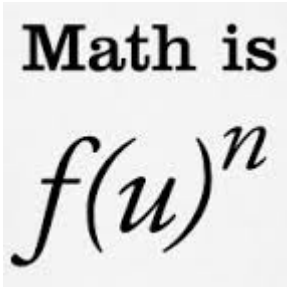
TOPICS TO CHOOSE... And SUGGESTIONS.



Hi eTwinners from 3ªC and 3ªE,

here you will find topics on which we are going to work. Please, choose at least two of them.
After choosing, look at the online materials suggested and start thinking about how to realize your "learning object" and, please, ask all questions you have…

Math

1) Pi (π) number
http://www.mathsisfun.com/numbers/pi.html
http://www.wikihow.com/Calculate-Pi
http://utenti.quipo.it/base5/numeri/pigreco.htm
http://www.piday.org/
http://www.geom.uiuc.edu/~huberty/math5337/groupe/overview.html
http://www.geom.uiuc.edu/~huberty/math5337/groupe/digits.html

Try to use GeoGebra for explaining what π is…

2) Pythagoras theorem and $\sqrt{2}$, $\sqrt{3}$, $\sqrt{5}$.
https://www.khanacademy.org/math/geometry/right_triangles_topic/pyth_theor/v/pythagorean-theorem
http://www.youtube.com/watch?v=uaj0XcLtN5c
...and many many others... Seek for!!!

About $\sqrt{2}$, $\sqrt{3}$, $\sqrt{5}$, I will give you materials.

3) Golden ratio.
http://www.mathsisfun.com/definitions/golden-ratio.html
http://www.mathsisfun.com/numbers/golden-ratio.html
http://www.mathsisfun.com/numbers/nature-golden-ratio-fibonacci.html

Try to use GeoGebra for explaining what φ is…

4) Polyhedra: the beauty of geometry.
http://www.mathsisfun.com/geometry/polyhedron.html
http://www.mathsisfun.com/geometry/polyhedron-models.html?m=Tetrahedron
http://plus.maths.org/content/os/issue27/features/mathart/article/javaview/unfolderApplet
http://www.uff.br/cdme/pdp/pdp-html/pdp-en.html
http://www.gogeometry.com/solid/platonic_solid_1.htm

You can use the applets and evaluate them if useful or not.

5) Fractals.

http://library.thinkquest.org/26242/kids/
http://www.coolmath4kids.com/fractals/
http://encyclopedia.kids.net.au/page/fr/Fractal_geometry
http://fractalfoundation.org/
http://www.42explore.com/fractal.htm

You can draw a fractal and explain it...

Now some topics that you meet (and fight…) everyday at school…

6) Triangles: 30°-60°-90° and 45°-45°-90°
http://www.manuelacasasoli.altervista.org/pagine/mappemat/pitagora2.jpg
http://www.mathopenref.com/triangle306090.html
http://www.mathwarehouse.com/geometry/triangles/right-triangles/special-right-triangles.php
https://www.khanacademy.org/math/geometry/right_triangegles_topic/special_right_triangles/v/30-60-90-triangle-side-ratios-proof

Try to use GeoGebra for constructing these special triangles...

7) Euclid theorem.
http://www.manuelacasasoli.altervista.org/pagine/mappemat/euclide_mappa1.jpg
http://www.youmath.it/formulari/formulari-di-geometria-piana/628-primo-e-secondo-teorema-di-euclide.html
http://www.matematika.it/public/allegati/45/Teorema_Pitagora_Euclide_1_7.pdf

Try to use GeoGebra for demonstrating these theorems...

8) Real numbers and number line.
http://prezi.com/n-8ibkiw881r/number-systems/

Try to use GeoGebra to draw the line of numbers...

9) First degree equations.
http://www.wisc-online.com/Objects/ViewObject.aspx?ID=GEM2204
http://www.mathinary.com/first_degree_equation.jsp
https://www.khanacademy.org/math/cc-eighth-grade-math/cc-8th-solving-equations/cc-8th-linear-equations/v/equations-3

Make a video of equation resolution... (Sara and Giulia…!!!!)

Physics

1) Archimede's principle.
http://www.sciencekids.co.nz/videos/physics/archimedesprinciple.html
http://www.physics-chemistry-interactive-flash-animation.com/mechanics_forces_gravitation_energy_interactive/buoyancy_Archimedes_principle.htm

Use Algodoo and make a video while you explain the principle…

2) Mass vs weight.
http://www.skoool.co.uk/content/keystage3/Physics/pc/learningsteps/MWGLC/LO_Template.swf
http://www.wisc-online.com/Objects/ViewObject.aspx?ID=TP1402
http://www.flashscience.com/motion/weight_on_planets.htm

Make a presentation and collect learning objects from the web...

3) Levers.
http://www.enchantedlearning.com/physics/machines/Levers.shtml
http://www.technologystudent.com/forcmom/lever1.htm
http://www.walter-fendt.de/ph14e/lever.htm
http://www.tutorvista.com/content/physics/physics-i/power-energy-machines/classification-levers.php

Make a presentation and collect learning objects from the web...

4) The laws of motion.
http://www.neok12.com/Laws-of-Motion.htm
http://science.discovery.com/games-and-interactives/newtons-laws-of-motion-interactive.htm
http://www.physicsclassroom.com/mmedia/newtlaws/cci.cfm

Make a presentation and collect learning objects from the web... Or you can use Algodoo…

5) Gravitation.
https://www.khanacademy.org/science/physics/newton-gravitation/gravity-newtonian/v/introduction-to-gravity
http://www.nowykurier.com/toys/gravity/gravity.html
http://vimeo.com/57422604
http://www.youtube.com/watch?v=6kJRrj9Njho

Make a presentation and collect learning objects from the web... Or you can use Algodoo…

6) Vectors, scalars, displacement, velocity, time, acceleration.
https://www.khanacademy.org/science/physics/one-dimensional-motion/displacement-velocity-time/v/introduction-to-vectors-and-scalars
http://phys23p.sl.psu.edu/phys_anim/mech/embederQ2.15001.html
http://phys23p.sl.psu.edu/phys_anim/mech/embederQ2.15002.html
http://www.physicsclassroom.com/mmedia/kinema/acceln.cfm

Collect learning objects from the web and make a presentation to explain these physical concepts...

A lot of work…
First choose, then ask me help!
Ciao
Manuela.