

PERIODIC TABLE

CUBE CODE

each square on the periodic table include?

What's name and atomic number of the above?

What is the group of elements between metals and non-metals known as?

Metalloids
Lanthanides
Actinides
Beryllium

What are groups categorized by?

A. Non-metals
B. Transition metals
C. Alkali metals
D. All of the above

What type of electrons are in the outer shell?

A. Valence
B. Ion
C. Halogens
D. Noble

A. Electron configuration
B. Electron affinity
C. Electronegativity
D. Ionization energy

Dmitri Mendeleev was a chemist from what country?

A. Great Britain
B. Russia
C. France
D. China

The SECOND number of elements on the periodic table today MINUS 110.

The FIRST number of the lock is the year Mendeleev began organizing the table MINUS 1862.

The THIRD number of the lock is the number of periods (rows) on the periodic table MINUS 5.

4	four	7	nitrogens
5	six	8	halogens
6	95%	9	75%

mercury
lead
plutonium

Finally, the periodic table has --- major categories: metals, non-metals and unknown. Many of the elements on the periodic table are metals. Found on the left side of the periodic table are: alkali metals, transition metals, and noble gases. Elements on the right side of the periodic table include: alkaline earth metals, halogens, and noble gases.

STATION 2:

First, number ALL the paragraphs on your reading passage. Then, read each statement below and determine which paragraph NUMBER the statement can be found in. Lastly, eliminate ANY answer where the answer was found in an EVEN numbered paragraph, leaving only ODD numbers as your final code (in the order of questions). Paragraph numbers MAY be used more than one time or not at all.

STATION 3:

Read each statement below and determine if it is true or false. If the statement is true, color or shade the coin that corresponds to the statement. If the statement is false, cross out that coin value. After you are finished add the TOTAL of ALL TRUE coin values. The code has been provided for you. If the total is 625, a 6 in the first box, the 2 in the second box and so on.

A There are eight periods (rows) on the periodic table.

B It's called periodic because the elements are sorted into groups, periods, blocks and categories.

C Each element has the same number of protons.

D Hydrogen is the first element on the periodic table.

E Within each group, elements have similar properties.

F When Mendeleev organized the periodic table, he left space for yet-to-be-discovered elements.

A 75

B 25

C 50

D 100

E 100

F 75

G 50

H 25

I 100

J 75

K 50

L 25

M 100

N 75

O 50

P 25

Q 100

R 75

S 50

T 25

U 100

V 75

W 50

X 25

Y 100

Z 75

PERIODIC TABLE

The periodic table is a chart or grid that shows the elements known to man. Dmitri Mendeleev, a Russian chemist, began organizing the table in 1869. When Mendeleev crafted the periodic table, he left space for yet-to-be-discovered elements. Gallium, germanium and scandium were added to the grid much later. Today, the table includes 118 elements but may increase in the future.

An atom is the smallest unit of matter. Within each atom is a nucleus with protons and electrons. Elements are a way of categorizing atoms by their properties. Elements have a single type of atom, and they are pure substances. Some familiar elements include carbon, oxygen, hydrogen, and nitrogen. Other materials you may have heard of before are gold, silver, lead and copper. Each of these elements is grouped and classified on the periodic table.

the table includes 118 elements but may increase in the future.

118 known elements have been discovered. Some elements have unique properties. A nuclear event is an event that involves the nucleus of an atom. Some elements are radioactive. Some elements are called metalloids.

the table includes 118 elements but may increase in the future.

118 known elements have been discovered. Some elements have unique properties. A nuclear event is an event that involves the nucleus of an atom. Some elements are radioactive. Some elements are called metalloids.



STATION 1:

Use your reading passage or deductive reasoning skills to determine the missing words in the paragraph below. Each missing word has a corresponding NUMBER. The 4-digit code will be the NUMBER of each missing word in the same order in which they appear in the paragraph.

STATION 2:

First, number ALL the paragraphs on your reading passage. Then, read each statement below and determine which paragraph NUMBER the statement can be found in. Lastly, eliminate ANY answer where the answer was found in an ODD numbered paragraph, leaving only EVEN numbers as your final code (in the order of questions). Paragraph numbers MAY be used more than one time or not at all.

STATION 3:

Read each statement below and determine if it is true or false. If the statement is true, color or shade the coin that corresponds with that question. If the statement is false, cross out that coin value. When you are finished add the TOTAL of ALL TRUE coin values. One digit of the code has been provided for you. If the total is 625, a 6 would go in the first box, the 2 in the second box and so on.

STATION 4:

Use your reading passage to determine the combination to the 4-digit lock. You're going to have to use your critical thinking skills and do a tiny bit of math. Pay attention because the "clues" below are NOT in order.

STATION 5:

Answer each multiple choice question below. Then, count the number of times you used each letter answer (ABCD) to reveal your 4 digit code. Answer options may be used more than once or not at all. If a letter option is not used, simply put a zero in the box.

STATION 6:

Reread the passage and write the main idea in your own words. Then, add TWO supporting details that back up your main idea or topic sentence.

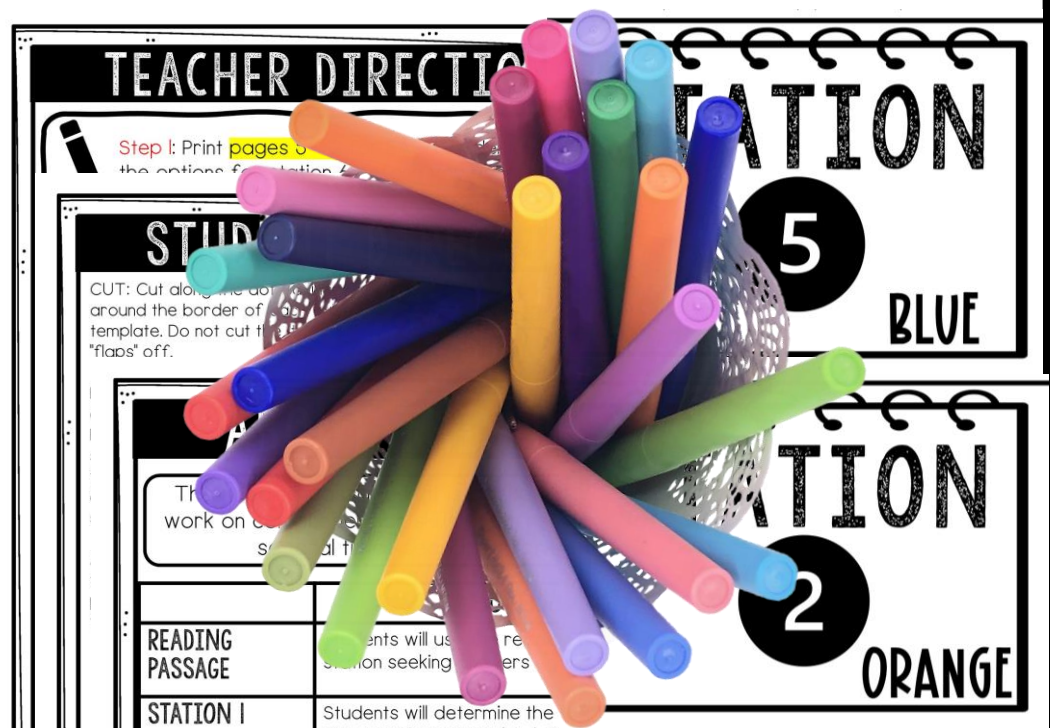
STATION

1

RED

WHAT'S INCLUDED?

- READING PASSAGE
- 6 STATIONS
- TEACHER GUIDE
- STATION CARDS
- ANSWER KEY
- STUDENT DIRECTIONS
- TEXT MARKING OPTION
- ALTERNATE STATION
- ASSEMBLY TIPS



6 STATIONS

STATION 1:

Use your reading passage or deductive reasoning to determine the missing words in the paragraph below. The missing word has a corresponding NUMBER. The 4-digit code will be the NUMBER of each missing word in the same order in which they appear in the paragraph.

1	mercury	4	four	7	nitrogen
2	lead	5	six	8	halogens
3	plutonium	6	95%	9	75%

Finally, the periodic table has _____ major categories. _____ elements are metals and unknown. Many of the elements are metals. Found in the periodic table include: _____ metals, basic metals, _____ metals, basic metals, _____ metalloids. The percent of metals in the periodic table is almost _____ percent. _____ room temperature conductors. _____ good conductors. _____ metallic-looking.

STATION

1

RED

STATION 6:

Reread the passage and write the main idea in your own words. Then, add TWO supporting details that back up your main idea or topic sentence.

MAIN IDEA

STATION

6

SUPPORTING DETAIL #2

STATION 4:

Use your reading passage to determine the combination to the 4-digit lock. You're going to have to use your critical thinking skills and do a tiny bit of math. Pay attention because the "clues" below are NOT in order.

The LAST number of the lock is the maximum number of orbitals MINUS 2.

The SECOND number of the lock is the

STATION

4

GREEN

4 DIGIT CODE

STATION 5:

Answer each multiple choice question below. Then, count the number of times you used each letter answer (ABCD) to reveal your 4 digit code. Answer options may be used more than once or not at all. If a letter option is not used, put a zero in the box.

What does each square on the periodic table include?

- A. Element's name
- B. Atomic number
- C. Standard atomic weight
- D. All of the above

What is the distribution of electrons in orbitals known as?

- A. Electron configuration
- B. Electron affinity
- C. Ionization energy
- D. Electronegativity

What is the difference between transition metals and main group metals?

- A. Metals
- B. Lanthanides
- C. Actinides
- D. Beryllium

What are the noble gases?

- A. Non-metals
- B. Transition metals
- C. Alkali metals
- D. All of the above

- A. Valence
- B. Ion
- C. Halogens
- D. Noble

STATION

5

BLUE

A B C D

STATION 3:

Read each statement below and determine if it is true or false. If the statement is true, color or shade the coin that corresponds to the statement. If the statement is false, do not color or shade the coin. One coin has been colored to show the first coin that was colored.

A
75

B
25

C
50

D
100

STATION

3

YELLOW

4 DIGIT CODE

STATION 2:

First, number ALL the paragraphs on your reading passage. Then, read each statement below and determine which paragraph NUMBER the statement can be found in. Lastly, eliminate ANY answer where the answer was found in an EVEN numbered paragraph, leaving only ODD numbers as your final answer. The final code is the sum of the paragraph numbers.

A

B

C

D

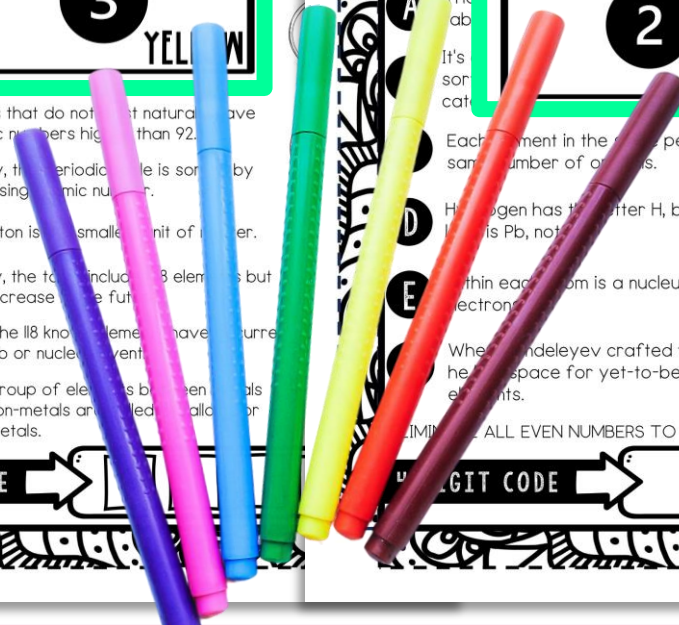
E

STATION

2

ORANGE

4 DIGIT CODE



SAMPLE CUBE



STATIONS

STATION 1	Students will determine the missing words in the paragraph to reveal a 4 digit code.
STATION 2	Students will number the paragraphs and browse the passage to determine where the answers can be found (paragraph number). After eliminating EVEN numbers, a 4 digit code will be revealed.
STATION 3	Students will read each statement and determine if it is true or false. They will then ADD all TRUE values to find the 4 digit code.
STATION 4	Students will do some basic math here, read the passage to find the answers and then determine the 4 digit code.
STATION 5	Students will answer 6 multiple choice questions which lead them to a 4 digit code based on the number of times they used each "answer".
STATION 6	Option 1: Main idea writing activity Option 2: Color and add topic
TEXT MARKING	OPTIONAL: A color code chart is included in case you want students to mark the text citing evidence of where they found their answers.

**STUDENTS WILL
USE THE SAME
READING
PASSAGE AT
EACH STATION
SEEKING
ANSWERS AND
TEXT EVIDENCE.**

HOW IT WORKS



ENGAGING READING COMPREHENSION PRACTICE!

1

Students work individually (or in pairs) and visit 6 stations, grabbing one side of their cube at each station.

2

Students will answer the questions (found directly in the passage) on their cube sheet before assembly. Students will revisit their reading passage at EACH station!

3

Students will reveal 4-digit codes to move on to the next station. When they finish all stations, they can color and assemble their cube.

STATION

Read each statement below and determine if the statement is true, color or shade the corresponding question. If the statement is false, cross it out. When you are finished add the TOTAL of ALL TRUE statements. A code has been provided for you. If the total is 75, the 1 in the first box, the 2 in the second box and so on.

A. There are four blocks called s-block, f-block, d-block and p-block.

B. The left side of the periodic table is called the non-metals.

C. Atoms that do not exist naturally are called isotopes. Their atomic numbers are higher than 92.

D. Today, the periodic table is sorted by increasing atomic number.

E. A photon is the smallest unit of matter.

F. Today, the table includes 118 elements. In the future, it may increase.

G. 91 of the 118 known elements have been discovered in a lab or nuclear event.

H. The group of elements between the metals and non-metals are called metalloids.

4 DIGIT CODE →

COMBINATION



Each Cube Code is a winning combination of:


- stations and movement
- close reading
- comprehension skills
- coloring and stress relief
- secret codes
- cut and paste
- citing evidence
- critical thinking

Everything a teacher dreams of wrapped up into one FUN and engaging activity!

BENEFITS



THINK OUTSIDE THE BOX!

-  ANTICIPATORY SETS
-  UNIT REVIEW
-  EARLY FINISHERS
-  STATIONS
-  SUB PLANS
-  PARTNER WORK
-  ENRICHMENT

-  HANDS-ON
-  CROSS-CURRICULAR
-  HIGHLY ENGAGING

