





Şcoala Gimnaziala "Liviu Rebreanu" Str. Eroilor, nr.3 Mioveni, jud. Arges Tel/fax 0248/262146 E-mail: <u>scoala_rebreanu@yahoo.com</u> Web: http://www.freewebs.com/scoalarebreanu/

DATE 27.05.2014 \$COALA GIMNAZIALA "LIVIU REBREANU" MIOVENI, ARGES, ROMANIA LEVEL: 7th TEACHERS: MARIANA RADULESCU & DANIELA BERECHET CURRICULUM: MATH & SCIENCE SUBJECT: MATHEMATICS TITLE: FUNNY and APPLIED MATHEMATICS TYPE: training skills and abilities CONTENTS: Activities with synthetic materials - paper - combination of techniques used to obtain useful products OBJECTIVES: 1.2: to combine various techniques and tools to achieve an intended purpose; 2.1: to create useful products for everyday life after a schedule combining techniques learned.

- **OO**₁: use right and proper working tools;
- **OO₂:** to verbalize actions that define stages of product;
- **OO₃:** to assemble and glue correctly to get the final product;
- **OO**₄: to assess the quality of finished products based on simple criteria data in relation to the product model.

TIMING: 45 min.

TEACHING STRATEGIES:

a) **METHODS and PROCEDURES:** explanation, conversation, instruction, demonstration, exercises, practical work, brainstorming;

- **b) MEANS OF EDUCATION:**
- *informative demonstration: the models proposed, the working stages ppt presentation, video projector,*

• *the practice and skills training: White and colored cardboard, scissors, colors, glue* **FORMS OF ORGANIZATION:** workshop, frontal, individual and group activity; **RESOURCES:** WorkSheets, Puzzles, Crosswords, WordSearch, Maze, Origami

FUNNY MATHEMATICS - WORKSHOP

- 1. Geometry and ORIGAMI
- 2. Maths Games (Puzzle, WordSearch, Quizzes, Crossword,

Grid, Graph, etc...)

- 3. Quilling and Maths
- 4. Polyhedrons build and calculate

I explain to students that in this time, they made from white paper and various colorful paintings, combining geometric objects and learning techniques or learning new techniques; students will solve some fun themes using crossword, word search, puzzle, maze, Origami, Quilling; at the end of the lesson students will appreciate the quality of work and product model and comparison with those of other colleagues.

Description:

Ĥ

Ĥ

Each child will have the necessary material.

- Presentation of the product model and its exposure to the class to be easily viewed
- The intuition stages work by students, the additions made necessary by teachers:
 - \checkmark I show students' work technique, work phases are displayed as slide
 - \checkmark I explain to students that the technique is working closely with compliance work stages.

If the steps are followed step by step, the final product will be very successful.

I will list the rules to be followed in carrying out the work: proper and careful use of tools, pleasant mix of materials and colors, the aesthetics of the final products, the timing of work.

Evaluation:

- Perform an exhibition of student work.
- Students appreciate the appearance of works by colleagues.
- It evaluates and seeks usefulness own product.
- General and individual evaluation
- Students are rewarded with diplomas.
- Gathering materials and clean workplace.

References:

1. Geometry and ORIGAMI

http://creativplace.blogspot.ro/2012/06/matematica-si-origami.html http://www.langorigami.com/science/math/math.php http://www.mathigon.org/origami/ http://www.paperfolding.com/math/ http://www.youtube.com/watch?v=8tCkTY94dJE http://en.origami-club.com/unit/index.html

2. Maths Games (Puzzle, Word Search, Quizzes, Crossword, Grid, Graph, etc...)

http://www.teachers-direct.co.uk/resources/wordsearches/subjects/Mathematics.aspx http://math4children.com/Grade6/worksheets/index.html http://school.discoveryeducation.com/index.html http://www.discoveryeducation.com/free-puzzlemaker/index.cfm?campaign=footer_teacher_puzzle

3. Quilling and Maths

http://miragami-ro.blogspot.ro/p/quilling-arta-rularii-hartiei.html http://quilling-mv.blogspot.ro/2011_11_01_archive.html

4. Polyhedrons - build and calculate (tetrahedron; cube, rectangular prism)

WORD SEARCH – SCHOOL



Try to find in this square the next words:

BUS; CLASS; CRAYON; FRIEND; FUN; LEARN; LUNCH; MATH; PAPER; PENCIL; PLAY; READ; SING; TEACHER; TEST; THINK; WRITE

F	Q	R	W	K	F	V	B	Q	W	Ι	D	Н	B	E
Z	U	J	R	R	L	Ι	С	Ν	E	P	С	A	Ι	Т
Ι	C	N	Ι	X	T	H	N	V	R	Ν	S	H	E	W
W	P	E	T	C	F	J	Q	0	U	U	M	U	Ι	R
X	N	X	E	R	S	B	S	L	Μ	A	E	Ι	V	Ν
D	B	B	X	A	L	S	G	Ν	T	R	P	Y	A	Ν
F	T	B	J	Y	V	0	A	H	H	X	S	K	L	T
Ι	L	E	Α	0	C	H	S	L	W	Z	\mathbf{V}	S	E	G
T	D	W	Α	N	S	W	M	B	С	N	R	Q	J	U
Y	A	L	P	C	Ν	E	S	B	\mathbf{V}	R	E	Т	K	D
Т	J	M	B	A	H	T	P	B	Ε	A	S	B	S	A
Q	Н	S	S	Н	G	E	G	\mathbf{V}	R	E	T	E	0	K
Y	0	Ι	V	Μ	Ν	Ι	R	T	T	L	H	F	A	K
0	D	K	Ν	A	Ι	0	Q	J	U	K	W	P	Ν	E
B	U	S	W	K	S	С	Z	F	Р	A	P	E	R	W

AREA and VOLUME WORDSEARCH

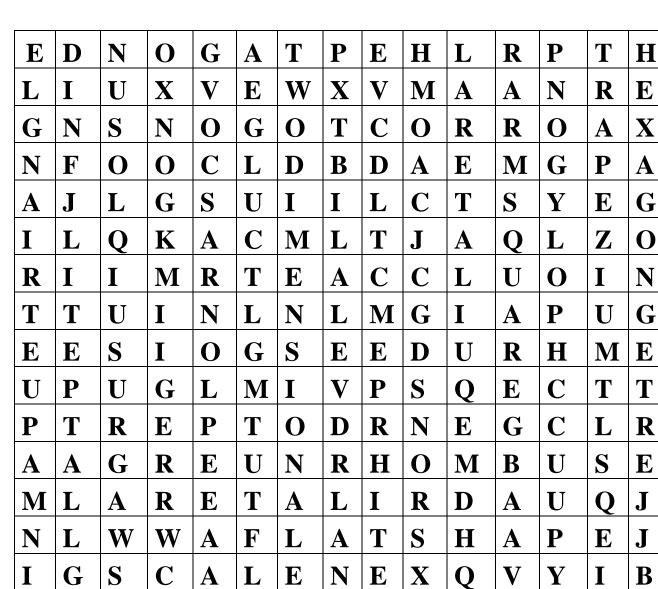
E	T	A	L	U	С	L	A	С	V	S	S	Μ	S	B
Ε	E	Y	С	E	V	S	H	E	U	U	Ε	Z	Q	L
L	L	A	Р	0	Ν	F	E	R	R	Z	С	D	U	Y
0	V	G	L	L	Н	G	F	C	S	V	Ι	Z	A	Α
R	Т	U	Ν	Е	U	Α	н	0	Α	0	Т	W	R	S
v	Μ	Q	G	Α	С	W	S	Т	В	F	R	Н	Е	Р
Е	С	U	В	Е	Т	D	Е	U	J	S	Ε	G	D	Е
F	G	Н	Α	Т	Е	С	С	L	Н	V	V	Е	Z	Т
w	L	R	Н	V	U	M	E	x	Т	W	Ι	G	A	U
Y	E	F	T	U	P	Т	Z	R	D	V	M	G	G	V
A	Н	E	Ι	G	H	Т	N	G	I	V	D	T	K	C
P	Z	W	D	Z	G	B	D	E	W	X	I	S	0	A
K	L	Q	J	S	P	A	U	W	T	I	Q	U	E	R
R	R	S	B	I	K	X	R	C	P	A		R	R	0
F	S	Ν	G	Τ	0	B	Q	U	E	F	Α	Η	0	Τ

Words to find in this table:

AREA **CUBOID** HEIGHT RECTANGLE VERTICES

CALCULATE **EDGES** LENGHT **SQUARE VOLUME**

CUBE FACES NET **SURFACEAREA** WIDTH



Words to find in this table:

POLYGONS - WORD SEARCH

CIRCLE **FLATSHAPE ISOSCELES** PARALLELOGRAM **OUADRILATERAL SCALENE TRAPEZIUM**

TWODIMENSIONAL **HEPTAGON** KITE PENTAGON RECTANGLE TRIANGLE

EQUILATERAL **HEXAGON OCTOGON** POLYGON RHOMBUS **SOUARE**

 \square



Summer Time

SUMMER TIME – WORD SEARCH

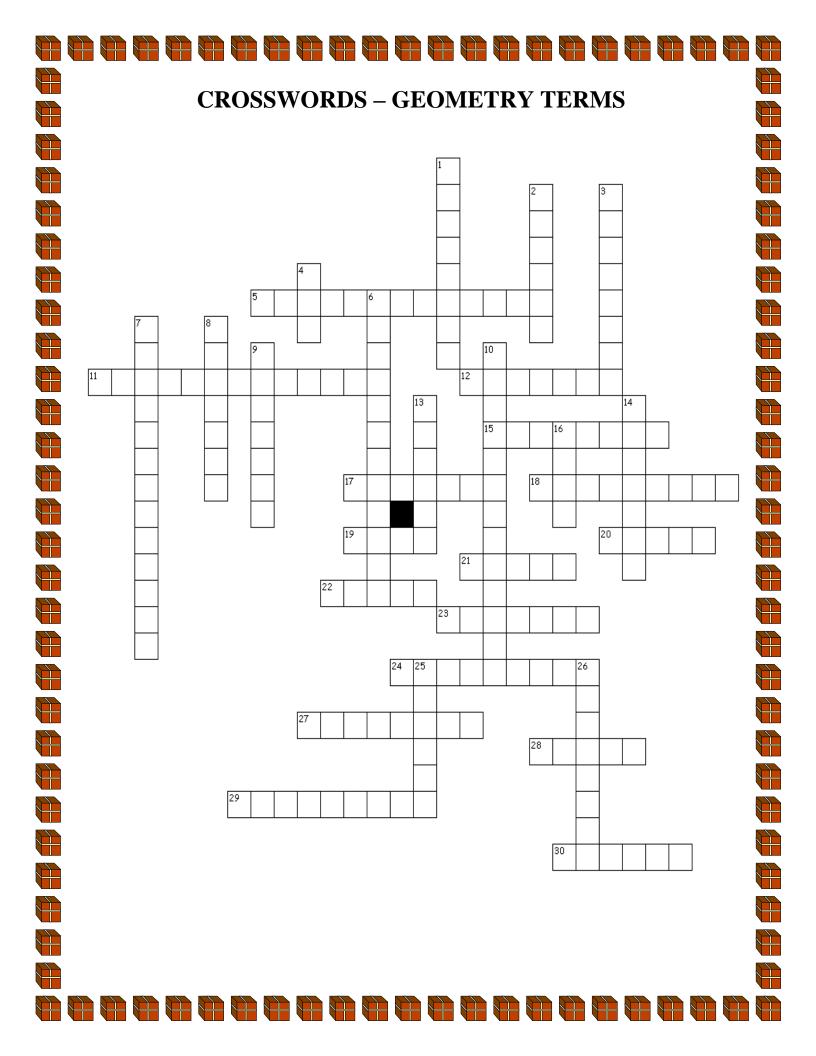
Ì

P	0	Ν	L	X	P	D	S	0	S	B	Ι	Y	Т	Μ
Ν	U	B	K	S	Ν	D	U	Q	U	С	С	E	Ν	K
Z	U	A	A	V	C	T	Q	X	K	B	E	F	W	M
B	Μ	Ν	Q	Т	S	Η	R	Ν	K	С	C	0	G	Y
S	G	Y	A	Ι	L	0	Q	Ι	J	G	R	Ν	Τ	C
\mathbf{F}	U	Ζ	D	Ι	U	С	D	0	Ι	Ν	E	P	X	D
Y	D	E	G	R	D	S	Α	D	T	Y	A	D	S	V
\mathbf{F}	J	S	G	A	A	Τ	H	M	Ν	L	M	E	E	J
\mathbf{M}	L	R	F	C	Ζ	X	0	Ν	P	E	M	0	K	Η
J	R	0	Ν	J	Ι	W	U	F	S	Ν	Ι	Y	H	C
U	B	A	0	C	M	S	A	L	F	Ν	Y	R	B	Α
L	Y	A	L	P	R	Η	Τ	S	U	G	U	A	F	E
Y	Y	Τ	C	U	A	Ζ	M	B	L	M	U	W	Y	B
R	0	P	P	S	W	P	C	Ν	Τ	B	A	L	L	C
Η	B	0	Ι	V	V	0	K	K	V	M	E	Y	C	F

Find these words in the puzzle. Words are hidden \rightarrow and \downarrow .

AUGUST CAMP ICECREAM **OUTSIDE SUNNY**

BALL	BEACH
FRIEND	HOT
JULY	KIDS
PLAY	POOL
WARM	



CROSSWORDS – GEOMETRY TERMS

<u>Across</u>

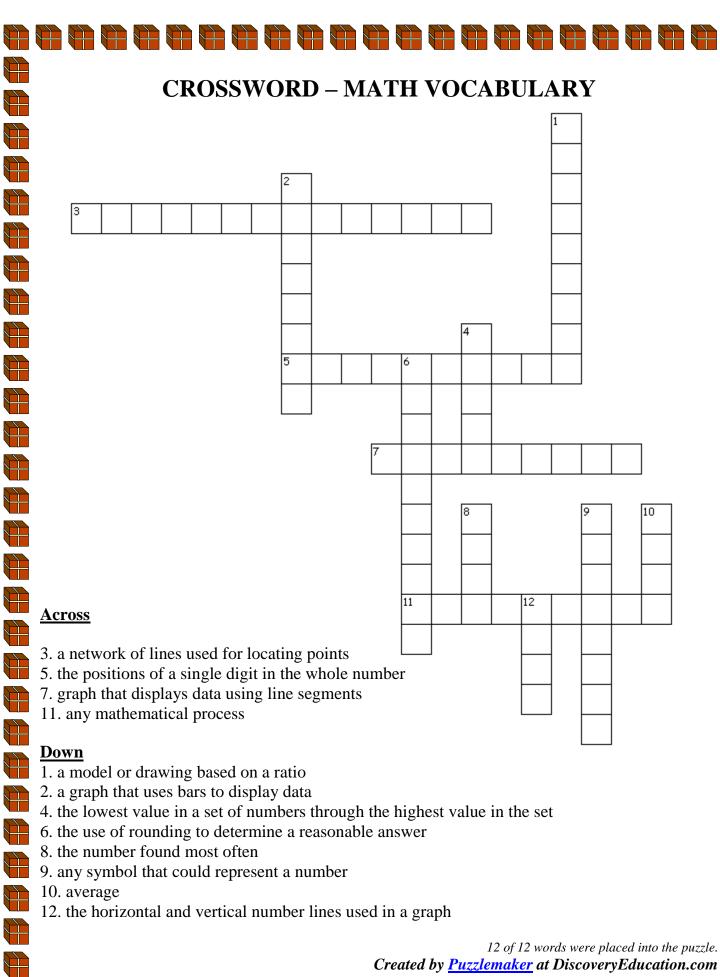
- 5. A four-sided polygon
- 11. The distance around a circle
- 12. A ten-sided polygon
- 15. Two lines in a plane that never intersect are ____ lines.
- 17. An eight-sided polygon
- 18. The distance around a figure
- 19. A straight path with no endpoints; it goes on forever in both directions
- 20. A figure formed by two rays with the same endpoint
- 21. An angle that measures less than 90 degrees
- 22. An angle that measures 90 degrees
- 23. A closed plane figure with any number of sides
- 24. Figures that have the same size and shape are___
- 27. A line that divides a figure into two matching parts is a line of ____.
- 28. A flat surface that goes on and on in all directions
- 29. A parallelogram with four right angles
- 30. The common endpoint of two rays

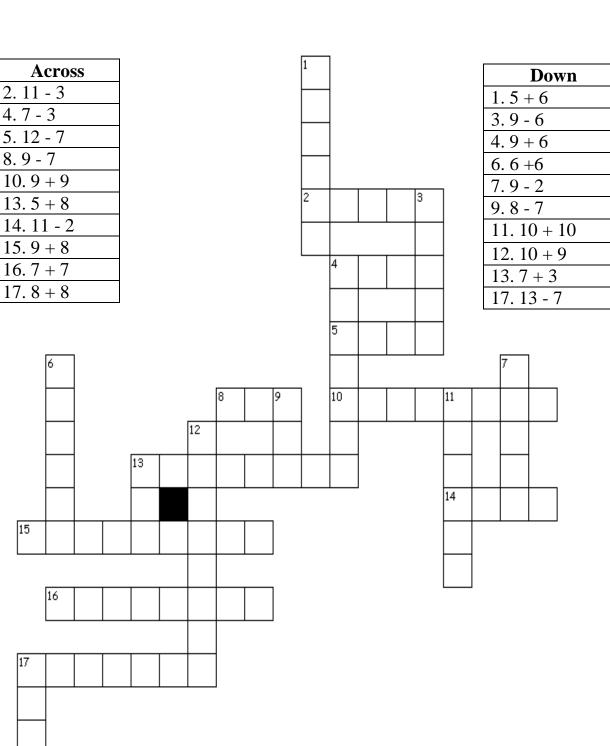
<u>Down</u>

- 1. A line that divides an angle in half
- 2. A closed plane figure having all points an equal distance from the center
- 3. A five-sided polygon
- 4. A part of a line that has one endpoint and goes on forever in one direction

- 6. Lines that share a common point are ____ lines.
- 7. A quadrilateral in which the opposite sides are parallel and congruent
- 8. Figures that have the same shape but not necessarily the same size are said to be____.
- 9. A six-sided polygon
- 10. Lines that intersect and form right angles are ____ lines.
- 13. A rectangle with four equal sides
- 14. A subset of a line which contains two endpoints
- 16. The number of square units needed to cover a region or figure
- 25. An angle that measures more than 90 degrees
- 26. A three-sided polygon

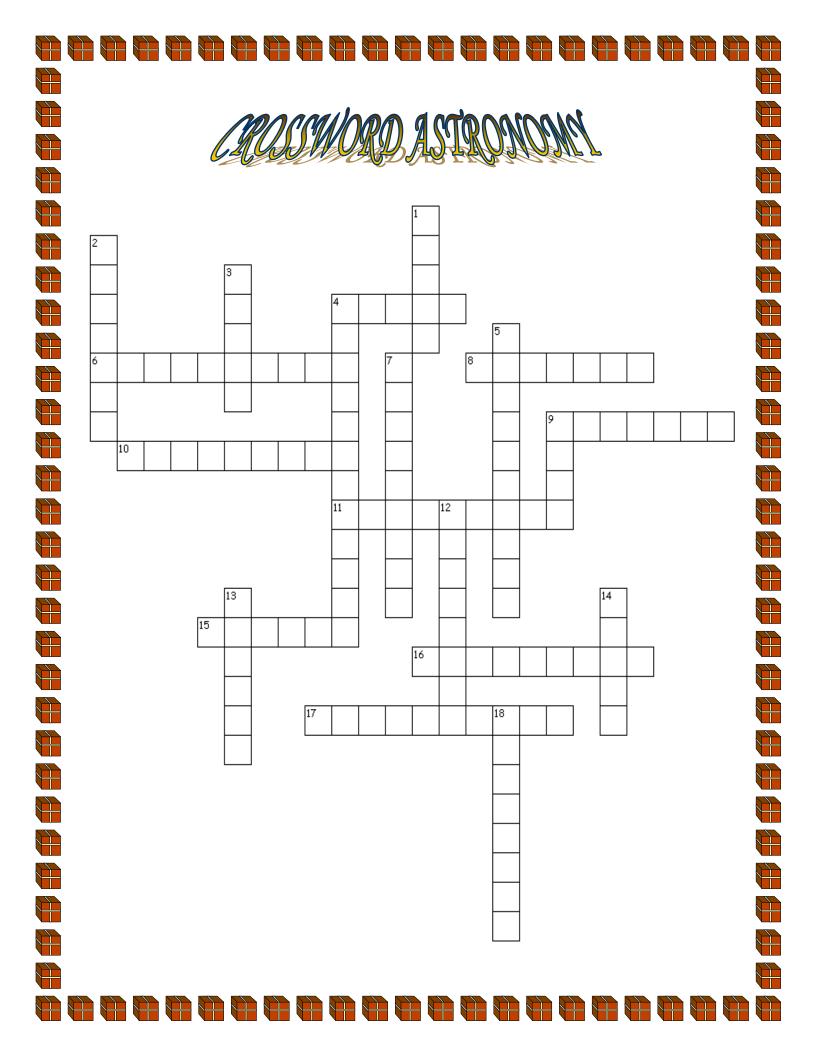
30 of 30 words were placed into the puzzle. Created by <u>Puzzlemaker</u> at DiscoveryEducation.com





CROSSWORD – ADDITION AND SUBSTRACTION

20 of 20 words were placed into the puzzle. Created by <u>Puzzlemaker</u> at DiscoveryEducation.com





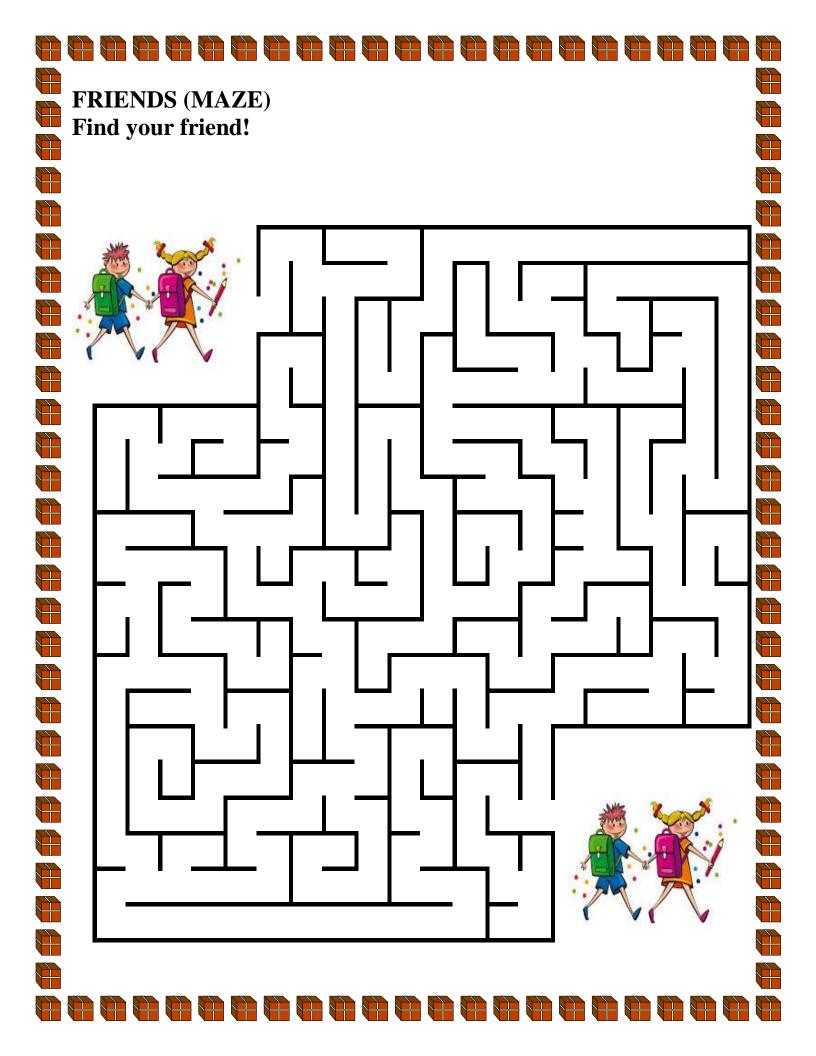
Across

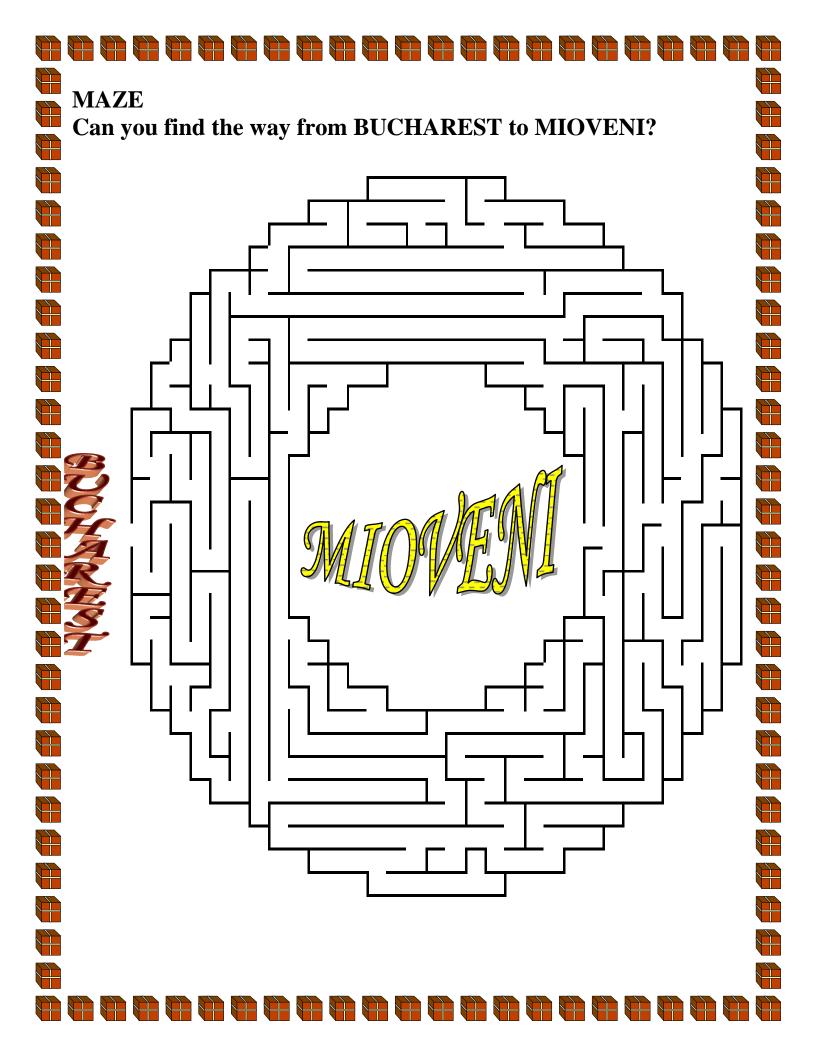
- 4. A mass of material with a long tail that travels around the Sun
- 6. The movement of the Earth around the Sun
- 8. The largest planet in our solar system
- 9. The planet closest to the Sun
- 10. An instrument that makes distant objects look larger and closer
- 11. Small rocky objects that revolve around the sun, mostly in the area between Mars and Jupiter
- 15. The planet with rings
- 16. The distance light travels in one year
- 17. A scientist who studies stars and planets

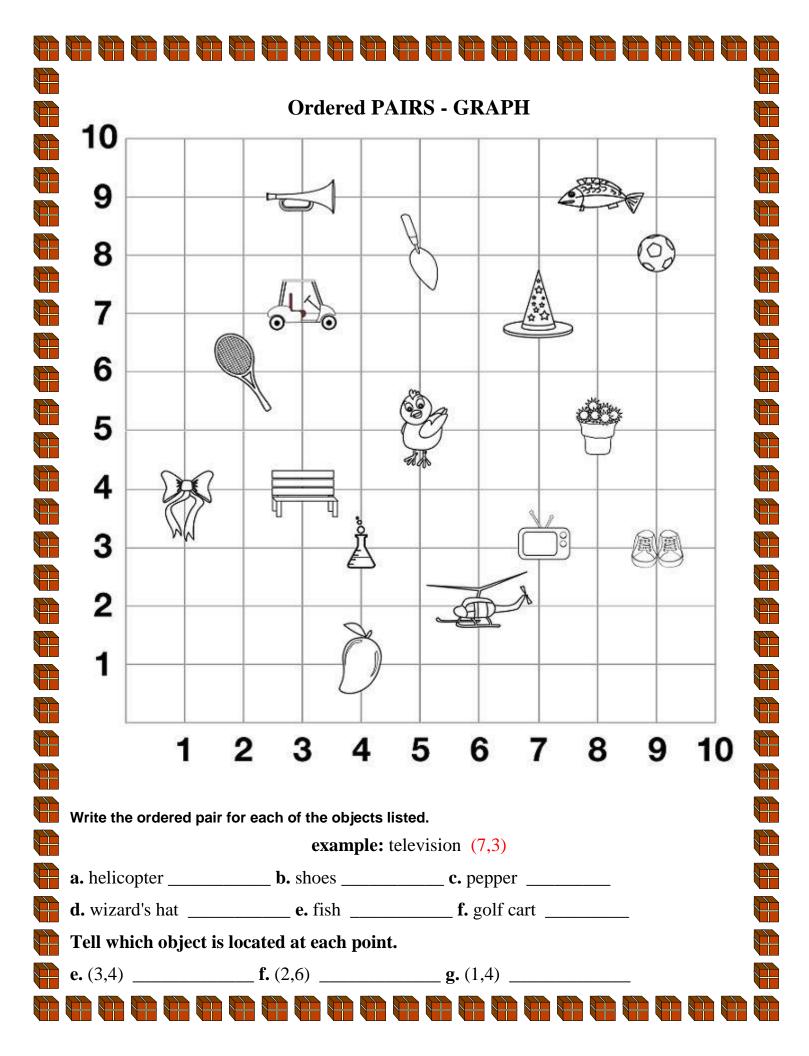
<u>Down</u>

- 1. Number of stars in the Big Dipper
- 2. Another name for the North Star
- 3. The planet closest to Earth
- 4. A group of stars with a definite pattern or arrangement
- 5. A star much larger than our sun
- 7. A star's brightness is called its _____.
- 9. The "Red Planet"
- 12. The spinning of the Earth on its axis
- 13. A large group of stars, gas and dust
- 14. A very small star
- 18. The name of our galaxy

20 of 20 words were placed into the puzzle. Created by <u>Puzzlemaker</u> at DiscoveryEducation.com







GRAPH – ROBOT NOTE: In each section, do NOT connect the last point back to first point. (X, Y) (X, Y) (X, Y) (X, Y) (X, Y) (1, -20) (2, -5)(3, 19) (-6, 6)(-6, 1)П (1, -19)(5, -2)(-3, 19) (-7, 7)(-6, -1)(3, -18) (6, -2)(-4, 18) (-7, -1) (-9, 7)(5, -18) (6, -8)(-4, 14) (-10, 6) (-7, 0) (7, -19) (-3, 13) П (-10, 5)(-8, 1) (5, -9)(7, -20)(-9, 0)(3, -9)(3, 13)(-9, 4)(1, -20) П (2, -8) \Box (4, 14)(-7, 4)(-9, -2) П (2, -5) (4, 18) (-6, 5) (-10, -2) STOP (-6, 6) П (3, 19)П (-10, 1)STOP \Box (-9, 2)STOP STOP (-1, -20) (-7, 2)(-6, 1) (-1, -19) (-2, -5) (-6, 11) (-3, -18) п (-5, -2) П (6, 6)STOP (-7, 12) П \Box (-5, -18) (-6, -2)(7, 7) \Box (-9, 12) (-7, -19) (-6, -8) (9, 7)(-10, 11) (-7, -20) (-5, -9) \Box (10, 6)(1, 16)(-10, 9)(-1, -20) \Box (3, 16)(-3, -9) (10, 5) \Box (-9, 8) п (-2, -8) П (9, 4)(3, 18)STOP П (-7, 8)(-2, -5) (7, 4)(1, 18)(-6, 9) \Box П (1, 16)(6, 5)STOP п (-6, 11)(3, -14) п (6, 6)STOP (5, -14)STOP STOP (6, -13)(1, -4) П (4, -1)(6, -12)(-1, 16) (6, 11) (5, -11) (4, 1) (6, 1) (-3, 16)П (7, 12)(3, -11) П (-4, 1) П (6, -1)(-3, 18) (9, 12)П (2, -12)(-4, -1)(7, -1)(-1, 18) П (10, 11)(-1, -4) (2, -13) П (7, 0)(-1, 16) \Box (10, 9)(3, -14) (1, -4) (8, 1) (9, 8) \Box STOP П (9, 0)STOP STOP П (7, 8)П (9, -2)(6, 9)(10, -2)(-3, 11)П (6, 11)(-3, -14) (-3, 4) (10, 1)(-3, 8) (-5, -14) п (-5, 8)П (3, 8) (9, 2)STOP \Box (-5, 12)П (-6, -13) (7, 2)(3, 11)(-6, -12) (5, 12) (6, 1) Π (-3, 11) (-2, 19) (-5, -11) (5, 8)(-2, 20) STOP STOP (-3, -11) (3, 4)(2, 20)(-2, -12) П (-3, 4) (2, 19)П (-2, -13) (2, 15)(-2, 4) STOP П (-3, -14) (2, 14)(-2, 1) STOP П \square (-2, 14) STOP STOP (2, 4) (-2, 15) (2, 1) П (2, 15)STOP Now color your picture. STOP

