



## ***The Blue Flame Power Play* Classroom Game**

### **THE STORY**

The crew aboard *The Blue Flame* is in trouble! Star Command has received a distress signal coming from an uncharted planet at the center of the galaxy. The planet is so uncharted that its exact location is unknown. By solving the puzzles and problems left behind by Captain Argon and his crew, your student space explorers can unlock the *Power Play* boxes and complete the mission to save *The Blue Flame* and her crew.

### **ITEMS YOU'LL NEED TO SET UP THE GAME**

Listed below are the items and locations for the game materials. There are additional kit items provided to be used with future games, but you'll only need the specific kit items listed below for *The Blue Flame Power Play* classroom game. The locations are just suggestions – you know your classroom best, so feel free to get creative. You can make the game tougher or easier for your students by hiding clues and materials or placing them out in the open.

### **KIT ITEMS**

- 1 small lock box to be placed in the playing area
- 1 large lock box to be placed in the playing area
- 1 padlock with key
- 1 five-letter combination lock
- 1 five-color combination lock
- 1 four-digit lock
- 1 three-digit lock
- 1 blue lock hasp
- 1 UV flashlight
- 1 UV marker
- 2 hint cards

## PRINTED GAME RESOURCES

- Teacher Instructions (for classroom setup)
- Game Logic Map (for classroom setup)
- FAQs (for classroom setup)
- Reflection Questions (placed in large lock box)
- Congratulations Certificate (placed in large lock box)
- Alien Letter Code and Cipher
- Ace's Travel Log
- History of Natural Gas Timeline
- Coded Page Transmission
- Coded Page Transmission Answer Key
- Call 811 Poster
- Periodic Table of the Elements
- Saturn Snack Cake Recipe
- Solar System Poster
- Spaceship Dashboard
- QR Code and Tiny URL

## SETUP

The following is a basic logical order for setting up *The Blue Flame Power Play* game. If you are already familiar with Breakout-type games, this may be a breeze. If not, take it step by step. Setup should take roughly 30 minutes.

1. Go to **[www.NTCPowerPlay.com](http://www.NTCPowerPlay.com)** and select *The Blue Flame Power Play* program.
2. Click "PLAY" to access all the materials needed for the classroom game.
3. Read the game story and watch the teacher tutorial video.
4. Review and print all the game resources. Decide if you'd like to make additional sets of any resources to have multiple groups of students playing during a single game session.
5. Prepare the three-digit lock, the four-digit lock, the five-letter combination lock, the five-color combination lock and the padlock with the correct combinations from the lock puzzle solutions. Instructions for setting the combinations can be found here:  
**[www.breakoutedu.com/locks](http://www.breakoutedu.com/locks)**
  - a. Set the locks to these solutions:
    - Three-digit lock = 6-4-8
    - Four-digit lock = 1-8-2-1
    - Five-letter combination lock = T-H-E-R-M
    - Five-color combination lock = Orange – Blue – Red – White – Yellow
    - Padlock key = Taped to the backside of the Saturn Snack Cake recipe

6. Prep the lock boxes
  - a. In the small lock box, place the printout of the Alien Letter Code and the UV flashlight and lock with the three-digit lock.
  - b. In the large lock box, place the Congratulations Certificate along with candy or other prizes (if you choose) and the Reflection Questions. After preparing the combination locks, you will lock this box by first attaching the blue lock hasp and then locking with the four-digit lock, the five-letter combination lock, the five-color combination lock and the padlock.
  - c. Cut out the QR Code and Tiny URL and tape it to the bottom of the large lock box.
7. Tape the padlock key to the back of the Saturn Snack Cake recipe and tape the sign on all sides securely to the wall so the students won't look behind it until instructed to do so from the Coded Page Transmission clue.
8. Tape the "Call 811" sign to the wall
9. Place the Solar System Poster, Spaceship Dashboard, Ace's Travel Log and Periodic Table of the Elements on a table in the playing area.
10. Use the UV marker and circle the year **1821** on the History of Natural Gas timeline and then tape the timeline to the wall.
11. As you get ready to start, explain to your students that they'll need to work together and search the room thoroughly (and respectfully) in order to play the game. Explain that in order to use a Hint Card, your students must all agree that they are ready for a hint. Depending on their progress and how much time is left, you can then give the group an appropriate hint to get them moving in the right direction.
12. Show your students *The Blue Flame Power Play* story video, set your timer for 45 minutes and begin!
13. After they've completed the game, ask your students the Reflection Questions.
14. Feel free to dig in deeper with your students on the ideas and concepts discovered by playing this classroom game. Talk to your students further about the following educational points:
  - The history of natural gas
  - The chemical compounds that create natural gas
  - Ways we use natural gas
  - How to be safe around natural gas – call 811 before digging in the yard
15. You will be receiving an email containing a link to fill out a teacher evaluation and feedback form.
16. After your complete evaluation is submitted, you'll receive a code and instructions to register your kit.
17. Explore the additional games at **[www.breakoutedu.com](http://www.breakoutedu.com)** and plan your next adventure. Your subscription is good for one year starting from your registration date.

## THE CLUES

The following are the five puzzles and clues used to open the various combination locks.

**Corresponding lock:** Three-digit lock

**Answer:** 6-4-8

This solution can be found by reading the Periodic Table of the Elements sheet and understanding how many hydrogen atoms are in ethane, methane and propane. When the students look at the fuel gauges on the spaceship dashboard, they'll see a blank after the letter H in the chemical compound. When they write in the correct number of hydrogen atoms, found on the Periodic Table of the Elements sheet, they'll come up with 6-4-8.

**Corresponding lock:** Four-digit lock

**Answer:** 1-8-2-1

This solution can be found once the small lock box has been opened and the UV flashlight revealed. When the students use the UV flashlight on the History of Natural Gas timeline, they'll discover that the year 1821 has been circled with the UV marker. The combination 1-8-2-1 will then unlock the four-digit lock.

**Corresponding lock:** Five-color combination lock

**Answer:** Orange – Blue – Red – White – Yellow

This solution can be found by reading Ace's Travel Navigation Log and using the colorful planets on the Solar System chart. The travel log describes the path *The Blue Flame* took to each planet, and in each entry students should be able to decipher which planet Ace is talking about. Using the Star Date numbers, in order from smallest to largest, they'll figure out that *The Blue Flame* first went to Pluto, which isn't a planet anymore so it doesn't count, and then to the Sun, to Earth, to Mars, to the Moon and finally to Jupiter. Using the colors of each planet in the correct order opens up the five-color combination lock.

**Corresponding lock:** Padlock

**Answer:** Key

This solution can be found by looking behind the Saturn Snack Cake recipe to see the padlock key taped to the backside. In order for students to be directed to look behind the Saturn Snack Cake recipe, first they'll have to find the QR code and tiny URL on the bottom of the large lock box. Using a tablet or mobile device or by typing the tiny URL into the computer, students will find a secret webpage that shows them *The Blue Flame* graphic novel. Using the Coded Page Transmission and the digital graphic novel, the students will discover a special word by going to the correct page number and counting the exact number of words from the Transmission sheet. When all the words from the graphic novel are found and read in order, the coded transmission message will say: LOOK BENEATH THE SATURN SNACK CAKES TO FIND THE {picture of a} KEY.

**Corresponding lock:** Five-letter combination lock

**Answer:** T-H-E-R-M

This solution can be found once the small lock box has been opened and the Alien Letter Code has been discovered. The students will need to orient the page with the arrow pointing up and should then realize that the odd letters are a cipher. They will use this in combination with the Spaceship Dashboard and see a tic-tac-toe grid with letters in it. Using the shape outline of each alien letter will correspond with a real letter on the dashboard. The letter "T" is equal to the "L" shape, "H" is equal to the upside down "L" shape, "E" is equal to the backwards "L" shape, "R" is equal to the "C" shape and "M" is equal to the upside down and backward "L" shape.

## THE END

When students solve the puzzles and open the large lock box, they discover a certificate of completion from Captain Argon thanking them for saving the crew, as well as Reflection Questions and any additional prizes or candy from the teacher. The Reflection Questions can be used as discussion prompts to solidify the learning from this classroom game experience.