

CELL CYCLE

CUBE CODE

the two identical chromosomes

chromatids of the above

is occurs when a single produces how many new instead of two?

Mitosis takes place in what type of cells?

A. Somatic
B. Chordata
C. Gamete
D. None of the above

membrane dissolve?

A. Metaphase
B. Prokaryotic phase
C. Interphase
D. Prophase

How many main phases does mitosis have?

A. 4
B. 3
C. 2
D. None of the above

During interphase, the chromosomes are copied how many chromosomes

A. 62
B. 72
C. 82
D. 92

The FIRST number of the lock is the number of hours the entire process of mitosis typically takes MINUS 2.

The THIRD number of the lock is the percent of a cell's life interphase takes up MINUS 81.

dissolves
grows
diploids

LDR
CNS
DNA

chromosomes
cytokinesis
telekinesis

During metaphase, a mitotic spindle pulls the --- to the metaphase plate. This will pull the chromosomes apart. During this process, the cell has two identical copies of each chromosome. The new chromosomes are formed from two identical chromosomes. Each chromosome is made of two identical sister chromatids. The two identical sister chromatids are joined together at the centromere. The centromere is the point where the two identical sister chromatids are joined together. The centromere is the point where the two identical sister chromatids are joined together.

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. 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 Mitosis creates new skin cells to replace dead skin cells.
- B Chromosomes are tiny structures that contain DNA.
- C Prokaryotes have a cell wall.
- D The cell cycle is the process by which a cell grows and divides to produce two daughter cells.
- E When a cell divides, the two daughter cells are genetically identical to the parent cell.
- F Binary fission is a type of asexual reproduction in which a single cell divides into two daughter cells.

A 75
B 25
C 50
E 100
F 75
G 50

A. The cells produced via mitosis are referred to as diploids.
B. Meiosis occurs when a single cell produces four new cells instead of two.
C. Eukaryotic cells are unicellular and do not have a nucleus.
D. DNA stands for deoxyribonucleic acid.
E. During prophase, the replicated DNA or chromatins turns into chromosomes.

phase of mitosis is known as
the basic structure of an organism is made up of cells. Some small organisms are unicellular, meaning they are made up of only one cell, such as bacteria. Animals are made up of billions, while humans are made up of trillions of cells, this is known as multicellular. Binary fission, mitosis, and meiosis are the three main types of cell division. There are two different types of cells: prokaryotic and eukaryotic. Eukaryotic cells are tiny structures that perform various functions that keep an organism alive. Eukaryotic cells have a nucleus and can be either unicellular or multicellular. Prokaryotic cells are unicellular and do not have a nucleus. As with all living things, a cell has a life cycle. Eventually, cells become old and begin to die. In order to create new cells, a cell must divide.

THE CELL CYCLE

Cells are the basic structure of an organism. All living things are made up of cells. Some small organisms are unicellular, meaning they are made up of only one cell, such as bacteria. Animals are made up of billions, while humans are made up of trillions of cells, this is known as multicellular. Binary fission, mitosis, and meiosis are the three main types of cell division. There are two different types of cells: prokaryotic and eukaryotic. Eukaryotic cells are tiny structures that perform various functions that keep an organism alive. Eukaryotic cells have a nucleus and can be either unicellular or multicellular. Prokaryotic cells are unicellular and do not have a nucleus. As with all living things, a cell has a life cycle. Eventually, cells become old and begin to die. In order to create new cells, a cell must divide.

A. The Constitution is organized into seven different parts called Articles.
B. The Constitutional Convention was held in Boston, Massachusetts.
C. The 3 branches include the Legislative, Executive and Parliament Branch.
D. The first ten amendments came in 1791 and are called the Bill of Rights.
E. Before the Constitution, a strong federal government held the states together.
F. The opening part of the Constitution is called the Preamble.
G. George Washington was known as the "Father of the Constitution."
H. The U.S. Constitution is the oldest government document still in use today.

4 DIGIT CODE:



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.

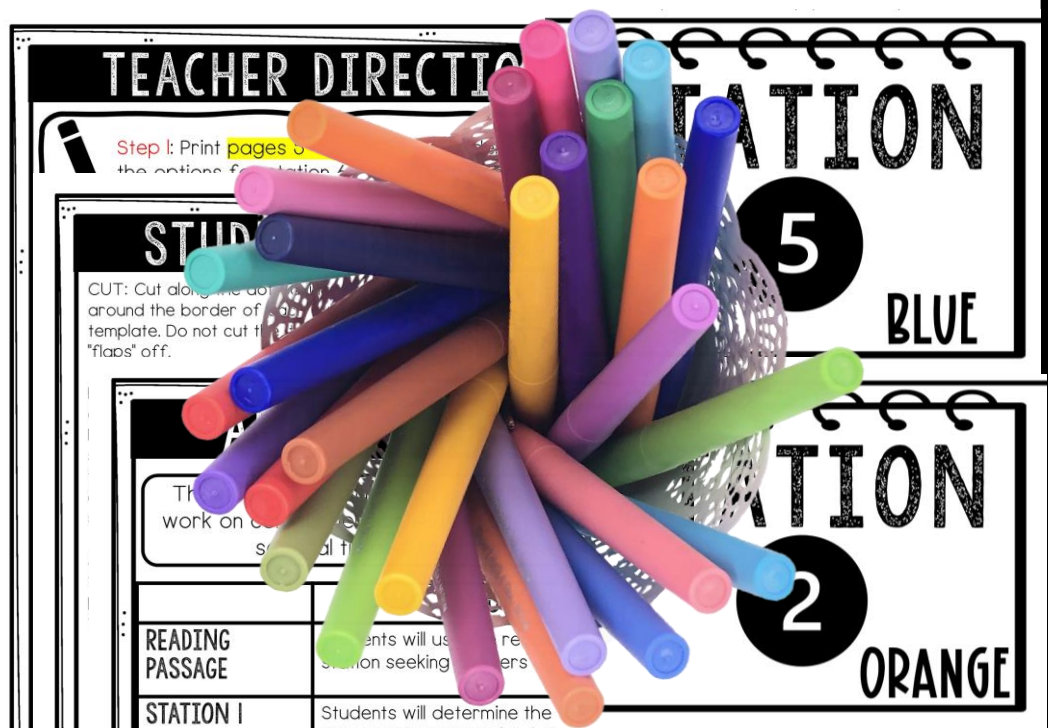
STATION

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. 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.

1	dissolves	4	LDR	7	chromosomes
2	grows	5	CNS	8	cytokinesis
3	diploids	6	DNA	9	telekinesis

During metaphase, a mitotic spindle pulls the _____ to the middle of the cell. This _____ divide in two. During the _____ nucleus _____ the two identical chromatids, split in half. Each half is the same size as the other. Final _____ are formed. Then, the cell splits down the middle and becomes two cells. These new daughter cells each have their own _____.

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.

STATION

6

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 year Walther Flemming first discovered mitosis MINUS 1878.

The SECOND number of the lock is

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 are the two identical halves of the chromosomes called?
 A. Monochromatic
 B. Chromatids
 C. Autotrophic
 D. None of the above

During what phase does the nuclear membrane of the nucleus dissolve?
 A. Metaphase
 B. Prokaryotic phase

Meiosis of a diploid cell produces four haploid cells instead of two.
 A. 4
 B. 6
 C. 8
 D. 10

Mitosis is a type of cell division that produces two identical daughter cells.
 A. Somatic
 B. Chordata
 C. Gamete
 D. None of the above

How many chromosomes does a human cell have?
 A. 62
 B. 72
 C. 82
 D. 92

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 digit of the code.

STATION

3

YELLOW

A 75

B 25

C 50

D 100

- C. Eukaryotic cells are unicellular and do not have a nucleus.
- D. DNA stands for deoxyribonucleic acid.
- E. During prophase, the replicated DNA or chromatin forms into chromosomes.
- F. The last phase of mitosis is known as metaphase.
- G. Cells are the basic structural and functional units of an organism.
- H. Eventually, cells become old and die.

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 answer is the 4-digit code.

STATION

2

ORANGE

A Mitosis is a type of cell division that produces two identical daughter cells.

B Chromosomes are made of DNA and proteins.

C Prokaryotic cells are unicellular and do not have a nucleus.

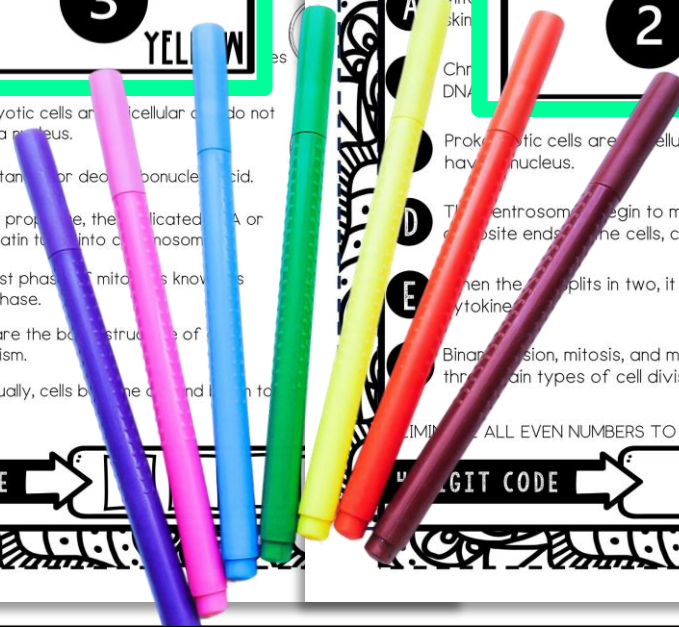
D The centrosomes begin to move towards opposite ends of the cells, called the poles.

E When the cell splits in two, it is known as cytokinesis.

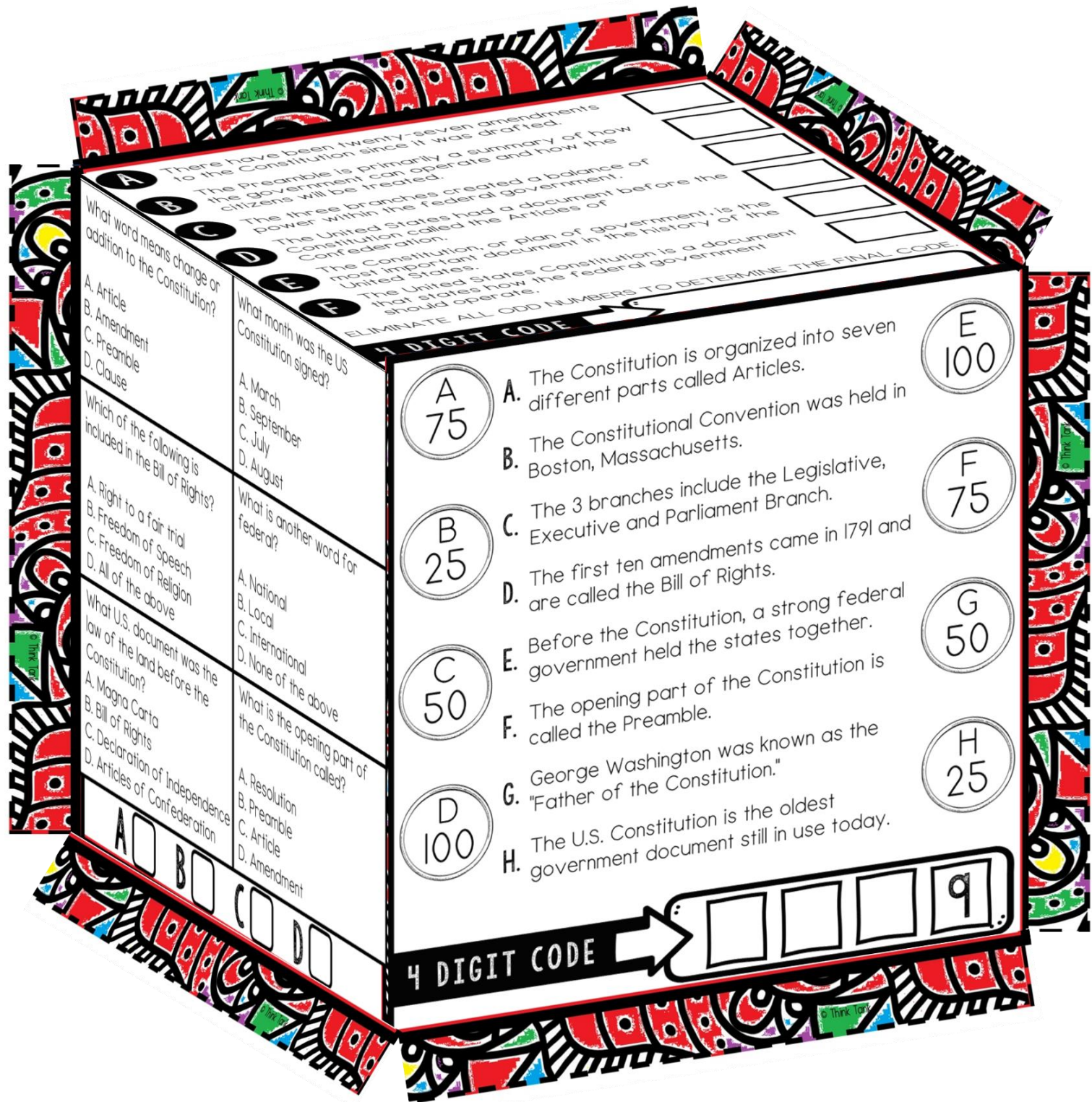
F Binary fission, mitosis, and meiosis are the three main types of cell division.

ELIMINATE ALL EVEN NUMBERS TO DETERMINE THE FINAL CODE.

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 codes 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
75

B
25

C
50

D
100

A. The cells produced via mitosis are referred to as diploids.

B. Meiosis occurs when a single cell divides into four new cells instead of two.

C. Eukaryotic cells are unicellular and do not have a nucleus.

D. DNA stands for deoxyribonucleic acid.

E. During prophase, the replicated chromatin turns into chromosomes.

F. The last phase of mitosis is known as metaphase.

G. Cells are the basic structure of all organisms.

H. Eventually, cells become old and die.

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

