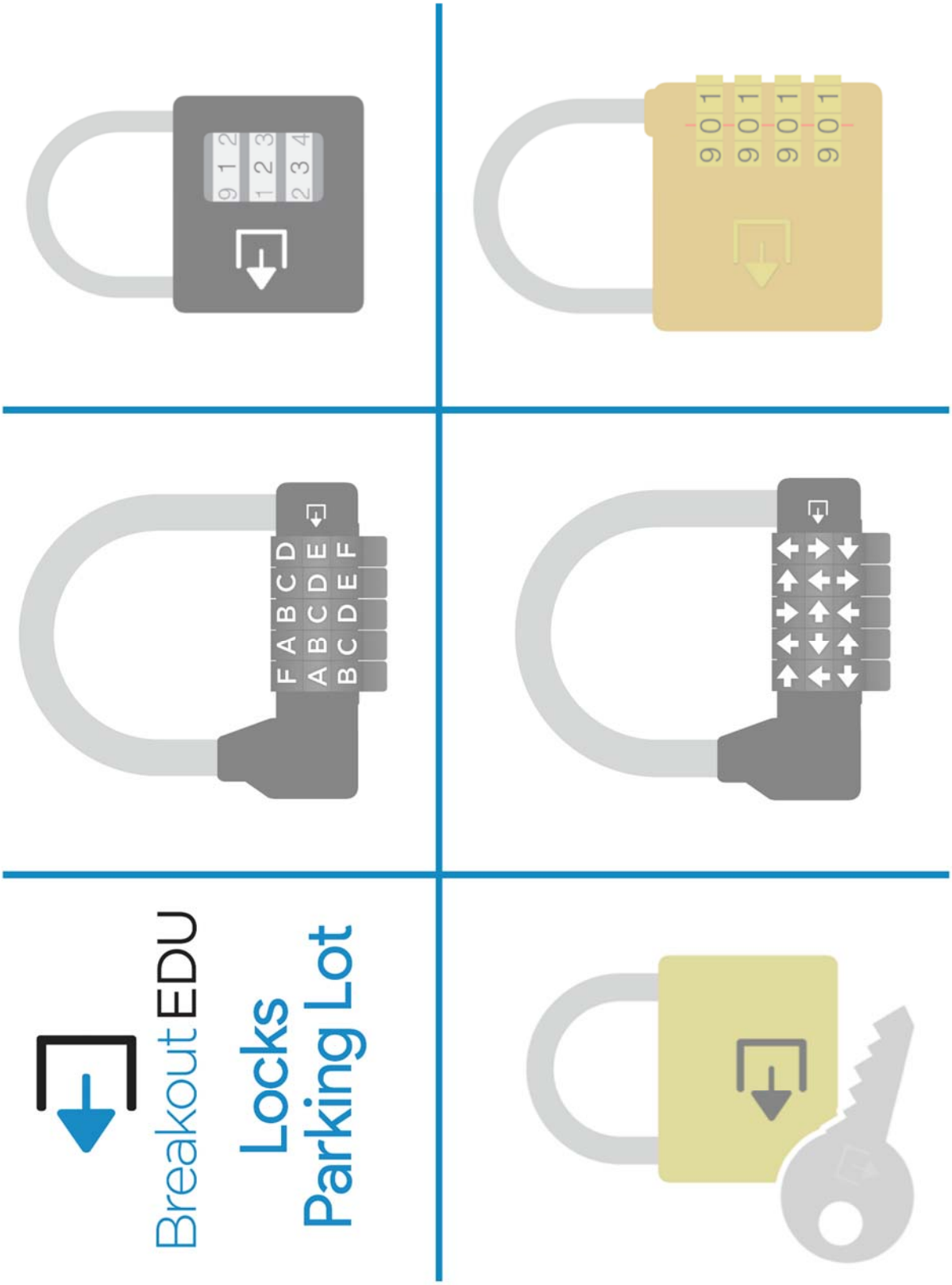
Each student team gets one sheet to track their possible solutions. Make a table for each group with the color of top row changed to match the Master Chart colors.

LOCK		

Here is a screen shot of one of the search pages to look up the different teacher pre-made games you can use. The direct link is https://games.breakoutedu.com/.




10 Reasons to Play BreakOutEdu
By @MariaGalanis
@sylviaduckworth
1 It's fun for everyone!
I LOVE THIS!
ME TOO!
ME THREE!
2 It is adaptable to any subject area
MATH
PHYS ED
SOCIAL STUDIES
SCIENCE
MUSIC
DRAMA
LANGUAGE ARTS
VISUAL ARTS
3 It promotes collaboration and team-building
4 It develops problem-solving & critical thinking skills
5 It enhances communication skills
6 It challenges players to persevere
7 It builds inference skills
IF THIS... THEN THAT
8 Students learn to work under pressure
BREAKOUT
00:45:00
9 It's student-centered
10 It's inquiry-based learning at its best
THINKING CAP


Breakout EDU
Locks
Parking Lot

Breakout EDU

Team Name

Team Members

Sample Lesson

Florida Standards

MAFS.K12.MP.1.1: Make sense of problems and persevere in solving them.
MAFS.K12.MP.3.1: Construct viable arguments and critique the reasoning of others.

MAFS.K12.MP.2.1: Reason abstractly and quantitatively.

LAFS.K12.SL.1.1: Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.

LAFS.K12.SL.1.2: Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.

One activity we did was called Back to Reality. This is a game in the game collection and was designed by Adam Bellow and Patti Harju. The content area is Math and the recommended age levels are Elementary and Middle School. It is a MinecraftEdu inspired game where the story indicates the students are stuck in the 8-bit world of Minecraft and the only way out is through the locked boxes. Once the teams opened their main boxes, they found a colorful sign that said, "We Broke Out" with Minecraft pictures on it. We took photos of the teams with their signs and shared with families in class stories on ClassDojo. Afterwards we had a reflective discussion about successes and failures.

Back to Reality

Story: You've become trapped in the 8-bit world of Minecraft and the only way back to reality is through the locked boxes that you see before you. Make sure you read the clues carefully and pay attention to everything you see in order to figure out the combinations, open the locks, and break into the box.

Lock combinations:

3-DIGIT LOCK = 1-4-3

4-DIGIT LOCK = 3-2-6-4

ABC MULTILOCK = S-T-E-E-L

DIRECTIONAL MULTILOCK = UP, LEFT, LEFT, UP, RIGHT

Setup Instructions:

Breakout EDU Box with Hasp and Word Lock, Direction Lock, Digit Lock, and Key Lock. In the Box is the "We Broke Out!" sign.
3 Digit Lock Box with the clue to the Word Lock inside.
Print all of the Digital Resources.

LOCKS:

Directional Lock - up, left, left, up, right
Word Lock - S-T-E-E-L
4 Digit Lock - 3264
3 Digit Lock - 143
Key Lock - Hidden near a RedStone.

1. Direction Lock: Place the Pick Axe Images around the classroom, facing in the correct direction. Write the Roman numbers I through V on the white space of the pick axe images in invisible ink, indicating order of directions. I (up), II (left), III (left), IV(up,) V(right)

2. 3 Digit Lock: Periodic Table of Minecraft Elements is laminated and copies are placed on a table. The 4 elements are either sitting on a table, or you might hide them under a chair. If you hide them in different spots, write 1 of 4, 2 of 4, 3 of 4 and 4 of 4 on them to let the students know they need to find 4 elements. When the students match the elements to the chart, they will see the atomic numbers/values and add them up to get the combination to the 3-digit lock box.

3. Word Lock: The Minecraft Books are placed on a table, there should be one book for each group. Sticking out of the book is a book mark that says PAGE-WORD-LETTER. We have created one for the book "Invasion of the Overworld." If you do not have this book, fill in the blank book mark with the Page-Word-Letter information to spell STEEL, the combination to the word lock.

4. Key Lock: Print the Redstones. Attach the key to one of the Redstones, and hide them around the room. If you have extra keys, hide one for each group, or write on the back of the Redstones, "Turn into the Teacher for the Key" and hide one for each group. Students will trade the Redstone for the key when needed.

5. 4 Digit Lock: Perimeter and Area of Steve's head. Students will find the Story of Steve. "Steve searched far and wide for an escape. Feeling hopeless, he began tracing the perimeter. He wandered the entire area but found no escape. Once he used his head, the answer was clear." Circle the words Perimeter and Area. When they look at the image of Steve's head and notice that Perimeter and then Area are mentioned in the letter, they will find the perimeter is 32 and the area is 64. Together, 3264 is the combination to the 4-digit lock.

Blank Word Lock Clue Bookmark – For any book you like.

PAGE	LINE	WORD	LETTER

Filled in Word Lock Clue Bookmark (Goes with "Invasion of the Overworld.")

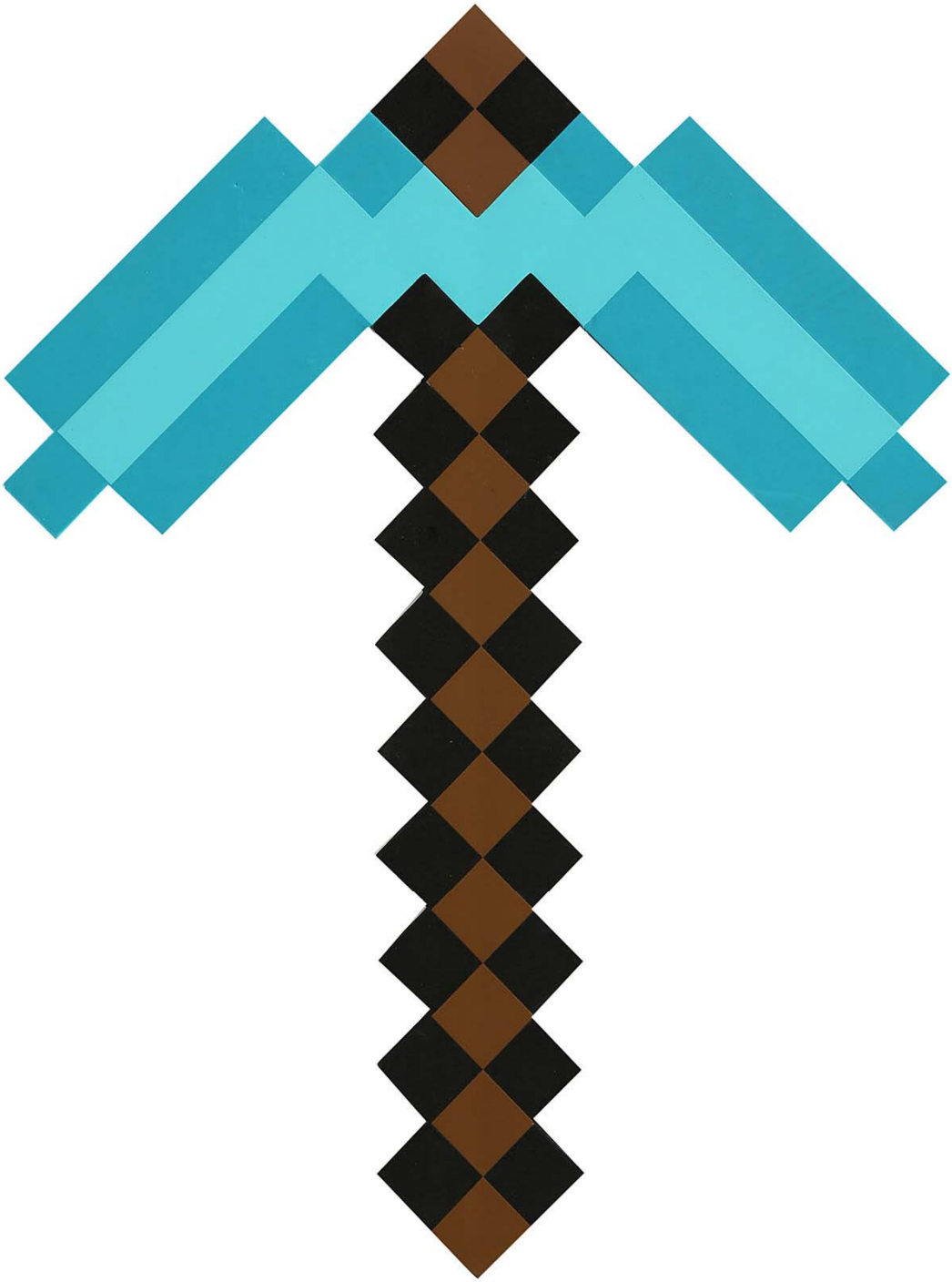
INVASION OF THE OVERWORLD

PAGE	LINE	WORD	LETTER
45	1	4	3
12	6	4	9
176	7	4	2
149	2	6	4
104	4	6	4

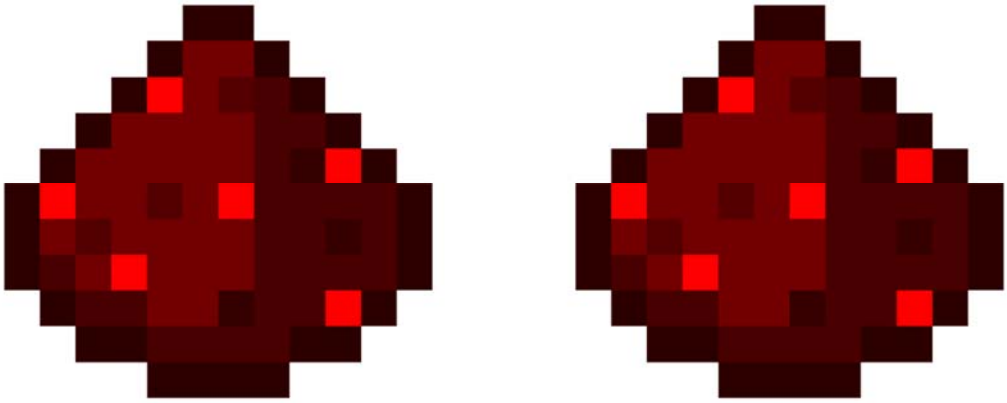
Minecraft Steve Face for Area and Perimeter Clue for 4-digit lock

Notice the face is 8 blocks x 8 blocks

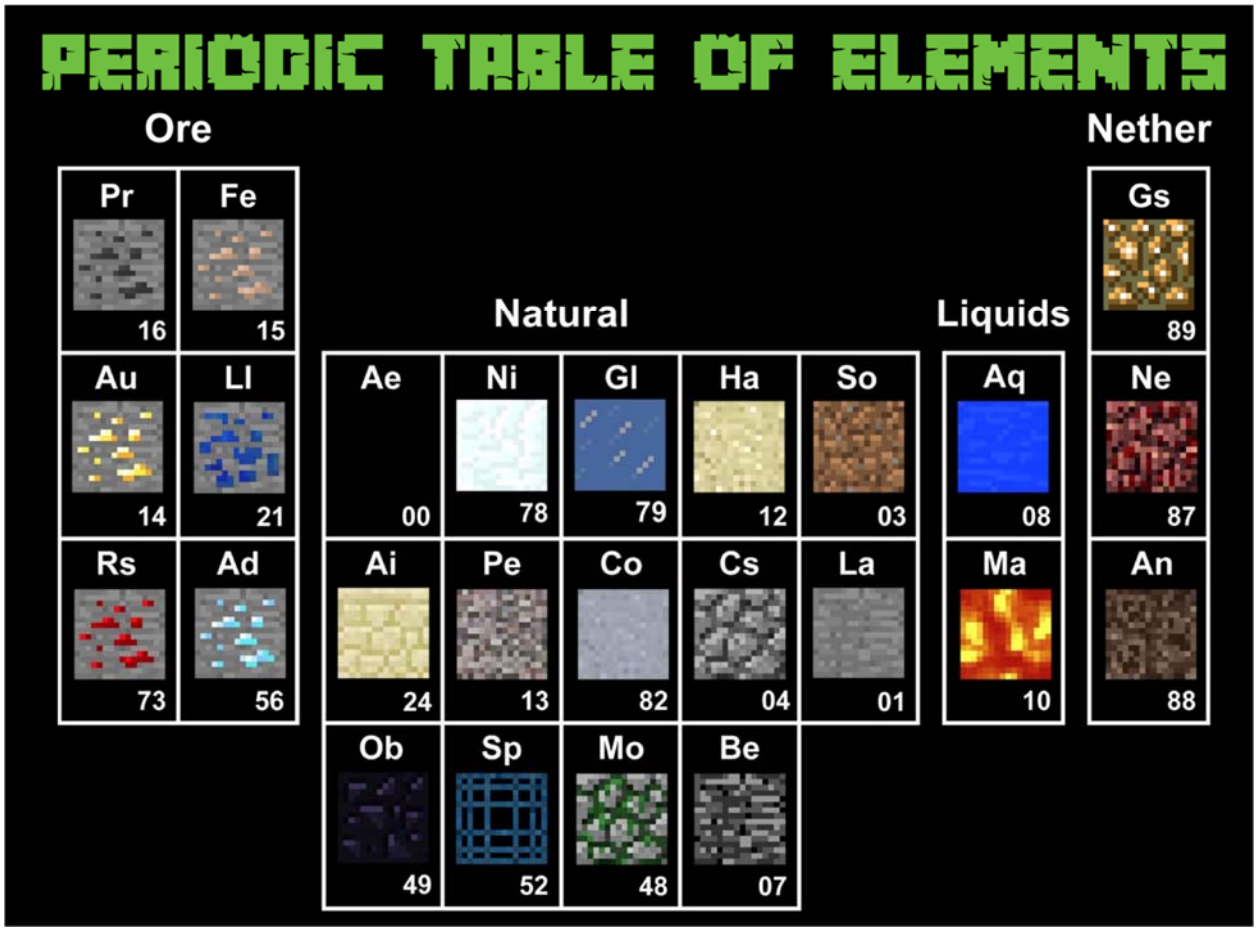
Pick Ax for Directional Lock Clue



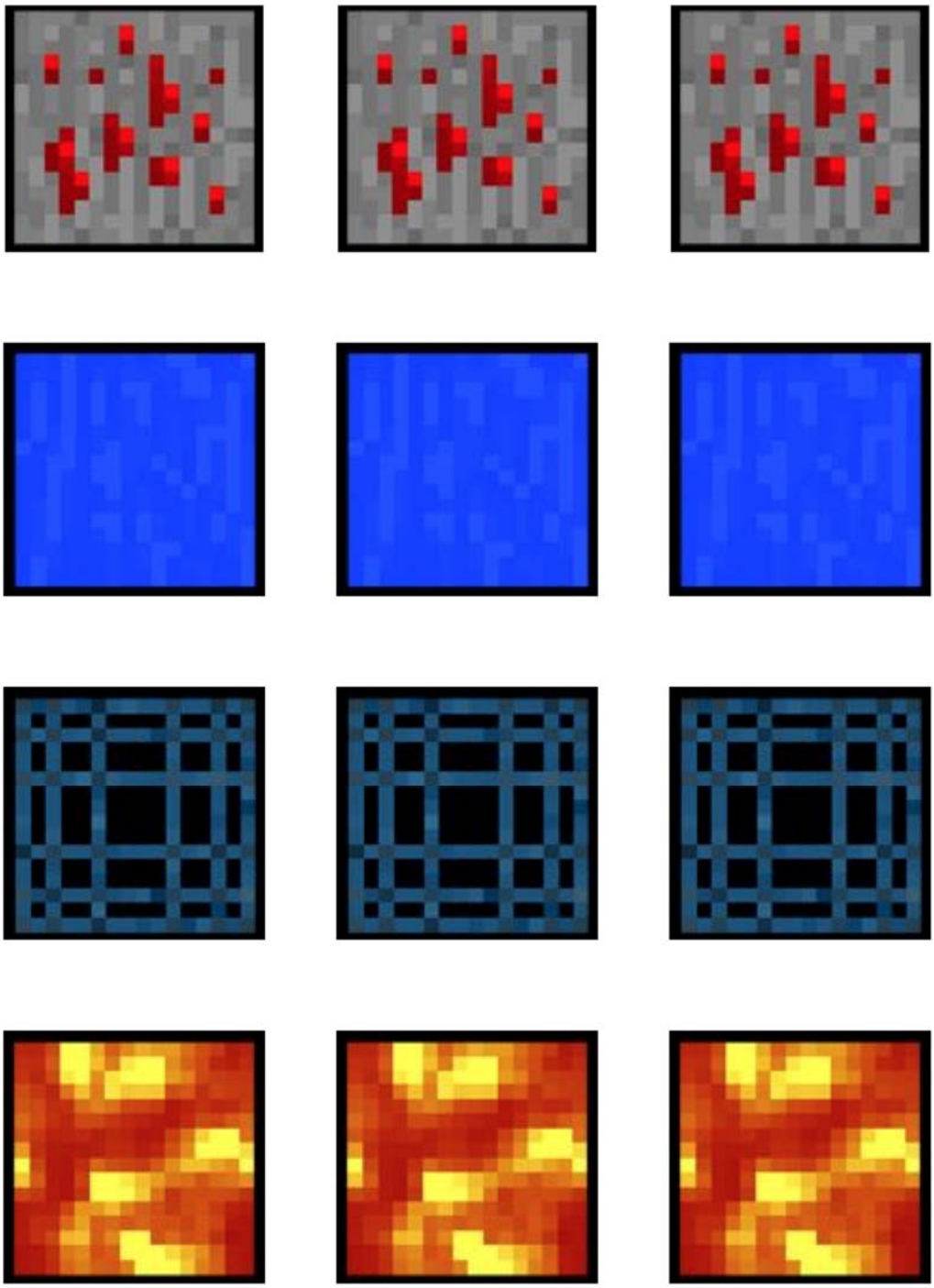
Redstones (make several) and hide key(s) near them



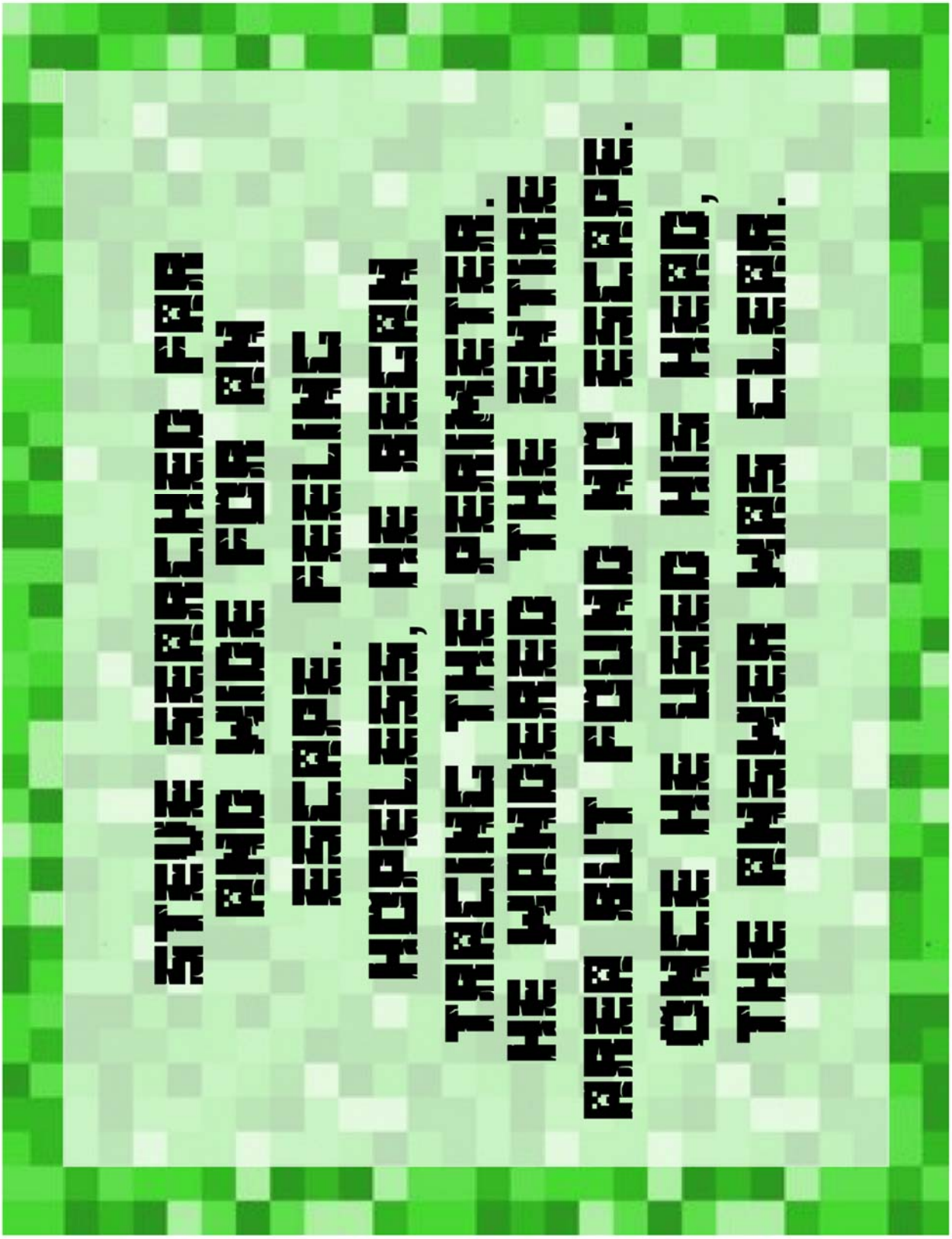
Periodic Table of Minecraft Elements for 3-digit lock clue (I posted on a computer monitor so I wouldn't have to print out the dark colors and use up a lot of color printer ink)



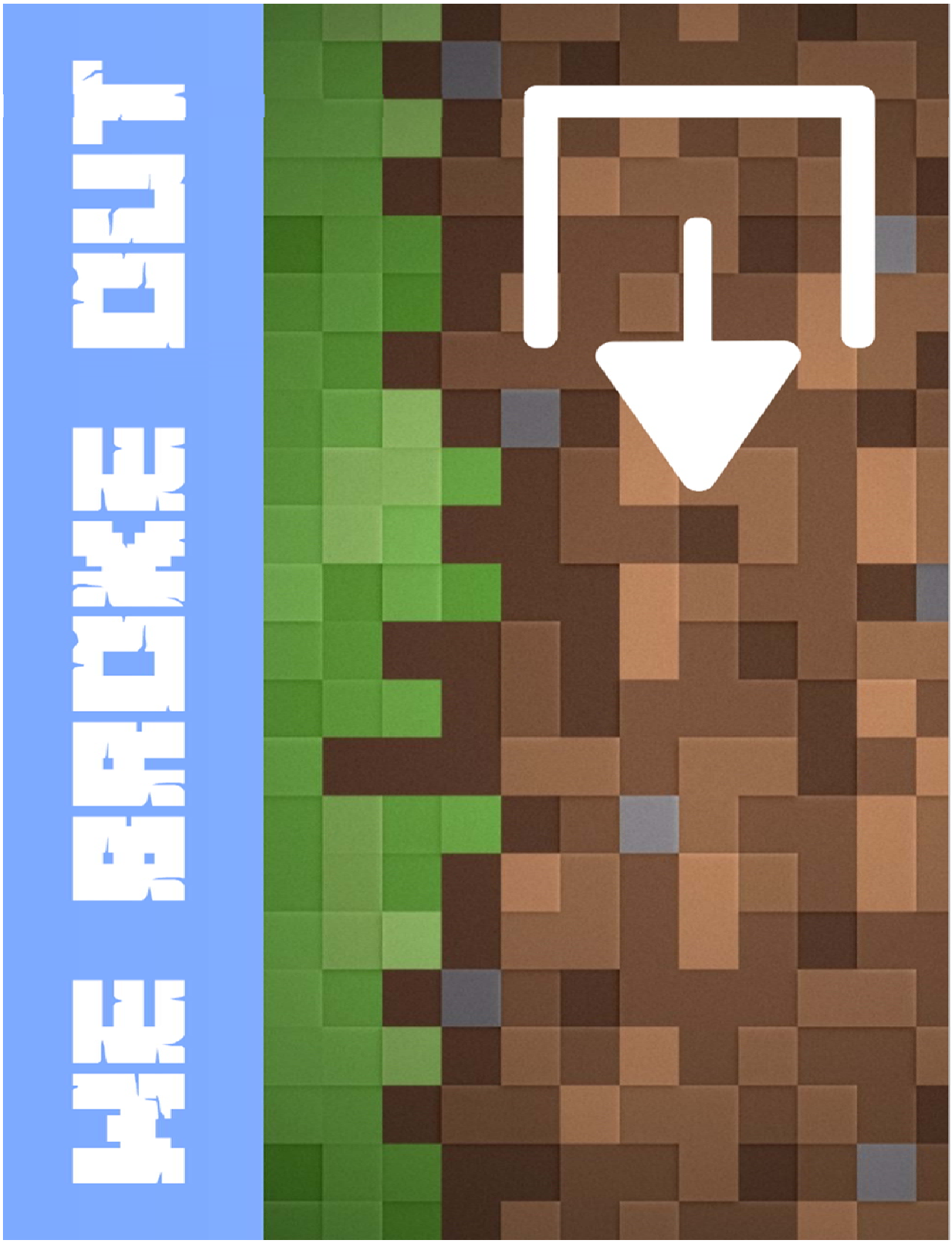
Separate Elements for 3-digit lock (each group gets one vertical strip of 4 elements)



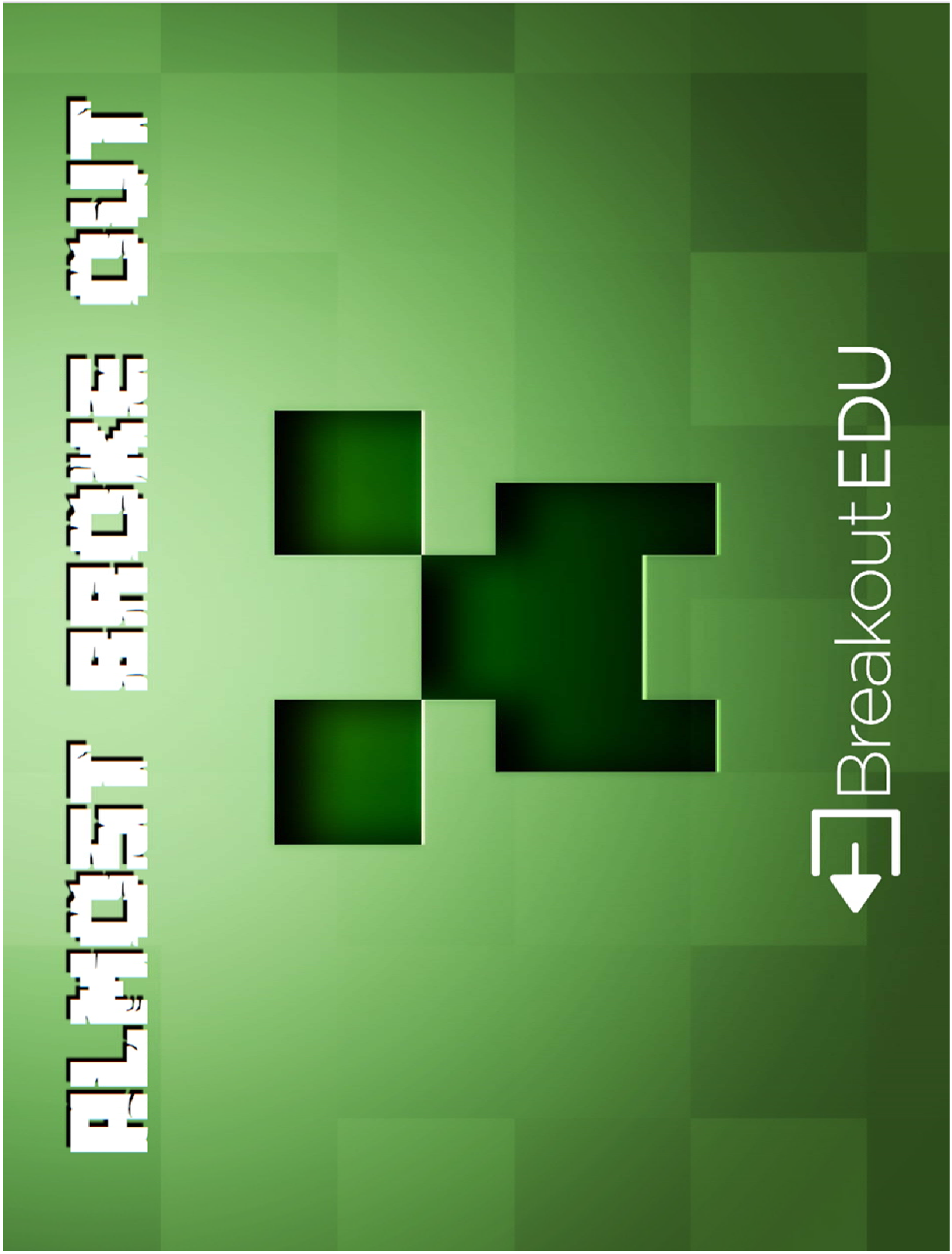
Area and Perimeter Clue that goes with Minecraft Steve Face for 4-digit lock



We Broke Out Sign

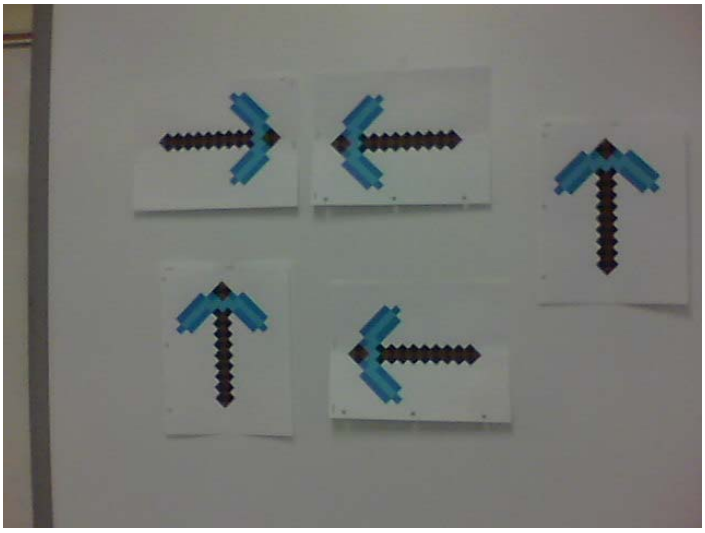


We Almost Broke Out Sign (to use if they don't break out in time)

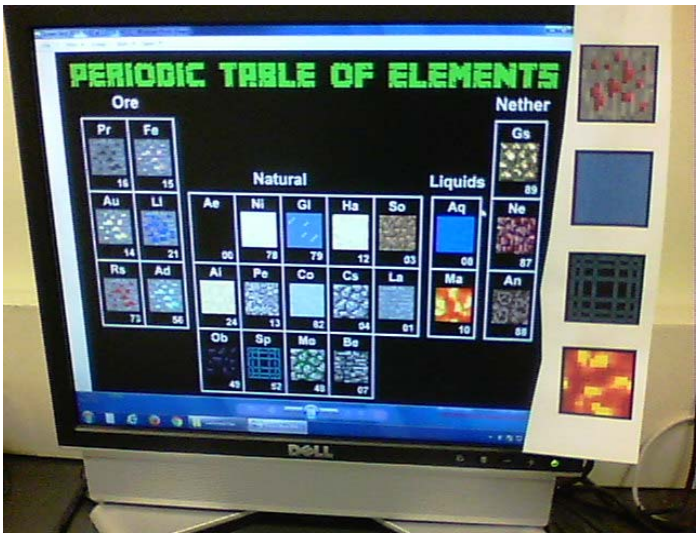


Original Setup with Area/Perimeter Clues

Use of Book to find letters for Word lock



Directional Lock clue with Invisible Ink



Digital Clue to Figure out 3-digit lock

Successful Breakout

Successful Breakout

THE EDUCATION FUND

FOR EXCELLENCE IN MIAMI-DADE PUBLIC SCHOOLS

Apply for an Ideas with IMPACT Adapter Grant!

All Miami-Dade County public school teachers, media specialists, counselors or assistant principals may request funds to implement any project idea, teaching strategy or project from the 2017 Idea EXPO workshops and/or curriculum ideas profiled annually in the ***Ideas with IMPACT*** catalogs from 1990 to the current year, 2017-18. Most catalogs can be viewed on The Education Fund's website at educationfund.org under the heading, "Publications."

- Open to all K-12 M-DCPS teachers, counselors, media specialists
- Quick and easy reporting requirements
- Grants range from $150 - $400
- Grant recipients recognized at an Awards Reception

To apply, you must contact the teacher who developed the idea before submitting your application. Contact can be made by attending a workshop given by the disseminator, communicating via email or telephone, by visiting the disseminator in their classroom, or by having the disseminator visit your classroom.

Project funds are to be spent within the current school year or an extension may be requested. An expense report with receipts is required by Friday, June 1, 2018.

APPLICATION DEADLINE: December 13, 2017

Apply online at educationfund.org

For more information, contact:

Edwina Lau, Program Director
305.558.4544, ext. 113
elau@educationfund.org

THE EDUCATION FUND
FOR EXCELLENCE IN MIAMI-DADE PUBLIC SCHOOLS

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