



STUDY KIT 4

Title: “S.T.E.M.: IT’S ALL GREEK TO ME!”

Topic: GREEK ORIGIN PREFIXES AND SUFFIXES IN THE ENGLISH TERMINOLOGY OF S.T.E.M. SCHOOL SUBJECTS AND IN EVERY-DAY ENGLISH LANGUAGE

Keywords: PREFIXES (GEO-, THERMAL-, BIO-, TELE-, MICRO-, MACRO-, CARDIO-, HYDRO-, ELECTRO-, ZOO-, TRIGONO-, OPTIC-, NEURO-, PHYSIO-, PHYTO-, MONO-, POLY-, META-, HYPER-, HYPO-, SEMI-, PHOTO-, AERO-, AUTO-, HOMO-, HETERO-, CHROMO-, ENDO-, EXO-, PROTO-, AMPHI-, ECO-, PATHO-, PARA-, ISO-, ORTHO-, SPHERE-, STEREO-, OXY-, NANO-, PSYCHO-, NEO-) AND SUFFIXES (-LOGY, -DYNAMICS, -METRY, -METER, -SCOPE, -GRAPH)

Subject: ENGLISH AS A FOREIGN LANGUAGE (EFL)/ CEFR level: B1

Cross-curricular Topic: LINGUISTIC SKILLS, CULTURAL HERITAGE

Level: UPPER SECONDARY SCHOOL

Age:16+

Number of students: 32

Duration in minutes: 45

Place (classroom, outdoor etc.): COMPUTER LAB

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Language:ENGLISH

Overview:

Participants will work in multinational groups of four in the school computer lab. They will start with a lead-in listening task (song), play match-the-meaning games, and make a mini dictionary

Objectives:

- **To familiarize foreign students with the English form of basic Greek prefixes and suffixes existing in the terminology of their S.T.E.M. school subjects**
- **To make the Greek prefixes and suffixes in the terminology of S.T.E.M. school subjects memorable for the students so that they can recognize and understand their meaning/ derivatives when they come across them in new relevant terminology**
- **To familiarize foreign students with the use of those prefixes and**



suffixes in every-day English words so that they can recognize the meaning of those words even if they do not know them

- To make Greek students aware of the use of those prefixes and suffixes in every-day English words so that they can recognize the meaning of those words even if they do not know them.
- To make students aware of “transparent” everyday words in English whose origin is Greek.

Learning material and tools:

- Song: “Wonderful World” by Sam Cooke, video WITHOUT lyrics https://www.youtube.com/watch?v=t_MkCV_MkgE
- Gap-filler paper handout for students to fill in while listening
- Matching exercise of the Greek prefixes and suffixes and their meaning in English
- Handout with the prefixes, suffixes and their meaning with example scientific terms in which they are used; for students to check their answers
- Optional: Paper handout of list of Greek origin words/ terms which are used in modern English to prepare the mini dictionary

Preparation:

None required as students will draw on their prior knowledge of school science terminology and English as a foreign language

Evaluation:

- Students’ answers in the matching task
- List of examples they will provide

Extra material:

None required

Detailed description/instruction:

- Teacher (T) introduces the subject of the workshop.
- Students (St’s) work in groups of 4 (2 foreign and 2 Greek) students per computer desk.
- Throughout the workshop, Greek students are asked to help their group



but not to provide the answer at once if they feel confident that they know it.

- T plays the video https://www.youtube.com/watch?v=t_MkCV_MkgE and St's fill in the missing words while they are listening. Groups report their answers to class.
- T writes a list of school subjects on the board with the help of all students and asks foreign students if they know which of the subject names are Greek.
- Students work in their groups and brainstorm to come up with S.T.E.M. terms that contain either the prefixes or the suffixes or both.
- Groups check their answers with the help of Annex 1 getting 1 mark for every correct answer. Everybody gets chocolate of course!
- St's are told to turn to Annex 2 (the list of Greek words/ terms which are used in modern English) and are asked to fill in with the word in their language.

STUDENTS' WORKSHEET

STUDENT NAMES

NAME	NATIONALITY

Activity 1: Listen to the song and fill in the gaps

Don't know much about

Don't know much

Don't know much about a book,

Don't know much about the French I took



**But I do know that I love you,
And I know that if you love me, too,
What a wonderful world this would be**

**Don't know much about,
Don't know much t
Don't know much about a,
Don't know what a slide rule is for
But I do know that one and one is.....,
And if this one could be with you,
What a wonderful world this would be**

**Now, I don't claim to be an "A" student,
But I'm tryin' to be
For maybe by being an "A" student, baby,
I can win your love for me**

**Don't know much about,
Don't know much,
Don't know much about a book,
Don't know much about the French I took
But I do know that I love you,
And I know that if you love me, too,
What a wonderful world this would be**

**.....,
.....,
..... book
French I took
But I do know that I love you,
And I know that if you love me, too,
What a wonderful world this would be**

**Activity 2: Can you fill in with examples?**

PREFIX	MEANING	EXAMPLES
1. GEO-	relating to planet Earth OR to the ground OR to the soil	
2. THERMO-	relating to heat	
3. BIO-	relating to life in general	
4. TELE-	from far away	
5. MICRO-	extra small	
6. NANO-	Tiny	
7. MACRO-	large-scale; overall	
8. CARDIO-	relating to the heart	

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9. HYDRO	relating to water and/or fluids		
10. ELECTRO-	relating to electricity and/or electronics		
11. ZOO-	relating to animals		
12. TRIGONO-	relating to triangles		
13. OPTIC-	relating to the eye or vision		
14. NEURO-	relating to the nerve system		
15. PHYSIO-	relating to the body		
16. PHYTO-	relating to plants		
17. PSYCHO-	relating to the soul OR the emotions		
18. MONO-	single, alone		



19. META-	to indicate a concept which is an abstraction behind another concept, used to complete or add to the latter.		
20. HYPER-	super, over		
21. HYPO-	under		
22. SEMI-, HEMI-	half		
23. PHOTO-	relating to light		
24. AERO-	relating to air or gases		
25. AUTO-	originating from the self		
26. HOMO-	Same		
27. HETERO-	other OR different		
28. CHROMO-	Color		



29. ENDO-	inner, within		
30. EXO-	outer		
31. PROTO-	original, first		
32. ECO-	relating to the natural environment		
33. PATHO-	relating to diseases		
34. PARA-	at or to one side of, beside, side by side		
35. ISO-	Equal		
36. ORTHO-	straight, rectangular; upright		
37. STEREO-	solid OR hard OR three-dimensional		
38. OXY-	sharp, OR acute, OR keen, OR pointed, OR acid		
39. NEO-	new, novel		



40. POLY-	much, many		
SUFFIX	MEANING	EXAMPLES	
1. –LOGY	referring to the theory and study of a particular matter		
2. –DYNAMICS	the forces or properties which stimulate growth, development, or change within a system or process		
3. –METRY	the process of measuring		
4. –METER	instrument for measurements		
5. –SCOPE	instrument for viewing		
6. –GRAPH	instrument for recording		



Activity 3: What is the equivalent of these Greek origin words in your language? (to be filled in digitally)

ENGLISH	ICELANDIC	SLOVENIAN	SPANISH	SWEDISH
Abyss				
Academy				
Alphabet				
Amnesia				
Amnesty				
Analogy				
Analysis				
Anatomy				
Anthology				
Antithesis				
Anthrax				
Anorexia				
Apocalypse				
Aphrodisiac				
Apology				
Arachnophobia				
Architect				
Aristocracy				
Arithmetic				
Arthritis				
Astronomy				
Athlete				
Atom				
Automatic				
Bacteria				
Baptism				
Bible				
Biography				
Bionic				
Botanical				
Cardiac				
Catastrophe				
Cemetery				
Character				
Charisma				
Choreography				
Chorus				
Chromosome				
Chronological				

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Cinema(tography)

Classic

Climax

Clinic

Clone

Codex

Comedy

Cone

Cosmopolitan

Cosmos

Cost

Crater

Crisis

Critic

Cybernetics

Cylinder

Cynical

Democracy

Demographic

Demon

Diabetes

Diabolic

Diagnosis

Dialect

Diameter

Didactic

Diet

Dilemma

Dinosaur

Diplomat

Dynamite

Dyslexic

Echo

Eccentric

Eclipse

Ecology

Economy

Ecstasy

Ego

Embryo

Empathy

Emphasis

Empirical



Encyclopedia
Epitaph
Eros
Esoteric
Ether
Ethnic
Ethos
Etymology
Eulogy
Evangelist
Exodus
Exotic
Fantasy
Fanatic
Gastronomy
Genesis
Geography
Geology
Geometry
Grammar
Graphic
Gymnasium
Gymnastics
Harmony
Harp
Hedonism
Hegemony
Helicopter
Heresy
Hermaphrodite
Hero
Heterosexual
Hierarchy
Hieroglyphics
Hippopotamus
History
Holocaust
Hologram
Homeopathy
Homophobia
Horizontal
Hybrid
Hydraulic



Hygiene
Hypnosis
Hypocrite
Hypothesis
Hysteria
Icon
Idea
Ideology
Idiom
Idiot
Idol
Ion
Isthmus
Laconic
Lexicon
Logic
Logos
Logotype
Lyric
Macrocosm
Magic
Magnet
Mania
Marathon
Martyr
Mathematics
Mechanism
Medal
Melancholy
Melodramatic
Melody
Menopause
Metabolism
Metal
Metamorphosis
Metaphor
Metaphysics
Meteorology
Meter
Methodology
Metropolis
Meiosis
Mitosis



Monarchy
Monastery
Monogamy
Monotonous
Mystery
Narcissism
Myth
Narcotic
Neolithic
Neon
Neurology
Nostalgia
Nymph
Ode
Oligarchy
Olympics
Optics
Orchestra
Osteoporosis
Ostracism
Ozone
Paleontology
Panacea
Pancreas
Pandemonium
Panic
Panorama
Pantheon
Paradigm
Paradox
Paragraph
Parallel
Paralysis
Parameter
Paranoia
Paraphrase
Parasite
Parenthesis
Pathetic
Patriarch
Pause
Pedagogical
Pediatrician



Pentagon
Pentathlon
Period
Peripheral
Periscope
Pharmacy
Phenomenon
Philharmonic
Philosophy
Phobia
Phonology
Photograph
Photosynthesis
Phrase
Physics
Pi
Planet
Platonic
Pneumonia
Poem
Poet
Politics
Pompous
Pragmatic
Prostate
Protagonist
Prototype
Psyche
Pyromania
Rhapsody
Rhetoric
Rhythm
School
Sardonic
Semantic
Skeptic
Sophist
Sphere
Stadium
Static
Strategy
Sympathy
Symposium



Syndrome
Syntax
Technical
Theater
Tragedy
Tropic
Xenophobia
Xerography
Zone
Zodiac

ANNEX 1: KEY TO ACTIVITY 2

PREFIXES

GEO-,relating to planet Earth OR to the ground OR to the soil

Geography, geology, geodynamics, geopolitics

THERMO-, relating to heat

Thermodynamics, thermal, thermometer

BIO-,relating to life in general

Biology, biometry, biodynamic, biography

TELE-, from far away

Telescope, telemetry, television,

MICRO-,extra small

Microscope, microeconomics, micro particles

NANO-, tiny

Nanotechnology, nanoparticles, nanometer

MACRO-,large-scale; overall

Macroeconomics, macrocosm, macrobiotic

CARDIO-,relating to the heart

Cardiology, cardio training, cardiac, pericardium

HYDRO-,relating to water and/or fluids

Hydrolysis, hydroelectric, Hydra,

ELECTRO-,relating to electricity and/or electronics

Electric, electronic

ZOO-,relating to animals

Zoology, Mesozoic, zoo

TRIGONO-,relating to triangles

Trigonometry,

OPTIC-,relating to the eye or vision

Optical, optometry, optics, optician



NEURO-, relating to the nerve system

Neurology, neurological,

PHYSIO-,relating to the body

Physiological, physical, physiotherapy, physiology

PHYTO-,relating to plants

phytoscopy, phytoecology

PSYCHO-, relating to the soul OR the emotions

Psychology, psychiatry, psycho, psycho killer, psychological

MONO-,single, alone

Monogamy, monogamous, monophonic, monopoly

POLY-,much, many

Polyglot, polymer,

META-,to indicate a concept which is an abstraction behind another concept,
used to complete or add to the latter.

Metaphysics, metadata, meta system, metamorphosis

HYPER-,super, over

Hyperactive, hyperbole,

HYPO-,under

Hypothermia, hypothesis, hypochondriac

SEMI-,HEMI-,half

Semi god, semicircle, hemisphere

PHOTO-,relating to light

Photography, photolysis, photosynthesis

AERO-,relating to air or gases

Aero plane, aerodynamics, aerosol,

AUTO-,originating from the self

Autoimmune, autograph, autopsy, automatic, automobile, autobiography

HOMO-,same

Homosexual, homophobia,

HETERO-,other OR different

Heterosexual,

CHROMO-,color

Chromosome, chromo graph,

ENDO-,inner, within

Endoscope, endocrinology, endoscopy,

EXO-,outer

Exoskeleton,

PROTO-,original, first



Prototype,

AMPHI-,bi-

Amphidextrous, amphibian

ECO-,relating to the natural environment

Ecology, eco-friendly,

PATHO-,relating to diseases

Pathology, pathological, pathetic, apathy

PARA-,at or to one side of, beside, side by side

Paralinguistic, paranormal, parameter, parabolic

ISO-,equal

Isometric, isotonic,

ORTHO-,straight, rectangular; upright: Orthodontist, orthodox, orthopaedic

STEREO-, solid OR hard OR three-dimensional

Stereoscopic, stereo,

OXY-,sharp, OR acute, OR keen, OR pointed, OR acid

Oxygen, oxidize, oxymoron, oxycodon

NEO-, new, novel

Neonatal, neoclassical

SUFFIXES

-LOGY, referring to the theory and study of a particular matter

Biology, sociology, epistemology, technology, cardiology

-DYNAMICS, the forces or properties which stimulate growth, development, or change within a system or process

Aerodynamics, thermodynamics, group dynamics

-METRY, the process of measuring

Photometry, geometry, trigonometry, chronometry, anthropometry

-METER, instrument for measurements

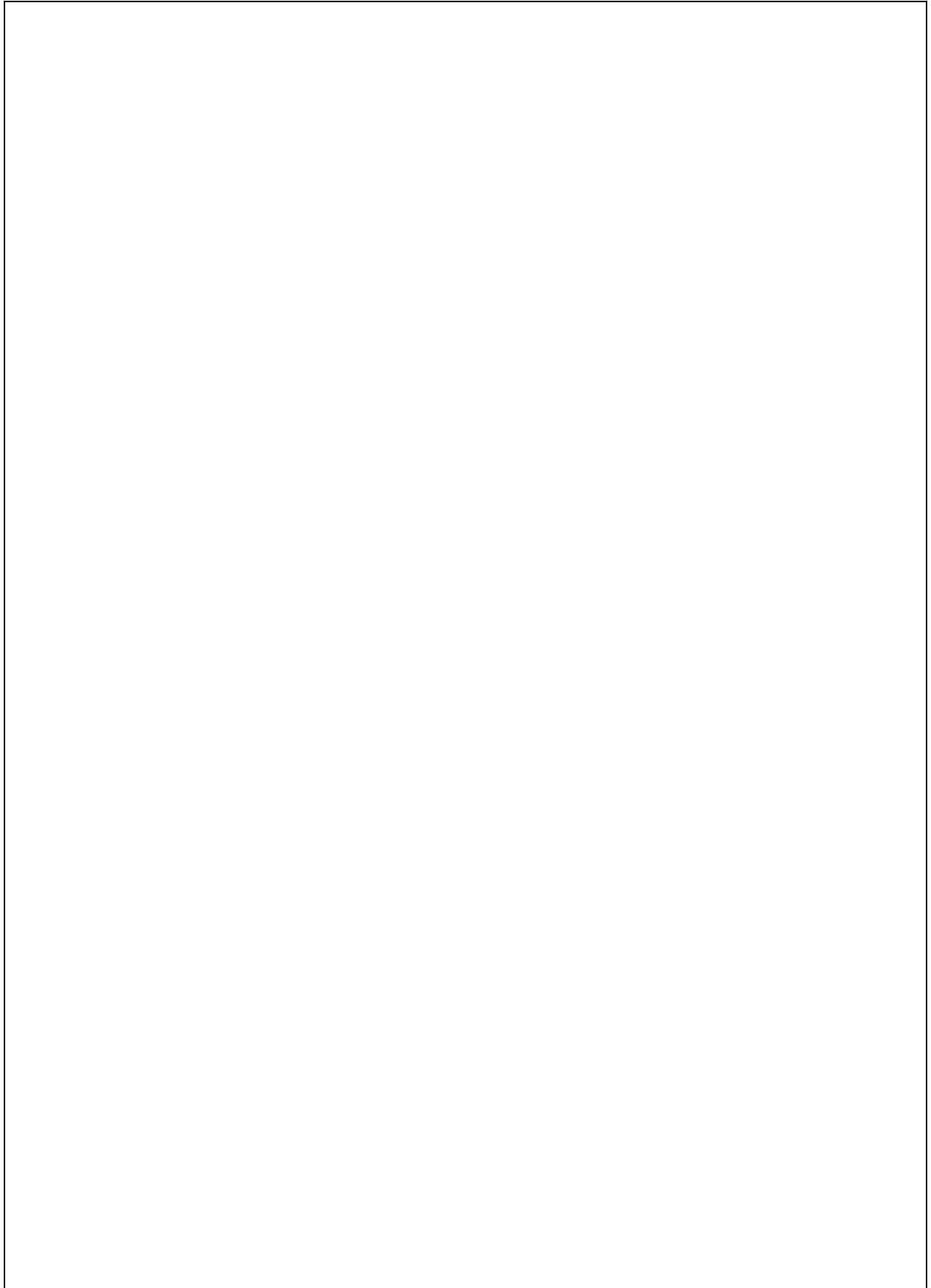
Photometer, thermometer, barometer

-SCOPE, instrument for viewing

Telescope, microscope, stethoscope, arthroscope

-GRAPH, instrument for recording

Phonograph, polygraph, telegraph, lithograph



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