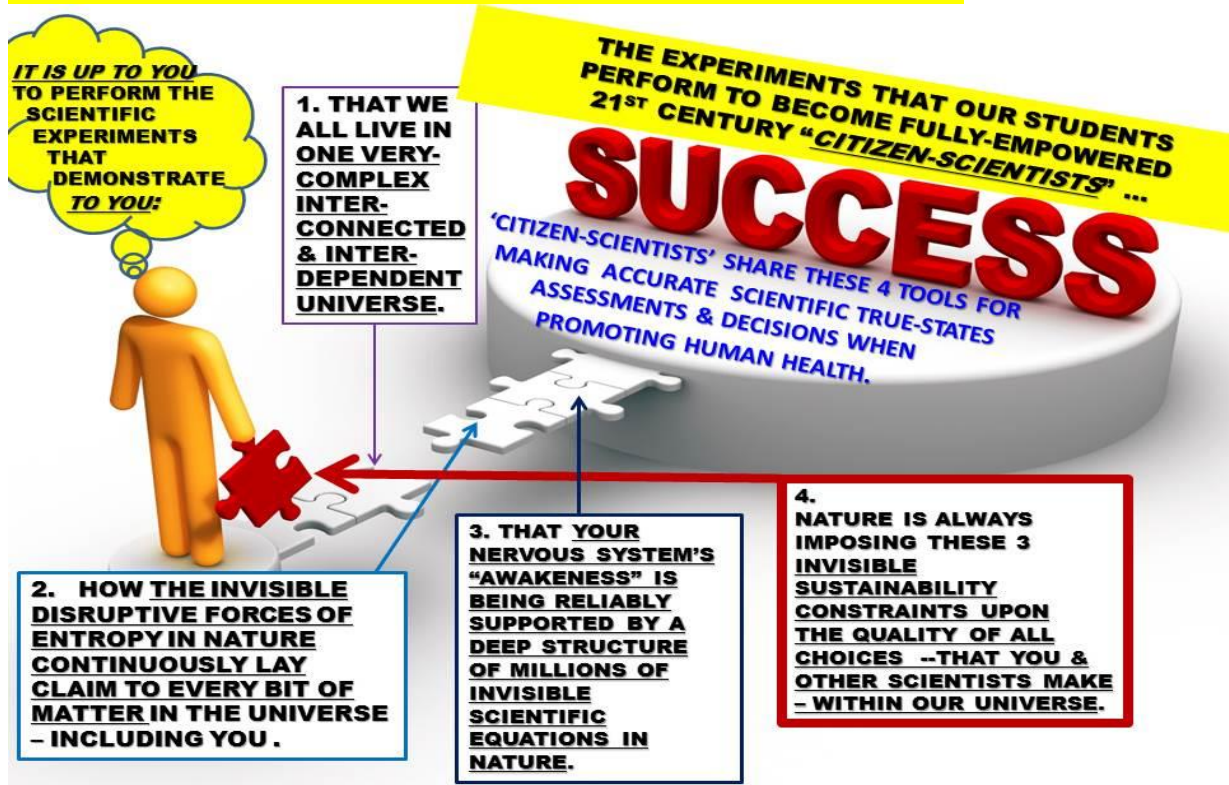


**Workplace Preparedness Skills.**

Summer 2014 (WITH ANSWERS)

**GENERAL STE\*A\*M-SKILLS:**

- WHAT DO THE LETTERS ‘SSA’ MEAN?**  
SPACE-MEDICINE SUMMER ACADEMY
- THE 4 CORE-SKILLS OF A “CITIZEN-SCIENTIST” ARE:**
  - STEP 1: CONDUCT THE EXPERIMENTS THAT YOU REQUIRE TO PROVE (TO YOURSELF) THAT: **“WE ALL LIVE IN ONE, VERY-COMPLEX, INTER-CONNECTED & INTER-DEPENDANT UNIVERSE.”**
  - STEP 2: CONDUCT THE EXPERIMENTS THAT YOU REQUIRE TO PROVE (TO YOURSELF) THAT: **“THE FORCES OF ENTROPY LAY CLAIM TO EVERY BIT OF MATTER IN THE UNVERSE, DISPURsing THEM INTO MAXIMAL RANDOMNESS”.**
  - STEP 3: CONDUCT THE EXPERIMENTS THAT YOU REQUIRE TO PROVE (TO YOURSELF) THAT: **“YOUR AWAKENESS IS BEING SUPPORTED BY MILLIONS OF ENTROPY-TESTED & ENTROPY-DEFYING SCIENTIFIC EQUATIONS, ALL INVISIBLE & ALL HIGHLY-RELIABLE.”**
  - STEP 4: CONDUCT THE EXPERIMENTS THAT YOU REQUIRE TO PROVE (TO YOURSELF) THAT: **“THERE IS A RELIABLE & INVISIBLE DEEP SCIENTIFIC STRUCTURE TO OUR UNIVERSE THAT SUPPORTS LIFE (AND YOUR ‘AWAKENESS’) – AND THAT IS ALSO TESTING THE EFFICIENCY, PERFORMANCE & SUSTAINABILITY OF YOUR EVERY DECISION. NATURE ALWAYS IMPOSES INVISIBLE SUSTAINABILITY CONSTRAINTS UPON THE QUALITY OF ALL CHOICES – TO SEE IF THEY LEAD TO HIGHER LEVELS OF HEALTH -- THAT CAN ONLY BE CREATED BY YOUR INDIVIDUAL & COLLECTIVE DECISIONS.”**



3. **WHAT ARE THE 4 SSA DIMENSIONS OF 'THINKING-GREEN' ?:**

- REDUCE
- RE-CYCLE
- RE-USE
- RE-PURPOSE

4. **WHY DO SCIENTISTS CONSIDER THE CONSISTENT USE OF 'PLEASE' & 'THANK-YOU' TO BE EXAMPLES OF 'FREEDOM-PROMOTING TOOLS'?:**

BECAUSE THE ACTIVE EXPRESSION OF THESE WORDS ACKNOWLEDGES THAT THE PERSON BEING ADDRESSED ALWAYS HAS A PERSONAL CHOICE IN THEIR DECISIONS.

5. **WHAT IS SCIENTIFIC-LEARNING'?**

SCIENTIFIC-LEARNING MEANS "IMPROVING THE MEANING OF LIFE-EXPERIENCE, USING THE SCIENTIFIC METHOD", WITH A NEW KNOWLEDGE-BENEFIT FOR MANKIND.

6. **THE TERM, 'SCIENCE', MEANS WHAT?**

"SCIENCE" MEANS 'CREATING NEW KNOWLEDGE' -- WHICH REFLECTS THE ABILITY TO PREDICT THE FUTURE, USING THE SCIENTIFIC METHOD.

7. **WHAT ARE THE 5 BASIC SCIENTIFIC LEVELS OF LEARNING'?**

- A. LEARNING-FROM-ONE'S-OWN-CELLS = BIOLOGICAL
- B. LEARNING-FROM-ONE'S-OWN-SOCIAL-NETWORKS = LANGUAGE-ACQUISITION
- C. LEARNING-WITH-SELF = CREATING A HABITUAL PERSONAL CHOICE-ARCHITECTURE (WHICH IS VERY SIMILAR TO "ACQUIRING A PERSONALITY")
- D. LEARNING-WITH-OTHERS = LEADERSHIP
- E. LEARNING-FOR-OTHERS = SCIENTIFIC-RESEARCH

8. **THE '8 BASIC STEPS OF THE SCIENTIFIC METHOD' (IN ORDER) ARE:**

1. QUESTION(S)
2. HYPOTHESIS
3. PREDICTION(S)
4. DESIGN CONTROLLED EXPERIMENT
5. COLLECT EXPERIMENTAL RESULTS
6. INTERPRET THE COLLECTED EVIDENCE
7. SHARE FINDINGS AND METHODS WITH OTHERS
8. SEEK REPRODUCIBILITY OF DISCOVERIES BY OTHERS

9. **WHAT IS THE BASIC JOB DESCRIPTION OF A 'SCIENTIST'?**

1. TO MEASURE THE MOTION OF THE MATTER IN OUR UNIVERSE.
2. TO USE THE SCIENTIFIC METHOD TO DISCERN REPRODUCIBLE PATTERNS THAT ARE BENEFICIAL OR HARMFUL TO HUMANITY.
3. TO DESCRIBE THESE PATTERNS TO OTHERS WITH HIGHLY-PREDICTIVE EQUATIONS.

10. **WHAT IS A 'SCIENTIFIC-ERROR'?**

THE HIGHER THE SIGNIFICANT-BENEFIT & THE REPRODUCIBILITY & THE PREDICTIVE-VALUE OF ANY SCIENTIFIC DISCOVERY, THE MORE IT BECOMES CONSIDERED TO BE A 'BEST PRACTICE' IN SCIENCE (SOME SCIENTIFIC PRINCIPLES HAVE NO KNOWN EXCEPTIONS): EVERY "BEST PRACTICE IN SCIENCE" ALSO HAS DOZENS OF EASY-TO-IDENTIFY MISTAKEN APPROACHES – THAT WILL PREDICTABLY LEAD TO FAILURE: THESE TYPES OF KNOWN FALSE-CHOICES ARE KNOWN AS SCIENTIFIC 'ERRORS'. THE PRINCIPLE OF SCIENTIFIC-ERRORS IS MOST CLEARLY NOTICEABLE IN THE VERY RIGID MATHEMATICAL PRINCIPLES THAT SCIENTISTS MUST ADHERE TO IN DEVELOPING ANY NEW HIGHLY-PREDICTIVE SCIENCE EQUATION.

11. **‘SCIENTIFIC-DATA’ ARE:**  
SCIENTIFIC-DATA ARE BASICALLY ‘THE INFINITE, MAINLY SILENT, FACTS OF THE UNIVERSE’
12. **‘SCIENTIFIC-INFORMATION’ IS:**  
SCIENTIFIC-INFORMATION IS BASICALLY ‘A PATTERN OF SCIENTIFIC-DATA THAT DEMANDS THE ATTENTION OF A SCIENTIST’
13. **‘SCIENTIFIC-KNOWLEDGE’ IS:**  
SCIENTIFIC-KNOWLEDGE IS ‘A RECOGNIZABLE & SHARABLE PATTERN OF SCIENTIFIC-INFORMATION THAT ALLOWS A SCIENTIST TO PREDICT THE FUTURE’
14. **WHAT IS ‘SCIENTIFIC-INFORMATION-UNDERLOAD’?**  
SCIENTIFIC-INFORMATION UNDERLOAD HAPPENS WHEN A SCIENTISTS IS RECEIVING TOO LITTLE INFORMATION TO BE ABLE TO NAVIGATE EFFECTIVELY IN THE WORLD – LIKE BEING ‘BLIND’ OR BEING ‘DEAF’.
15. **WHAT IS ‘SCIENTIFIC-INFORMATION-OVERLOAD’?**  
SCIENTIFIC-INFORMATION OVERLOAD HAPPENS WHEN TOO MUCH INFORMATION IS BEING PRESENTED TOO RAPIDLY TO A SCIENTIST TO BE ABLE TO PROCESS EFFECTIVELY -- LEAVING HIM/HER FEELING ‘OVERWHELMED’ & ‘CONFUSED’.
16. **WHAT IS ‘SCIENTIFIC-KNOWLEDGE-UNDERLOAD’?**  
SCIENTIFIC-KNOWLEDGE UNDERLOAD HAPPENS WHEN TOO LITTLE KNOWLEDGE IS BEING PRESENTED TO A SCIENTIST TO PROVIDE HIM OR HER WITH BEST-PRACTICE DIRECTIONS – LEAVING HIM/HER FEELING ‘IGNORANT’.
17. **WHAT IS ‘SCIENTIFIC-KNOWLEDGE-OVERLOAD’?**  
SCIENTIFIC-KNOWLEDGE OVERLOAD HAPPENS WHEN TOO MUCH KNOWLEDGE IS BEING PRESENTED TOO QUICKLY TO A SCIENTIST TO ACT UPON EFFECTIVELY, CREATING A HIGH ‘KNOW-DO GAP’ – WHICH WILL EVENTUALLY WILL CREATE FEELINGS OF ‘GUILT’ & ‘HYPROCISY’.
18. **HOW CAN SCIENTISTS MEASURE WHEN AN INDIVIDUAL HAS ACTUALLY LEARNED NEW KNOWLEDGE?** AT THE END OF THE DAY, ALL SCIENTISTS TEND TO DO (PROFESSIONALLY) IS “MEASURE THE MOVEMENT OF THINGS”. SCIENTISTS CAN MEASURE WHEN ANYONE HAS LEARNED NEW KNOWLEDGE, BECAUSE THEY WILL BEGIN TO MOVE IN MEASURABLY DIFFERENT WAYS THAN THEY DID PREVIOUSLY:THE ‘NEW MOVEMENT’ MIGHT BE TO “SIT DOWN” OR ‘TAKE NO ACTION.
19. **WHAT SPECIAL DECISION-MAKING POWER DOES THE “DIME-IN/PENNY-OUT” UNANIMOUS DECISION TOOL PROVIDE TO A TEAM?** WITH THE UNANIMITY TOOL, THERE IS NO “MAJORITY RULES”, AND THERE IS NO NEED TO “COMPROMISE”: EVERYONE TRULY BELIEVES IN THE NEXT STEPS THAT THE TEAM WILL BE TAKING USING THIS DECISION-MAKING METHOD.

## 20. **THE ‘10 SCIENTIFIC INTER-CONNECTED & INTER-DEPENDENT**

### **DIMENSIONS OF SUCCESSFUL LIVING SYSTEMS’ ARE:**

1. **ATOMIC STRUCTURES**
2. **MOLECULAR COMPLEX-STRUCTURES**
3. **CELLULAR COMPLEX-STRUCTURES**
4. **ORGAN COMPLEX-STRUCTURES**
5. **ORGANISM COMPLEX-STRUCTURES**
6. **FAMILY COMPLEX-STRUCTURES**
7. **NEIGHBORHOOD COMPLEX-STRUCTURES**
8. **PROFESSIONAL COMPLEX-STRUCTURES**
9. **NATIONAL/CITIZENSHIP COMPLEX-STRUCTURES**
10. **THE 1 EARTH – OUR SPACESHIP -- THAT WE ALL HAVE TO SHARE!!**  
(FOR HUMANS, LEVELS 6-9 ARE CALLED THE ‘SOCIAL-NETWORKS’ [‘S-N’] LEVELS)

## 21. **WHAT IS AN ‘ECONOMY’?**

FROM A SCIENTIFIC PERSPECTIVE, EVERY ‘ECONOMY’ IS BASICALLY A SHARED SYSTEM OF LIFE-PERCEPTIONS, THOUGHTS, DECISIONS, COMMUNICATIONS & ACTIONS (PTDCA) THAT ALLOWS A GROUPING OF ORGANISMS TO (AT A MINIMUM) FEED THEIR FACES SUSTAINABLY WITHIN THE CONFINES OF THEIR LIVING-ENVIRONMENT. THIS DEFINITION COULD APPLY TO A GROUP OF TERMITES WHO ARE TRYING TO LIVE IN YOUR HOME, OR A TEAM OF HUMANS WHO ARE ATTEMPTING TO COLONIZE MARS!

## 22. **THE ‘4 ECONOMIC PERIODS OF MAN’ ARE:**

1. HUNTER-GATHERER (10,000 BC TO 1600 AD/CE, IN THE USA) = ‘FOLLOWING THE WALKING-REFRIGERATOR IN NATURE, FOR YOUR FOOD, DAY BY DAY, IN SMALL-TRIBES (USUALLY LESS THAN 100 PEOPLE LARGE)’.
2. AGRICULTURAL-FARMER (1600 AD TO 1900 AD/CE, IN THE USA) = ‘GROWING YOUR FOOD BY FARMING → CREATING A FOOD-SURPLUS → CREATING ‘CIVILIZATIONS’ → CREATING CLASS-STRUCTURE’.
3. INDUSTRIAL-MANUFACTURING (1900 AD TO 2000 AD/CE, IN THE USA) = ‘CREATING & SELLING COMPLEX-STRUCTURES AT A PROFIT, ASSEMBLED FROM LOW-VALUE ITEMS, AND USING THE PROFIT TO BUY FOOD FROM THE FARMER. THIS ECONOMIC SYSTEM SUPPORTS MASSIVE CIVILIZATIONS’.
4. THE GLOBAL SCIENCE KNOWLEDGE ECONOMY (IN THE USA, RIGHT NOW!!) = NO ONE IS QUITE SURE, AS OF TODAY, EXACTLY HOW THIS ECONOMY WILL WORK. THAT IS ACTUALLY THE MISSION OF THE SSA—TO FIND OUT!!!

## 23. **HOW DO SCIENTISTS DEFINE ‘MONEY’?**

EVERY CIVILIZATION REQUIRES THE ABILITY TO CONSISTENTLY CREATE SURPLUS FOOD, IN ORDER TO BE ABLE TO SUPPORT A DIVERSITY OF DIFFERENT PROFESSIONS. THE SURPLUS THAT EACH CIVILIZATION CREATES FOR ITSELF (TO AVOID REVERTING TO A HUNTER-GATHERER ECONOMY) ALSO CREATES THE REQUIREMENT FOR DIFFERENT “CLASSES” OF PEOPLE, EACH WITH DIFFERENT SKILLS OF HIERARCHICAL VALUE TO THE CULTURE (EVERYONE DOES NOT NEED TO COLLECT FIREWOOD ANYMORE IN A HUGE CIVILIZATION, FOR EXAMPLE). EACH CIVILIZATION CREATES A FORM OF SYMBOLIC SYSTEM FOR RECORDING “WHO OWES WHO TIME & TALENT” BETWEEN THE DIFFERENT CLASSES OF PEOPLE – WITHOUT HAVING TO BARTER SERVICES & PRODUCTS . THIS SYMBOLIC HUMAN-TALENT ACCOUNTING SYSTEM IS CALLED “MONEY” & IT TENDS TO DIFFER IN APPEARANCE & USE, FROM ONE CIVILIZATION TO ANOTHER.

24. **'ALERT & AWAKE' INDIVIDUALS ARE:** CONSISTENTLY ORIENTED AS TO WHERE THEY ARE IN PLACE & TIME (I.E., THEY DO NOT RELY SOLELY ON MACHINES TO KEEP THEM ORIENTED IN TIME & SPACE).

25. **'EDUCATED' INDIVIDUALS ARE:** CONSISTENTLY AWARE OF THEIR PURPOSE IN EACH MOMENT OF TIME & PLACE – INCLUDING THE JOYS OF THEIR PURPOSE, AS WELL AS THE BENEFITS THAT THEY PROVIDE TO THEIR SOCIAL-NETWORKS.

## **FORCE-&-ENGINEERING-SCIENCE SKILLS:**

26. **WHAT IS SCIENTIFIC-SUSTAINABILITY?**

SCIENTIFIC-SUSTAINABILITY IS THE OPPOSITE OF SCIENTIFIC-DISPOSABILITY. SUSTAINABLE DISCOVERIES ARE ABLE TO MEET THE NEEDS OF HUMANS TODAY, WHILE ALSO DESIGNED TO BE VALUABLE FOR FUTURE GENERATIONS OF HUMANS.

27. **WHAT IS SCIENTIFIC-MEANING?**

'SCIENTIFIC-MEANING' REFERS TO THE MEASURED MOVEMENT OF ALL PARTS OF AN ENTIRE COMPLEX-STRUCTURE. SCIENTIFIC-MEANING IS ALWAYS OPPOSING THE FORCES OF ENTROPY. HIGH SCIENTIFIC-MEANING OCCURS WHEN ALL OF THE COMPONENT PARTS OF A COMPLEX- STRUCTURE ARE OBSERVED TO BE ACTIVELY MOVING IN SUPPORT OF THE LARGER WHOLE STRUCTURE, ALLOWING IT TO PERFORM SUCCESSFULLY IN THE ENVIRONMENT THAT SURROUNDS IT.

28. **WHAT IS SCIENTIFIC-PURPOSE?**

THE TERM, 'SCIENTIFIC-PURPOSE', REFERS TO THE MEASURED MOVEMENT OF ONE PARTICULAR COMPONENT PART WITHIN A COMPLEX-STRUCTURE. HIGH SCIENTIFIC-PURPOSE OCCURS WHEN ONE OF THE COMPONENT PARTS IN A COMPLEX-STRUCTURE IS OBSERVED TO BE CONSISTENTLY MOVING IN SUPPORT THE LARGER STRUCTURE, THUS BOOSTING THE FUNCTION OF THE ENTIRE STRUCTURE IN ITS CURRENT ENVIRONMENT.

29. **WHAT CREATES "GRAVITY" AND WHAT IS THE FORMULA FOR EXPRESSING GRAVITY?** GRAVITY IS CREATED BY THE NATURAL & AUTOMATIC ATTRACTION OF THE NEUTRONS & PROTONS (THE "MASS") IN ANY ONE OBJECT TO THE NEUTRONS & PROTONS IN ANY OTHER OBJECT IN ITS VICINITY. THE FARTHER APART THE CENTERS OF THE TWO OBJECTS ARE (THE HIGHER THE "R"), THE LESS THE GRAVITY FORCE. THE FORMULA = "MASS-1 TIMES MASS-2 DIVIDED BY R-SQUARED"

30. **WHAT IS ENTROPY?** NATURE DISPLAYS A PROPERTY OF CONSTANTLY TESTING THE MEANING OR THE COHESIVENESS OF ALL MATERIAL STRUCTURES IN OUR UNIVERSE, BOTH & NON-LIVING – IN AN ATTEMPT TO FORCE THE MAXIMALLY SEPARATION OF ALL OF THE COMPONENT PARTS TO MOVE AS FAR AWAY FROM ONE ANOTHER AS POSSIBLE. IN FACT, MOST PORTIONS OF THE UNIVERSE ALL SEEM TO BE RACING AWAY FROM EVERY OTHER PART, CREATING A GROWING PATTERN OF RANDOMNESS. IN GENERAL, THE FORCES OF ENTROPY ARE ALWAYS ATTEMPTING TO DESTROY HIGH SCIENTIFIC-MEANING COMPLEX STRUCTURES.

31. **IN CHEMISTRY, WHAT IS A 'MOLE'?:**

A MOLE IS A HUGE FIXED NUMBER OF PARTICLES THAT SCIENTISTS USE TO CALCULATE THE WEIGHT OF ATOMS OR MOLECULES

- 32. HOW DO SCIENTISTS CALCULATE THE ATOMIC WEIGHT OF AN ATOM?**  
SCIENTISTS TOTAL UP THE WEIGHT OF ALL OF THE SUBATOMIC PARTICLES IN AN ATOM TO CALCULATE THE ATOMIC WEIGHT OF A MOLE OF THAT TYPE OF ATOM: ON EARTH, PROTONS WEIGH 1 GRAM PER MOLE; NEUTRONS ALSO WEIGH 1 GRAM PER MOLE; ELECTRONS HAVE NO WEIGHT.
- 33. WHAT ARE THE 4 PRINCIPAL BIO-ATOMS?**
1. HYDROGEN
  2. CARBON
  3. NITROGEN
  4. OXYGEN
- 34. THE 'PERIODIC TABLE' IS:**  
THE PERIODIC TABLE IS A SCIENTIFIC TOOL USED BY SCIENTISTS TO UNDERSTAND THE STRUCTURE, AND THUS PREDICT THE FUTURE BEHAVIOR, OF ATOMS
- 35. A CHEMICAL COVALENT BOND IS:**  
A COVALENT BOND IS A PAIR OF ELECTRONS THAT IS SHARED BETWEEN 2 ATOMS.
- 36. HOW MANY CHEMICAL BONDS DOES EACH BIO-ATOM FORM?**
1. HYDROGEN – 1
  2. CARBON – 4
  3. NITROGEN – 3
  4. OXYGEN - 2
- 37. WHAT ARE THE 3 PHYSICAL-STATES OF MATTER, WHAT ARE THE CHARACTERISTICS OF THOSE STATES – AND WHAT FORCE DETERMINES WHICH PHYSICAL-STATE A GIVEN PIECE OF MATTER WILL TAKE?:**  
THE 3 STATES OF MATTER ARE SOLIDS (RIGID & NON-COMPRESSIBLE), LIQUIDS (FLUID & NON-COMPRESSIBLE) & GASES (FLUID & COMPRESSIBLE: ADDING MORE ENERGY (BASICALLY HEAT) TO SOLID MATTER WILL CAUSE IT TO BECOME LIQUID. ADDING MORE ENERGY WILL CAUSE THE SAME MATERIAL TO BECOME A GAS.
- 38. WHAT DO SCIENTISTS MEAN WHEN THEY SAY: “NATURE IS ALWAYS COMPLETELY CONSISTENT WITH ITSELF”? “CHANGE” IS AN ALWAYS-HAPPENING, NON-STOP PROCESS, EVERYWHERE IN THE UNIVERSE, ALL THE TIME, INCLUDING WITHIN EACH LIVING-BEING. EVERY CHANGE IN EVERY PART OF THE UNIVERSE EVENTUALLY CREATES AN APPROPRIATE SHIFT IN EVERY OTHER AREA – BECAUSE THE ENTIRE UNIVERSE OF NATURE IS INTER-CONNECTED & INTER-DEPENDENT. NATURE EFFORTLESSLY & NATURALLY ABSORBS/INTEGRATES EVERY POSSIBLE CHANGE... WITH ALL OTHER CHANGES...**
- 39. WHAT ARE COPERNICUS' 3 DISCOVERIES -- & WHEN DID HE MAKE THEM?**
1. THE SUN IS THE CENTER OF OUR SOLAR SYSTEM, NOT THE EARTH; &
  2. THE EARTH IS TILTED ON ITS AXIS AND IT IS ALWAYS ORBITING THE SUN AT AROUND 60,000 MILES AN HOUR & COMPLETES IT ORBIT EVERY 365 DAYS (THE TILTED AXIS GIVES US THE DIFFERENT SEASONS, AS ONE PORTION OF THE EARTH HAS MORE EXPOSURE TO THE SUN DURING THE WARM SEASONS); &
  3. THE EARTH IS ALWAYS COMPLETING A ROTATION AROUND ITS AXIS EVERY 24 HRS. (GIVING THE ILLUSION OF THE SUN ROTATING AROUND THE EARTH). (~1550 AD/CE).

**40. WHAT ARE THE 3 DISCOVERIES OF KEPLER -- & WHEN DID HE MAKE THEM?**

1. PLANETS TRAVEL AROUND THE SUN IN ELLIPTICAL ORBITS.
2. THE CLOSER THE PLANETS ARE TO THE SUN, THE FASTER THEY TRAVEL.
3. THE LARGER THE ORBIT OF A PLANET, THE LONGER IT TAKES THE PLANET TO COMPLETE ITS ORBIT (~ 1600 AD/CE).

**41. WHAT ARE THE 4 LAWS OF ISAAC NEWTON & WHEN DID HE MAKE THEM?**

- THE PROTONS & NEUTRONS OF ANY TWO MASSES WILL BE ATTRACTED TO ONE ANOTHER, THROUGH A FORCE CALLED GRAVITY (DESCRIBED BY THE GRAVITY FORMULA);
- MOMENTUM = "MASS *TIMES* VELOCITY";
- FORCE = "MASS *TIMES* ACCELERATION";
- EVERY ACTION IS ACCOMPANIED BY AN EQUAL & OPPOSITE REACTION. (~1700)

**42. WHAT IS A PHOTON'?**

A PHOTON IS THE BASIC SUBUNIT OF LIGHT.

A PHOTON IS THE SMALLEST UNIT OF ELECTRO-MAGNETIC ENERGY. PHOTONS MOVE IN DISTINCT WAVE PATTERNS -- YET OVERALL IN PERFECTLY STRAIGHT-LINES -- ALWAYS AT THE SAME SPEED (186,000 MILES/SECOND). WHEN THE WAVE FREQUENCY OF A PHOTON IS FAST, IT HAS HIGH-ENERGY (THESE ARE KNOWN AS ULTRAVIOLET LIGHT-WAVES). WHEN THE WAVE FREQUENCY OF A PHOTON IS SLOW, IT HAS LOW-ENERGY (THESE ARE KNOWN AS INFRARED LIGHT-WAVES). HUMANS CAN ONLY SEE A VERY SMALL SET OF LIGHT-WAVE FREQUENCIES, KNOWN AS "VISIBLE-LIGHT" (FROM LOW-ENERGY "RED" TO HIGH-ENERGY "VIOLET").

**43. WHAT ARE THE 2 MONSTER ENERGY-ENGINES THAT AFFECT THE SURFACE OF THE EARTH, AND WHAT DO THEY DO?**

1. THE ENERGY FROM SUNLIGHT ARRIVES IN THE FORM OF HIGH-ENERGY, LOW-ENTROPY, YELLOW LIGHT PHOTONS FROM THE SUN. THEN, AN EQUAL AMOUNT OF ENERGY LEAVES THE EARTH IN THE FORM OF MANY-MORE LOW-ENERGY, HIGH-ENTROPY, INFRARED PHOTONS HEADED FOR OUTER SPACE.

- SUNLIGHT ENERGY DRIVES THE WATER-CYCLE DYNAMICS ON EARTH,
- AND SUNLIGHT DRIVES ALL OF THE PHOTOSYNTHESIS REACTIONS IN PLANTS.
- HEALTHY, SUSTAINABLE LIFE FORMS USE THE LOW-ENTROPY (= VERY-FOCUSED) BEAMS OF YELLOW (= HIGH-ENERGY) SUNLIGHT PHOTONS THAT THE EARTH RECEIVES EACH DAY THAT IS COUPLED TO THE DIFFUSE RADIATION (= HIGH-ENTROPY) OF AN EQUAL AMOUNT OF ENERGY THAT IS RADIATING FROM THE EARTH IN THE FORM OF MANY MORE INFRARED (= LOW-ENERGY) LIGHT PHOTONS INTO COLD EMPTY SPACE EACH NIGHT (= AN ENERGY TRANSFER SYSTEM) TO GROW & MAINTAIN THEIR SCIENTIFIC-MEANING & TO THUS BE ABLE TO WITHSTAND THE DESTRUCTIVE FORCES OF ENTROPY. (\*Expressing the same principle in a different fashion, healthy & sustainable life-forms (including humans) do not accumulate energy as their driving life-force; instead, healthy & sustainable humans efficiently utilize the sunlight-driven energy-transfer system to grow their scientific-meaning & thus defy the forces of entropy.)

2. THE ENERGY OF THE MOLTEN CORE OF THE EARTH IS CREATED BY ITS HIGH ATOMIC WEIGHT ATOMS -- THAT ARE CONTINUOUSLY BREAKING DOWN (ULTIMATELY, TO BECOME IRON ATOMS) : WHEN THEIR NUCLEI BREAK DOWN (A PROCESS CALLED FISSION), THESE MOLTEN-CORE ATOMS RELEASE LOTS OF NUCLEAR ENERGY IN THE FORM OF RADIOACTIVE PARTICLES.

- THE ENERGY CONTAINED IN EARTH'S MOLTEN CORE SHAPES THE EARTH'S TECTONIC PLATES, CREATES THE EARTH'S VOLCANOES & DRIVES THE CARBON-CYCLE DYNAMICS ON THE EARTH'S SURFACE.

44. **WHAT IS THE 'SPEED OF LIGHT'?** 186,000 MILES (= 300,000 KM) - PER SECOND.  
NO PARTICLE IN OUR UNIVERSE CAN MOVE FASTER THAN THE SPEED OF LIGHT.
45. **WHY DOES A COMPASS NEEDLE NATURALLY POINT TO THE NORTH?**  
THE SPINNING OF ELECTRONS IN THE MOLTEN EARTH'S MAINLY-IRON CORE  
CREATES A MONSTER MAGNETIC FIELD AROUND THE GLOBE, WITH THE NORTH  
END POINTING TOWARDS --> "THE NORTH"!! THE MAGNETIC NEEDLE OF THE  
COMPASS MUST ALIGN WITH THE DIRECTION OF EARTH'S MAGNETIC FIELD.
46. **WHAT ARE THE 4 FORCES OF FLIGHT?**
- WEIGHT = THE DOWNWARD PULL OF GRAVITY
  - LIFT = THE CAPACITY OF AN AIRCRAFT DESIGN TO DEFY GRAVITY
  - THRUST = A FORCE THAT PROPELS AN AIRCRAFT FORWARD
  - DRAG = DESIGN FEATURES OF AN AIRCRAFT THAT RESIST FORWARD MOTION
47. **WHAT ARE THE 9 PLANETS, IN ORDER, & THEIR DISTANCE FROM THE SUN?**
- MERCURY – 36 MILLION MILES
  - VENUS– 67 MILLION MILES
  - EARTH – 93 MILLION MILES
  - MARS– 141 MILLION MILES
  - JUPITER – 483 MILLION MILES
  - SATURN – 886 MILLION MILES
  - URANUS – 1782 MILLION MILES
  - NEPTUNE – 2792 MILLION MILES
48. **WHAT IS THE DIFFERENCE BETWEEN AN 'ASTERIOD' & A 'COMET'?** THE  
MAIN DIFFERENCE BETWEEN AN ASTEROID AND A COMET IS WHAT THEY ARE MADE  
OF: ASTEROIDS ARE MADE UP OF METALS AND ROCKY MATERIAL, WHILE COMETS  
ARE MADE UP OF ICE, DUST AND ROCKY MATERIAL.
49. **WHAT IS "ELECTRICITY"?** ELECTRICITY IS SIMPLY THE MOVEMENT OF  
FREE ELECTRONS THROUGH MATTER. THE MOVEMENT OF ELECTRONS THRU  
MATTER INSTANTLY CREATES A MAGNETIC-FIELD AROUND THAT ELECTON-FLOW.
50. **WHAT ARE THE 2 BASIC WAYS TO CREATE ELECTRICITY?**  
ROTATING MAGNETS INSIDE OF COPPER WIRING & PHOTOVOLTAIC CELLS
51. **WHAT IS AN 'ACID'?** AN ACIDIC SOLUTION CONTAINS AN EXCESS OF FREE  
HYDROGEN NUCLEI (BASICALLY, JUST 'PROTONS')
52. **HOW DO SCIENTISTS MEASURE THE ACIDITY OF A SOLUTION?**  
THE PH SCALE. A PH OF "7" IS THE NEUTRAL PH OF WATER: A LOWER NUMBER  
DESCRIBES "AN ACID". A PH NUMBER HIGHER THAN "7" DESCRIBES "A BASE".
53. **HOW DO SCIENTISTS MEASURE 'TIME'?** THE PASSAGE OF TIME IS NORMALLY  
MEASURED AS A REPETITION OF SOME PATTERN OF MOVEMENT OF A MATERIAL 3-D  
OBJECT, SUCH AS THE SPINNING OF THE EARTH AROUND ITS AXIS OR THE  
SWINGING OF A PENDULUM BACK & FORTH. WE TEND TO EXPERIENCE 'THE  
PASSAGE OF TIME' AS THE MOVEMENT OF ORGANIZED 3-DIMENSIONAL MATERIAL  
SYSTEMS INTO DIS-ORGANIZED STATES (= ENTROPY), YET SCIENTISTS ALSO  
MEASURE & PREDICT THE NEW EMERGENCE OF SCIENTIFIC-MEANING, AS WELL.



54. **WHAT DO SCIENTISTS MEAN WHEN THEY REFER TO ‘SPACE’?** “SPACE” IS THE BOUNDLESS 3-DIMENSIONAL FRAMEWORK OF NATURE, WITHIN WHICH ALL OBJECTS & EVENTS HAVE RELATIVE POSITION & DIRECTION. ALONG WITH “TIME”, “SPACE” IS ONE OF THE FUNDAMENTAL PROPERTIES OF SCIENCE, MEANING THAT IT CANNOT BE DEFINED IN TERMS OF ANY OTHER QUANTITIES. THIS LIMITATION EXISTS BECAUSE SCIENTISTS CANNOT IDENTIFY ANYTHING MORE FUNDAMENTAL AT PRESENT. ONE MORE THING: EMPTY SPACE IS NOT “EMPTY”!! INSTEAD, SPACE OPERATES AS SOME SORT OF INVISIBLE, ENERGY-RICH, INFINITE FIELD THAT SUPPORTS THE POSITION & THE CAPACITY FOR MOVEMENT FOR ALL MATERIAL STRUCTURES, INCLUDING ALL LIFE-FORMS.

55. **WHAT ARE THE BASIC COMPONENTS OF A MODEL ROCKET?**

- THE NOSE CONE
- THE ELECTRICAL IGNITER WIRES
- THE ROCKET ENGINE/MOTOR
- THE ENGINE MOUNTING RING
- THE TAIL FIN
- THE BODY TUBE
- THE LAUNCH LUG CYLINDER (FOR LIFT-OFF GUIDANCE)
- THE CHUTE-WADDING FLAME PROTECTION
- THE SHOCKCORD
- THE PARACHUTE
- THE PARACHUTE IS ATTACHED TO THE SHOCKCORD VIA THE SHROUD LINES

56. **WHAT ARE THE BASIC COMPONENTS OF A MODEL ROCKET ENGINE?:**  
1. NOZZLE; 2. CASE; 3. PROPELLANT CHARGE; 4. DELAY CHARGE; 5. EJECTION CHARGE; 6. END CAP

57. **WHAT ARE THE STAY-SAFE RULES FOR MODEL ROCKET LAUNCHING?:**

- USE NON-METAL LIGHTWEIGHT MATERIALS
- TOTAL WEIGHT LESS THAN 8 OZ.
- USE STANDARD A-B-C MOTORS
- USE PARACHUTE RECOVERY SYSTEM
- LAUNCH 100 FEET AWAY FROM BUILDINGS & TREES
- USE ELECTRICAL IGNITION SYSTEM
- POINT LAUNCH TOWER STRAIGHT UP
- NEVER AIM AT TARGETS
- WAIT 1 MINUTE AFTER MIS-FIRE BEFORE APPROACHING ROCKET
- USE COUNTDOWN PROTOCOL
- USE A SAFETY-IGNITION SYSTEM FROM A DISTANCE OF 15 FEET
- DUCK & COVER! – IF THE ROCKET PARACHUTE DOES NOT OPEN
- REPLACE LAUNCH TOWER SAFETY CAP IMMEDIATELY AFTER LAUNCH
- DO NOT RECOVER ROCKET FROM HIGH TREES OR ELECTRICAL WIRES

58. **WHAT IS THE DIFFERENCE BETWEEN “STRENGTH” & “HARDNESS”?**

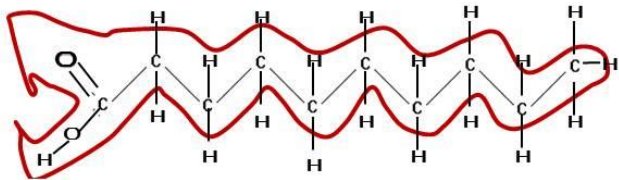
HARDNESS REFERS TO THE ABILITY OF A SUBSTANCE TO WITHSTAND SCRATCHES FROM OTHER SUBSTANCE. STRENGTH REFERS TO THE ABILITY OF A SUBSTANCE TO RESIST BREAKAGE & FATIGUE.

59. **WHAT DO SCIENTISTS MEAN BY THE TERM “METAL FATIGUE”?** WHEN METALS ARE BENT/STRESSED TOO MANY TIMES, THEY TEND TO CRACK & BREAK.
60. **DEFINE A HYDROMETER:** A TOOL FOR MEASURING THE WATER AMOUNT IN SOIL.
61. **NAME THE 5 BASIC LAYERS OF EARTH’S ATMOSPHERE:**  
EXOSPHERE , THERMOSPHERE, MESOSPHERE, STRATOSPHERE, TROPOSPHERE
62. **WHY DO ASTRONAUTS IN LOW-SPACE ORBITS FEEL WEIGHTLESS?** BECAUSE THEIR CRAFT IS MOVING AS FAST TOWARD THE PATH OF THE ORBIT THAN THE PULL OF EARTH’S GRAVITY UPON THEM: IN A SENSE, IN THIS RACE IN ORBIT AROUND THE EARTH, THEY ARE “ALWAYS IN A FREE-FALL” AROUND THE EARTH.
63. **WHAT DO SCIENTISTS MEAN BY THE TERM ‘GEOSYNCHRONOUS ORBIT’?** THIS HAPPENS WHENEVER THE SPEED OF A SPACECRAFT ALWAYS MATCHES THE ROTATION SPEED OF THE EARTH – ALWAYS KEEPING IT IN THE SAME POSITION ABOVE EARTH. ALL GPS SATELLITES ARE IN A GEOSYNCHRONOUS ORBIT.

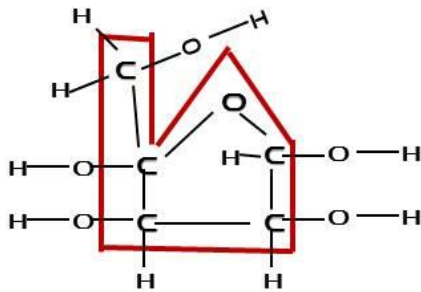
## LIFE-SCIENCE SKILLS:

64. **WHAT DO SCIENTISTS MEAN BY THE TERM ‘EFFICIENCY?’** EFFICIENCY IS A DESCRIPTION OF HOW MUCH “WORK” CAN BE PERFORMED BY A SYSTEM, WHEN USING A CERTAIN AMOUNT OF ENERGY. HIGH-EFFICIENCY SYSTEMS GET A LOT OF WORK DONE WITH A UNIT OF ENERGY: LO-EFFICIENCY SYSTEMS NOT SO MUCH. IN LIVING-ORGANISMS, HIGH-EFFICIENCY REFERS TO THE ABILITY TO DEFY ENTROPIC FORCES SUSTAINABLY, BY ACCURATELY ASSESSING THE TRUE-STATES OF MATTER & ENERGY – BOTH OUTSIDE AND INSIDE – AND MAKING CHOICES TO MOVE IN WAYS THAT BEST PROMOTES THE GREAT HEALTH & THE MEANING OF THE ORGANISM .
65. **WHAT IS THE BASIC FORMULA FOR HOW CARBOHYDRATES ARE CREATED BY PLANTS, A PROCESS CALLED PHOTOSYNTHESIS?**  
 $O=C=O + H-O-H + \text{Energy (As Light)} \rightarrow \text{Sugar Molecules} + O=O$
66. **WHAT IS THE FORMULA FOR HOW CARBOHYDRATES ARE METABOLIZED IN EACH CELL?**  $\text{Sugar Molecules} + O=O \rightarrow O=C=O + H-O-H + \text{Energy (As ATP)}$
67. **WHAT IS ‘HYDROPONICS’?** THE ABILITY TO GROW PLANTS WITHOUT SOIL.
68. **WHAT ARE THE CHARACTERISTICS THAT ASTRONAUTS MEASURE TO FIND OUT IF LIFE MIGHT EXIST IN SPACE?** 1<sup>ST</sup>, THE PRESENCE OF WATER. 2<sup>ND</sup>, THE PRESENCE OF CARBON & NITROGEN. 3<sup>RD</sup>, AN ACCESSIBLE ENERGY-SOURCE.
69. **WHAT IS THE NASA ‘CURIOSITY’ RESEARCH PROJECT?** ‘CURIOSITY’ IS AN UNMANNED MOVABLE SCIENCE LABORATORY THAT IS CURRENTLY EXPLORING THE SURFACE OF MARS: IT SENDS THE RESULTS OF ITS EXPERIMENTS DIRECTLY TO NASA VIA RADIO TRANSMISSIONS.

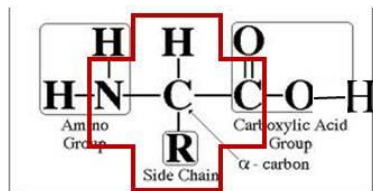
70. **WHAT IS A “CELL”?** A CELL IS THE SMALLEST KNOWN UNIT OF “LIFE”, CONSISTING OF AN OUTER MEMBRANE (MADE OF LIPIDS), A NUCLEUS (MADE OF NUCLEIC ACIDS), A CYTOSKELETON IN THE CYTOPLASM (MADE OF PROTEINS), AND MITOCHONDRIA (FOR EXTRACTING ATP ENERGY FROM SUGARS, VIA RESPIRATION). EVERY KNOWN TYPE OF CELL MUST EVENTUALLY DIE = ENTER THE NON-LIVING STATE – AFTER WHICH, ALL VISIBLE CELL MATERIAL WILL FALL-APART (DUE TO ENTROPY). AFTER DYING, MOST CELLS LEAVE NO TRACE AT-ALL, OR PERHAPS THEY WILL LEAVE THE REMAINS OF A NON-LIVING SKELETON. SCIENTISTS WILL ALWAYS HAVE AN INCOMPLETE UNDERSTANDING OF “LIFE”, BECAUSE THEY WILL NEVER BE ABLE TO STUDY THE STATE CALLED “DEATH”, SINCE THEY CANNOT RECEIVE ANY EVIDENCE FROM THE THIS REQUIRED STATE OF (NOT) BEING-ALIVE (CALLED ‘DEATH’).
71. **WHAT IS A ‘GENE’?** BASICALLY, A “GENE” IS A SEGMENT OF THE TOTAL DNA WITHIN A CELL (“THE GENOME”) THAT CONTAINS A SPECIFIC GENETIC CODE THAT IS ABLE TO CONTROL A SPECIFIC CELLULAR FUNCTION, USUALLY BY THE CREATION OF A SPECIFIC PROTEIN. ALL SUCCESSFUL GENES ARE DESIGNED TO MOVE FORWARD IN TIME, BY STIMULATING THEIR OWN REPLICATION WITHIN THE STRUCTURE OF A COMPLETE & VIABLE LIVING CELL.
72. **WHAT DO SCIENTISTS MEAN BY “NATURAL SELECTION”?** ALL VERTEBRATE ANIMALS ARE VARIOUS TYPES OF FEEDING-TUBES, THAT MUST CONSTANTLY COMPETE FOR FOOD – AND ALSO AVOID BEING EATEN. THOSE ANIMALS THAT ARE MOST SUCCESSFUL ADDRESSING THIS DUAL-CHALLENGE WILL LIVE LONG ENOUGH TO BREED WITH OTHER SUCCESSFUL MATES (VERTEBRATES CANNOT SIMPLY “DIVIDE”) – AND THUS THEY WILL BE ABLE TO PASS ON THESE TRAITS (THAT MADE THEM SUCCESSFUL) TO THEIR OFFSPRING VIA THEIR GENES (AND IN THE CASE OF ADVANCED VERTEBRATES, LEARNED BEHAVIORS AS WELL).
73. **DRAW A BASIC FAT MOLECULE HERE (5 POINTS):**



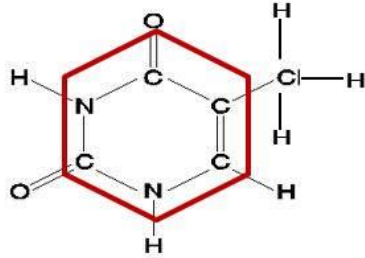
74. **DRAW A BASIC SUGAR MOLECULE HERE (5 POINTS):**



75. **DRAW A BASIC AMINO ACID MOLECULE HERE (5 POINTS):**



76. **DRAW A BASIC NUCLEIC ACID MOLECULE HERE (5 POINTS):**



77. **HOW ARE DNA AND RNA DIFFERENT?**

RNA IS SINGLE-STRANDED (INSTEAD OF DOUBLE-STRANDED), CONTAINS URACIL (INSTEAD OF THYMINE), CONTAINS RIBOSE (INSTEAD OF DEOXYRIBOSE), AND IT CAN LEAVE THE CELL NUCLEUS FOR THE CYTOPLASM (WHEREAS, DNA CANNOT).

78. **WHAT IS THE DIFFERENCE BETWEEN THE PRIMARY, SECONDARY & TERTIARY STRUCTURE OF A PROTEIN?**

1. THE PRIMARY STRUCTURE OF A PROTEIN IS SIMPLY A SERIAL LISTING OF ITS COMPONENT AMINO ACIDS.

2. THE SECONDARY STRUCTURE REFERS TO THE TENDENCY OF MOST PROTEINS TO FORM HELICAL STRUCTURES.

3. THE TERTIARY STRUCTURE DESCRIBES THE WAY THAT LONG PROTEIN CHAINS TEND TO FOLD BACK UPON THEMSELVES, FORMING GLOBULAR STRUCTURES.

79. **WHAT IS THE DIFFERENCE BETWEEN A TRIGLYCERIDE & A PHOSPHOLIPID?**

A PHOSPHOLIPID HAS REPLACED ONE OF THE 3 FATTY ACIDS IN A TRIGLYCERIDE MOLECULE WITH A PHOSPHATE GROUP

80. **EXPLAIN HOW THE DNA 'TRIPLET CODE' OPERATES:**

THE "A", "T", "G" & "C" NUCLEIC-ACID BASES WITHIN THE DNA SENSE-STRAND OF EACH GENE ARE ORGANIZED INTO GROUPS OF 3: AFTER THE DNA SENSE-STRAND HAS BEEN TRANSCRIBED INTO M-RNA, EACH OF THESE TRIPLET-CODES ARE THEN TRANSLATED INTO THE CORRESPONDING AMINO ACID IN THE RIBOSOME OF THE CELL. EACH PROTEIN, THAT IS CODED FOR BY THE GENE, PERFORMS A SPECIFIC FUNCTION IN THE CELL ('STRUCTURAL', 'ENZYMATIC' OR 'OTHER').

81. **WHAT DO SCIENTISTS MEAN BY THE TERM “EPIGENETICS”?**

WHILE THE GENES FOUND WITHIN DNA PROVIDE A BLUEPRINT FOR HOW EACH CELL AND EACH ORGANISM IS PRE-PROGRAMMED TO OPERATE, FACTORS OUTSIDE OF THE DNA – MAINLY SPECIFIC ORGANISM BEHAVIORS – CAN SPEED UP THE EXPRESSION OF THE DNA CODE, OR SUPPRESS THE EXPRESSION OF EACH GENE, FOR HUMANS, IT IS THE QUALITY OF PERSONAL-CHOICES THAT CREATES MOST OF THE EPIGENETIC INFLUENCES ON GENE EXPRESSION.

## HEALTH-SCIENCE SKILLS:

82. **WHAT DO SCIENTIST MEAN WHEN THEY REFER TO “GREAT-HEALTH”?**

‘GREAT HEALTH’ = ‘THE JOY OF LIVING TO ONE’S FULL POTENTIAL (AT ANY AGE) – WHILE ALSO ENJOYING THE PROCESS OF IMPROVING THE QUALITY OF HIS/HER SOCIAL-NETWORKS.’

83. **WHAT DO SCIENTIST MEAN WHEN THEY REFER TO “HOMEOSTASIS”?**

HOMEOSTASIS REFERS TO THE GENETICALLY-PRE-PROGRAMMED ‘OPTIMAL FUNCTIONAL PERFORMANCE-STATE’ OF A BIOLOGICAL COMPLEX-STRUCTURE: AFTER ANY INSULT, THE ORGANISM WILL TEND TO NATURALLY RETURN TO THIS PRE-PROGRAMMED LEVEL OF OPTIMAL PERFORMANCE.

84. **WHY KEEPING STORED FOOD COLD REDUCE THE CHANCES OF FOOD-POISONING?** THE COLD SLOWS DOWN BACTERIAL CELL DIVISION

85. **4 EXAMPLES OF ‘CHEST ORGANS’ IN HUMANS ARE:**

1. \_\_\_ HEART
2. \_\_\_ ESOPHAGUS
3. \_\_\_ LUNGS
4. \_\_\_ THYMUS

86. **4 EXAMPLES OF ‘ABDOMINAL ORGANS’ IN HUMANS ARE:**

- \_\_\_ LIVER
- \_\_\_ INTESTINES
- \_\_\_ KIDNEYS
- \_\_\_ STOMACH

87. **3 COMPONENTS OF THE HUMAN BRAIN ARE:**

- \_\_\_ CEREBRUM
- \_\_\_ CEREBELLUM
- \_\_\_ BRAINSTEM

88. **WHAT ARE THE 4 BASIC HUMAN VITAL SIGNS?:**

- PULSE
- TEMPERATURE
- RESPIRATION
- BLOOD PRESSURE

89. **WHAT INSTRUMENTS DO YOU NEED TO MEASURE THE 4 VITAL SIGNS?:**

- FINGER & TIMEPIECE
- THERMOMETER
- OBSERVATION & TIMEPIECE
- BLOOD PRESSURE CUFF & STETHOSCOPE

90. **HOW MANY CELLS ARE IN THE HUMAN BRAIN – AND WHAT IS THEIR FUNCTION?** THERE ARE ABOUT 1 TRILLION CELLS IN THE HUMAN BRAIN -- MANY OF THEM ARE ELECTRICAL-CONDUCTING CELLS, KNOWN AS 'NEURONS': THE BILLIONS OF NEURONS IN EACH INDIVIDUAL'S BRAIN ARE ALL INTERCONNECTED WITH ONE ANOTHER, IN A GIANT 'NEURAL-NETWORK'. BRAIN CELLS HAVE MANY FUNCTIONS, CHIEF OF WHICH IS THE CREATION OF A PERSONAL 'MIND-MOVIE' THAT CONTAINS A VIRTUAL REPRESENTATION OF THE PEOPLE, PLACES AND THINGS IN THE INDIVIDUAL'S EXPERIENCE OF LIFE.

91. **WHAT ARE THE 2 DISTINGUISHING FEATURES OF NEURONS – AND WHAT ARE THEIR FUNCTIONS?** EACH NEURON HAS AN AXON PROJECTION THAT IS USED TO SEND ELECTRICAL SIGNALS FORWARD TOWARD ANOTHER NEURON. EACH NEURON ALSO HAS A SET OF DENDRITES THAT RECEIVE THE AXON SIGNALS FROM OTHER NEURONS.

92. **WHAT DOES THE TERM "NEUROPLASTICITY" MEAN TO SCIENTISTS?** EACH OF THE NEURONS IN EACH INDIVIDUAL'S BRAIN ARE INTERCONNECTED WITH MANY OTHER NEURONS IN THE SAME BRAIN, FORMING THIS GIANT 'NEURAL-NETWORK' – THAT ALLOWS EACH PERSON TO GO ON LIVING, TO MOVE, TO RECEIVE SIGNALS FROM THE SURROUNDING WORLD, AND TO REMEMBER IT ALL IN THEIR MIND-MOVIE. WHENEVER THERE HAS BEEN A SIGNIFICANT IMPROVEMENT IN ANY INDIVIDUAL'S UNDERSTANDING OF THE WORLD, PARTS OF THE OLD NEURAL NETWORK CONNECTIONS ARE DIS-MANTLED, AND A NEW SET OF MORE EFFECTIVE NEURAL CONNECTIONS ARE MADE. THIS NEURON RECONNECTION PROCESS TAKES ROUGHLY 2-3 WEEKS TO COMPLETE AND IT IS CALLED 'NEURO-PLASTICITY'.

93. **A STABLE POLY-ORGANISM COMPLEX-STRUCTURE INSTANTLY CREATES AN INFORMAL GROUP OPERATION CALLED: A SOCIAL-NETWORK (SN)**

94. **THE 3 TOOLS (ASSETS) THAT ALL HUMAN SOCIAL-NETWORKS (SN) STEWARD ARE:**

1. \_\_\_\_ SHARED-KNOWLEDGE-ASSETS
2. \_\_\_\_ LEARNING-IN-DISAGREEMENT -ASSETS
3. \_\_\_\_ COMMON-WEALTH ( "BEING LIFEGUARDS FOR EACH OTHER")-ASSETS

NOTE: ALL HUMANS – FROM BIRTH UNTIL DEATH -- ARE REQUIRED TO LIVE OUT THEIR LIVES IN SOCIAL-NETWORK CONVERSATIONS -- AT THE FAMILY, NEIGHBOR, PROFESSIONAL & CITIZENSHIP LEVELS. THERE IS NO SCIENTIFIC EVIDENCE FOR "INDIVIDUALISM": INSTEAD, THE ONLY SCIENTIFIC OPTIONS ARE TO LIVE IN HIGH-VALUE SOCIAL-NETWORK CONVERSATIONS WITH ONE ANOTHER – OR IN LOW-VALUE S-N CONVERSATIONS. AS A GENERAL RULE, ANY SOCIAL-NETWORK THAT POSSESSES HIGH SHARED-KNOWLEDGE & LEARNING-IN-DISAGREEMENT SKILLS & GREAT LIFEGUARDING SKILLS WILL OUT-PERFORM ANY SOCIAL-NETWORK THAT LACKS THESE TOOLS – ESPECIALLY IN TIMES OF GREAT STRESS & CHANGE.

**95. PROVIDE EXAMPLES OF HUMAN SN SHARED-KNOWLEDGE-ASSETS :**

- THE PERIODIC TABLE
- A PROJECT MANAGEMENT PLAN
- THE 10 INTER-CONNECTED & INTER-DEPENDENT DIMENSIONS OF SUCCESSFUL LIVING-SYSTEMS TOOL
- THE SCIENTIFIC METHOD
- A PROJECT DESIGN PLAN

**96. PROVIDE EXAMPLES HUMAN SN LEARNING-IN-DISAGREEMENT-ASSETS:**

- THE PLEASE & THANK-YOU TOOLS
- POSSESSING A SHARED TEAM DEFINITION FOR EFFECTIVE “LEARNING”
- THE TOOLS FOR DIALOGUE
- THE HEALTH EMOTIONAL ARCHITECTURE TOOLS
- AN AWARENESS OF THE 5 SCIENTIFIC-LEVELS OF LEARNING
- MASTERING THE COMPONENT STEPS OF THE SCIENTIFIC-METHOD

**97. PROVIDE EXAMPLES HUMAN SN COMMON-WEALTH (“LIFEGUARD”)-ASSETS:**

- CONSISTENT TEAM HIGH-PERFORMANCE
- THE TOOLS FOR SUSTAINABILITY, INCLUDING THINKING-GREEN
- THE DIALOGUE TOOLS FOR LEARNING TOGETHER

**98. WHAT IS THE HEALTH-ADVANTAGE TO YOU OF DECLARING YOURSELF A LIFEGUARD FOR OTHERS? ANYONE WHO ENJOYS KNOWING HOW TO KEEP OTHERS SAFE- WILL AUTOMATICALLY BE SAFER THEMSELVES.**

**99. WHAT ARE THE EMOTIONAL STEPS THAT LEAD TOWARD VIOLENCE TOWARDS ONE’S SOCIAL-NETWORKS? FRUSTRATION → FEAR → ANGER → RAGE**

**100. WHAT ARE THE EMOTIONAL STEPS THAT LEAD TOWARD CLINICAL DEPRESSION TOWARDS ONE’S SOCIAL-NETWORKS? TOLERANCE → DISGUST → SADNESS → DEPRESSION**

**101. WHAT ARE THE EMOTIONAL STEPS THAT LEAD TOWARD COMPASSION TOWARDS ONE’S SOCIAL-NETWORKS? PATIENCE → REFLECTION → CONCERN → GRATITUDE → COMPASSION**

**102. WHAT ARE THE EMOTIONAL STEPS THAT LEAD TOWARD COLLABORATION IN ONE’S SOCIAL-NETWORKS? HOPE → CURIOSITY → SURPRISE → WONDER → DISCOVERY → SHARING → COLLABORATION**

**103. WHAT DO SCIENTISTS MEAN BY THE TERM “PSYCHOLOGY”?**  
**PSYCHOLOGY IS THE SCIENCE OF UNDERSTANDING: 1. HOW EACH INDIVIDUAL CREATES HIS/HER PERSONAL WORLD VIEW OF REALITY (BOTH OUTSIDE & INSIDE SELF), AND 2. HOW THESE BELIEFS SHAPE THE INDIVIDUAL’S HABITUAL BEHAVIOR, AND 3. HOW THESE BELIEFS & BEHAVIORS INFLUENCE THE INDIVIDUAL’S SOCIAL-NETWORKS – AND VISA VERSA.**



104. **THE 8 PRE-PROGRAMMED UNIVERSAL DECISION-GUIDING-QUESTIONS**

**THAT ALL HUMANS ARE ALWAYS ASKING IN THEIR MIND-MOVIES ARE:**

- IS THIS A WORLD OF 'TRUST' OR 'MISTRUST'?
- SHOULD I PAY ATTENTION TO 'MY FEARS & DESIRES' OR 'THE FEARS & DESIRES OF OTHERS'?
- SHOULD I 'IMMERSE MYSELF IN MY TALENTS' OR 'FOCUS UPON THE TALENTS OF OTHERS'?
- IS THIS A WORLD OF 'CAUSE & EFFECT' OR 'JUST-CHANCE'?
- AM I 'COMFORTABLE WITH MY IDENTITY IN SOCIETY' OR 'CONFUSED ABOUT MY IDENTITY'?
- AM I 'INTIMATE' OR 'ISOLATED' IN MY ASSOCIATIONS WITH LIFE-PARTNERS?
- AM I 'DWINDLING DOWN (STAGNATION)' OR 'GAINING USEFULNESS (GENERATIVITY)' IN MY CONNECTIONS WITH OTHERS – AS I AGE?
- AS I CONSIDER MY OWN DEATH, AM I FILLED WITH 'INTEGRITY' OR 'DESPAIR'?

105. **THE 8 UNIVERSAL OPTIMAL-HEALTH CHOICE-ARCHITECTURE**

**SOLUTIONS TO THE 8 LIFE-STAGE QUESTIONS THAT ANY HUMAN CAN ENACT IN THEIR MIND-MOVIES (IF THEY LEARN THESE SOLUTIONS FROM THEIR SOCIAL-NETWORKS) ARE:**

- HOPE = HAVING THE SKILLS TO ACTUALLY IMPROVE LIFE'S MEANING IN VIEW OF SOCIAL-NETWORK COMPLEX DYNAMICS
- WILL = UNDERSTANDING THE POWER OF INDIVIDUAL CHOICE TO DRIVE SOCIAL-NETWORK DYNAMICS
- PURPOSE = THE JOY OF SERVING SOMETHING LARGER THAN SELF
- COMPETENCE = UNDERSTANDING THE NET-MEANING OF YOUR SOCIAL-NETWORKS
- FIDELITY = IDENTIFYING THE LIVING-PRINCIPLES THAT WILL SUSTAIN YOU FOR A LIFETIME
- LOVE = A REAL PATIENCE FOR OUR SOCIAL-NETWORK PARTNERS, WITH WHOM WE WILL CONSTANTLY VIEW LIFE DIFFERENTLY
- CARING = VOLUNTARY ACTS OF COMPASSION FOR THOSE WHO CAN NEVER REPAY THE FAVOR
- WISDOM = THE TALENT FOR CRAFTING SUSTAINABLE SOLUTIONS IN/FOR LIFE

[NOTE: IN GENERAL, ANY INDIVIDUAL WHO HAS LEARNED THESE 8 OPTIMAL SOLUTIONS TO THE 8 LIFESTAGE CHALLENGES (FROM HIS/HER SOCIAL-NETWORKS) WILL NATURALLY BE DRAWN TO SEEK HIGH-VALUE SOCIAL-NETWORKS (SEE BELOW) – AND THIS TYPE OF PERSON IS THE KIND OF NEW MEMBER THAT HIGH-VALUE SOCIAL-NETWORKS SEEK OUT.]

## **BASIC SCIENCE-MATH SKILLS:**

106. **WHAT IS THE PURPOSE OF STATISTICS IN SCIENCE?:**

**STATISTICS IS A SET OF MATH-TOOLS THAT ALLOW SCIENTISTS TO CALCULATE THE PROBABILITY THAT ANY SET OF EXPERIMENTAL RESULTS ARE "COMPLETELY RANDOM & JUST-CHANCE" (THAT IDEAL PROBABILITY VALUE = "1") OR "COMPLETELY REPRODUCIBLE" (THAT IDEAL PROBABILITY VALUE = "0"). SCIENTISTS TEND TO IGNORE ANY STATISTICS RESULTS THAT ARE GREATER (HIGHER IN NUMBER) THAN ".05": RESULTS BELOW ".05" ARE SAID TO BE "SIGNIFICANT". THE CLOSER THE PROBABILITY VALUE OF A DISCOVERY GETS TO "0", THE MORE THAT THIS DISCOVERY IS TERMED A "DETERMINISTIC PRINCIPLE".**

107. **WHAT IS THE SIMPLEST WAY TO EXPRESS THE INTERCONNECTION BETWEEN WEIGHT & DISTANCE & VOLUME IN THE METRIC SYSTEM?:**  
1 ML OF WATER VOLUME = 1 GRAM OF WEIGHT = 1 CUBIC MILLIMETER OF SIZE
108. **WHAT IS THE FREEZING POINT & BOILING POINT OF WATER IN THE METRIC & ENGLISH SYSTEMS?:** FREEZING = 0 & 32 DEGREES. BOILING = 100 & 212 DEGREES
109. **CONVERT THE FOLLOWING FRACTIONS INTO DECIMALS & PERCENTS & SCIENTIFIC NOTATION:  $1/2$  ,  $1/4$ ,  $1/10$ ,  $1/20$ , &  $1/100$ :**
- .5, 50%, & 5.0 TIMES  $10^{-1}$
  - .25, 25%, & 2.5 TIMES  $10^{-1}$
  - .1, 10%, & 1.0 TIMES  $10^{-1}$
  - .05, 5%, & 5.0 TIMES  $10^{-2}$
  - .01, 1%, & 1.0 TIMES  $10^{-2}$
110. **WHAT IS THE BASIC TRIGONOMETRY FORMULA THAT IS USED FOR CALCULATING ROCKET HEIGHT?:** SOH-CAH-TOA. THE OTHER IMPORTANT TRIG FORMULA TO REMEMBER IS:  $\tan(\text{THETA ANGLE}) = \sin(\text{THETA})/\cos(\text{THETA})$
111. **FIND THE UNKNOWN IN THE FOLLOWING EQUATIONS: “ $X = 20 - 3$ ”, “ $X = 4 \text{ TIMES } 20$ ”, “ $X = 20 \text{ DIVIDED BY } 4$ ”, & “ $X = 10^{-70} \text{ DIVIDED BY } 10^{-10}$ ” :**  
“17”, “80”, “5”, & “ $10^{-60}$ ”
112. **WHAT DO SCIENTISTS MEAN WHEN THEY SPEAK OF A ‘PROBABILITY VALUE’?** IF THE OUTCOME IS NOT ALWAYS REPRODUCIBLY CERTAIN, THEN THE PROBABILITY-VALUE STATISTIC TELLS YOU WHAT IS THE LIKELIHOOD THAT THAT THE OBSERVED RESULT IS “JUST CHANCE”. IF THE P-VALUE IS “.50”, THE CHANCE IS  $1/2$ . IF THE P-VALUE IS “.05” THEN THE LEVEL OF CHANCE DROPS TO  $1/20$ .
113. **WHAT 3 VALUES DOES THE STUDENTS T-TEST STATISTICS PROGRAM COMPARE IN 2 DATA SETS TO MEASURE PROBABILITY? MEAN, STANDARD ERROR, AND NUMBER OF OBSERVATIONS**
114. **STATE THE NEXT 3 LEVELS OF LENGTH MEASUREMENT IN THE METRIC SYSTEM, STARTING AT MILLIMETER. CENTIMETER, METER, KILOMETER**
115. **STATE THE NEXT 2 LEVELS OF WEIGHT MEASUREMENT IN THE METRIC SYSTEM, STARTING AT MILLIGRAM. GRAM, KILOGRAM**
116. **STATE THE NEXT 1 LEVELS OF VOLUME MEASUREMENT IN THE METRIC SYSTEM, STARTING AT MILLILITER. LITER**
117. **WHEN IS A LINE GRAPH MORE APPROPRIATE THAN A BAR-GRAPH FOR DISPLAYING DATA? BAR GRAPHS ARE BETTER TO USE WHEN TRACKING CHANGES IN MEASUREMENTS THAT TAKE PLACE OVER LONG PERIODS OF TIME.**

118. **KIND OF GRAPH IS PRODUCED BY THE FOLLOWING FORMULA:**

**“ $Y = AX + B$ ”? A STRAIGHT-LINE**

119. **WHAT KIND OF GRAPH IS PRODUCED BY THE FOLLOWING FORMULA:**

**“ $Y = AX^2 + BX + C$ ”? A HYPERBOLA**

## **ARTS-IN-SCIENCE SKILLS:**

120. **WHAT IS THE PRINCIPAL STYLISTIC DIFFERENCE BETWEEN THE**

**ARTISTIC-INQUIRY OF THE NATURE OF REALITY & THE SCIENTIFIC INQUIRY OF THE NATURE OF REALITY? SCIENTISTS FOCUS UPON 3 PRINCIPAL ACTIVITIES: 1. MEASURE THE MOTION OF OBJECTS IN THE NATURAL WORLD, 2. DETECT NEW PATTERNS OF MOTION IN THE NATURAL WORLD, AND 3. CREATE NEW HIGHLY-PREDICTIVE EQUATIONS THAT CAPTURE THEIR DISCOVERIES. SCIENTISTS THEN MUST SUBMIT THEIR DISCOVERIES ON SOME SORT OF MATHEMATICAL-SYMBOLS PLATFORM FOR PUBLIC CRITICAL REVIEW & CONFIRMATION (IN ORDER TO SECURE ‘REPRODUCIBILITY BY OTHERS’). SCIENTISTS INVITE THE CRITICAL EVALUATION OF HUMANITY TO BOTH REPRODUCE THE CLAIMS THAT ARE MADE BY THE SYMBOLS IN THEIR EQUATION, AND TO ALSO REVEAL ANY HIDDEN SCIENTIFIC-ERRORS.**

**ARTISTS TEND TO FOCUS THEIR ACTIVITIES ON ANY DIMENSION OF THE HUMAN IMAGINATION THAT THEY ARE AWARE OF (WHETHER BASED UPON THE NATURAL WORLD, OR NOT). ARTISTS TEND TO PRESENT THEIR NEW DISCOVERIES ON A PHYSICAL PLATFORM OR IN SOME SORT OF ATTRACTIVE FRAME, HOPING THAT THE VIEWER WILL REALIZE THAT THE SYMBOLS THAT ARE CONTAINED IN THE ARTISTIC-OFFERING ARE INTENDED TO DIRECT THE VIEWER TO A LIFE-EXPERIENCE THAT LIES BEYOND THE ART- FRAME. ARTISTIC CLAIMS CAN BE EXTREMELY-IMAGINATIVE IN THEIR CLAIMS & PRESENTATION, AND THUS, IT IS ALMOST IMPOSSIBLE FOR AN ARTIST TO COMMIT “AN ERROR”.**

**IN GENERAL, “ARTISTS” TEND TO NATURALLY SEE LIFE’S REALITIES AS WHOLE & INTEGRATED “PROCESSES” (NOT AS SEPARATE EXPERIMENTAL “THINGS”) – WHICH IS INDEED THE VIEW THAT IS MOST COMPATIBLE WITH OUR 21<sup>ST</sup> CENTURY SCIENTIFIC UNDERSTANDING OF HOW & WHY OUR KNOWN UNIVERSE IS SO HIGHLY INTER-DEPENDENT & INTER-CONNECTED.**

**IN GENERAL, WAY TOO MANY “SCIENTISTS” ARE STILL CAUGHT UP IN THE ‘MEASURING TINY THINGS & EXPERIMENTAL EVENTS IN ISOLATION FROM EVERYTHING ELSE’ MENTAL-TRAP – YET THIS LIMITATION IN UNDERSTANDING IS RAPIDLY BEING EXPOSED AS TOO-LIMITED & TOO-LIMITING FOR MODERN SCIENTIFIC USE!**

121. **IN WHAT WAYS DO ARTISTIC-INQUIRY & SCIENTIFIC-INQUIRY TEND TO**

**BE SIMILAR? BOTH TYPES OF VERY-DIFFERENT LIFE-EXPLORATION & REALITY PRESENTATION TOOLSETS ARE USED TO HELP COMMUNICATE “THE NATURE OF REALITY”—FROM ONE HUMAN-BEING TO ANOTHER.**

122. **IN WHAT WAYS CAN PHOTOGRAPHERS & DOCUMENTARY FILM-MAKERS**

**SUPPORT THE SCIENTIFIC INQUIRY OF SCIENTISTS? PHOTOGRAPHY & DOCUMENTARY FILM-MAKING ARE WAYS TO COLLECT SCIENTIFIC RECORDINGS OF ANY EDUCATIONAL DISCOVERIES OR OF MANY TYPES OF NATURAL LAW EVENTS.**

# **PROFESSIONAL STEAM CAREER-SKILLS:**

123. **THE 4 STEPS OF DIALOGUE ARE:**

- ACTIVE LISTENING WHILE OTHERS TALK
- RESTATE THE 1<sup>ST</sup> SPEAKER'S POSITION BEFORE VOICING YOUR OWN
- EXAMINE UNDERLYING ASSUMPTIONS CRITICALLY
- DISMOUNT WITH 'AGREEMENT', 'EXPERT-ADVISE', 'ASK GOOGLE', 'DESIGN AN EXPERIMENT' OR 'AGREE TO DISAGREE' (& RETEST CLAIMS LATER)

[PLEASE NOTE: THE DESIRED OUTCOME OF DIALOGUE IS THE CO-CREATION OF NEW "SHARED KNOWLEDGE", NOT "FINDING A COMPROMISE" OR "DECIDING WHAT TO SETTLE FOR" OR "DECIDING LET'S AGREE NEVER TO TALK AGAIN!"]

124. **WHAT IS SCIENTIFIC-INTEGRITY?**

SCIENTIFIC-INTEGRITY CAN BASICALLY BE SUMMARIZED IN 20 SIMPLE WORDS:

- KNOW WHAT YOU MEAN
- SAY WHAT YOU MEAN
- MEAN WHAT YOU SAY
- INTEND BENEFITS / PREVENT HARM
- MAKE TRUTH-SHARING SAFE (WITH OTHERS)

125. **WHAT IS 'SINCERITY' – AND HOW DOES SINCERITY HELP SCIENTISTS?**

SINCERITY CAN EASILY BE MISTAKEN FOR THE CHARACTER-FLAWS OF "BEING NAÏVE" OR "BEING IDEALISTIC": IT IS NEITHER. INSTEAD, IN SCIENCE, SINCERITY IS A DECIDED STRENGTH OF PERSONAL & PROFESSIONAL CHARACTER. SINCERITY TAKES SHAPE AS A PERSONAL COMMITMENT TO TRUTH-SEEKING WITH & FROM NATURE AND A SUSTAINED DESIRE TO ARRIVE AT A SPACE OF COLLECTIVE DEEPER-UNDERSTANDING ABOUT THE LAWS THAT GOVERN OUR UNIVERSE. SINCERITY CAN EASILY BE DETECTED IN THE QUALITY OF A SCIENTIST'S QUESTIONS – AS WELL AS HIS/HER COMMITMENT TO SEEK REPRODUCIBILITY OF FINDINGS BY OTHERS. ODDLY & BEAUTIFULLY, SCIENTISTS ARE MOST LIKELY TO DISCOVER THE DETAILS OF THE LIFE-EXPERIENCE THAT THEY ARE SEEKING: SINCERITY IS THE PRIME DRIVER OF SUCCESS IN THAT JOURNEY.

126. **WHAT IS THE PURPOSE OF A "PROFESSIONAL RESUME"?**

A PROFESSIONAL RESUME IS USED TO HELP INFORM AN ORGANIZATION ABOUT THE TYPES OF SKILLS THAT YOU CAN OFFER TO SUPPORT THEIR MISSION. MORE THAN ANYTHING ELSE, A RESUME IS COMPOSED IN ORDER TO DIRECT FLOW OF THE JOB INTERVIEW, IF YOU ARE BEING CONSIDERED FOR A POSITION. IT MUST BE TRUTHFUL!!!

127. **WHAT IS THE BASIC STRUCTURE OF A "PROFESSIONAL RESUME"?**

A PROFESSIONAL RESUME IS COMPOSED OF THE FOLLOWING PARTS: NAME & CITIZENSHIP & CONTACT INFO, EDUCATIONAL BACKGROUND, SPECIAL SKILLS, SPECIAL ACHIEVEMENTS & AWARDS, AND RESEARCH PUBLICATIONS.

128. **WHAT DO SCIENTISTS MEAN WHEN THEY REFER TO A SCIENTIFIC 'PROJECT DESIGN PLAN'?**

A PLAN CREATED BY A TEAM OF SCIENTISTS FOR THE NEW DESIGN OF AN EXPERIMENT → USUALLY ENDS IN A SHARED-VISION PICTURE

129. **WHAT ARE THE KEY SCIENCE, ENGINEERING & STRATEGIC QUESTIONS THAT ARE ANSWERED IN AN EFFECTIVE PROJECT DESIGN PLAN?** \_
- ALL POINTS OF VIEW ARE CONSIDERED – AND RECORDED.
  - THE PERTINENT SCIENCE & PHYSICS – IN VIEW OF DESIRED OUTCOME & FUNCTION – ARE CONSIDERED.
  - THE FINALLY-SELECTED DESIGN IS RECORDED IN SOME SORT OF DRAWING.
  - THE FINALLY-SELECTED DESIGN SEEKS TO MAXIMIZE SCIENTIFIC-SUSTAINABILITY
130. **WHAT DO SCIENTISTS MEAN WHEN THEY REFER TO A SCIENTIFIC PROJECT MANAGEMENT PLAN?:** A PLAN CREATED BY A TEAM OF SCIENTISTS FOR 'WHO' DOES 'WHAT', 'WHERE', 'HOW' & 'WHEN' IN A NEW SCIENCE EXPERIMENT
131. **WHAT ARE THE KEY LOGISTICAL & TACTICAL QUESTIONS THAT ARE ANSWERED IN AN EFFECTIVE PROJECT MANAGEMENT PLAN?** \_
- THE FINAL PRODUCT IS CLEARLY UNDERSTOOD BY ALL TEAM MEMBERS
  - EACH MEMBER IS ABLE TO VISUALIZE HIS/HER VITAL PURPOSE IN THE OVERALL PROJECT
  - EACH MEMBER KNOWS WHERE TO POSITION HIMSELF/HERSELF, WHEN TO TAKE ACTION – AND WHICH DIRECTION TO MOVE, IN EACH MOMENT OF TIME.
  - THE FINALLY-SELECTED IMPLEMENTATION PROGRAM IS ABLE TO SUCCEED WITHIN THE AGREED BUDGET
132. **WHAT ARE THE 8 BASIC COMPONENTS OF THE NIST MALCOLM BALDRIGE PERFORMANCE EXCELLENCE SYSTEM?**
- AN ORGANIZATION CHARTER,
  - AN EFFECTIVE MEANS OF MEETING THE NEEDS OF EXTERNAL-CUSTOMERS,
  - A PROCESS FOR EMPOWERING NEW & OLD STAFF (INTERNAL-CUSTOMERS),
  - A PROCESS-EFFICIENCY SUPPORT SYSTEM TO MAXIMIZE PROFIT,
  - A CLEAR ORGANIZATIONAL UNDERSTANDING OF 'LEADERSHIP',
  - THE TOOLS FOR EFFECTIVE STRATEGIC PLANNING,
  - ABILITY TO DISCOVER/DELIVER NEW VALUE TO CUSTOMERS (MARKETING), AND
  - DATA-TO-INFORMATION-TO-KNOWLEDGE TOOLS FOR SYSTEM-LEARNING.
133. **WHAT DO PERSONAL DRESS & HYGIENE CHOICES REVEAL ABOUT YOUR PERSONAL CHOICE-ARCHITECTURE & HEALTH?:**  
INTERVIEWERS WILL NOTICE YOUR CHOICE IN CLOTHES & ACCESSORIES & THE LEVEL OF YOUR HYGIENE. THEY WANT TO UNDERSTAND HOW THESE CHOICES MAKE YOU HEALTHIER & HOW THEY HELP YOU TO PERFORM IN THE WORKPLACE.
134. **WHAT ARE THE SPECIFIC STEPS REQUIRED TO PERFORM THE PEER-TO-PEER "MIND-READING" SKILLS-ASSESSMENT PROCESS WITH YOUR TEAM?**  
THE ENTIRE TEAM DEFINES SPECIFIC SKILLS TO ACHIEVE, THEN THEY "GET BUSY" LEARNING THOSE SKILLS. AT A LATER TIME, EACH PERSON ASSESSES THE SKILLS OF EACH OF THE MEMBERS OF THE TEAM (INCLUDING SELF) (IN FORCED-RANKING OR ON A 1-10 SCALE). THE RESULTS ARE AVERAGED & DISPLAYED BY A TRUSTED PARTY, USING A CODE-NAME SYSTEM THAT ONLY EACH INDIVIDUAL CAN RECOGNIZE (EACH PERSON'S IDENTITY REMAINS HIDDEN, YET THE GROUP DOES GET TO SEE ALL OF THE SKILL-RANKINGS FOR ALL MEMBERS OF THE TEAM).

135. **WHAT THE SIMPLEST WAY TO ENSURE THAT YOU WILL BE SAFE IN UNCERTAIN TIMES?** ENJOY KEEPING OTHERS AROUND YOU SAFE, AT ALL TIMES – JUST AS A WAY OF NAVIGATING THROUH LIFE. WHEN YOU TAKE THE PLEDGE TO ENJOY “BEING A LIFEGUARD” CONSISTENTLY, YOU WILL RECOGNIZE OTHER PEOPLE WHO HAVE ALSO TAKEN THE LIFEGUARD PLEDGE – AND THEY WILL RECOGNIZE YOU (INCLUDING DURING A JOB INTERVIEW, OR DURING A “NORMAL CONVERSATION” -- THAT YOU DO NOT KNOW IS REALLY “A JOB INTERVIEW”!).
136. **WHAT THE SIMPLEST WAY TO ENSURE THAT YOU WILL BE ABLE TO TRUST OTHERS IN YOUR SOCIAL-NETWORKS, DURING UNCERTAIN TIMES?** ENJOY BEING A “TRUSTWORTHY” LIFEGUARD IN ALL OF YOUR INTERACTIONS WITH OTHERS, INCLUDING BEING TRUTHFUL WITH EVERYONE, AT ALL TIMES (REGARDLESS IF IT IS “CONVENIENT” OR NOT) – JUST AS AN OPEN & CONFIDENT WAY FOR NAVIGATING THROUH LIFE! WHEN YOU TAKE THE PLEDGE TO ENJOY “BEING A TRUSTWORTHY LIFEGUARD” CONSISTENTLY, YOU WILL RECOGNIZE OTHER PEOPLE WHO HAVE TAKEN THE SAME TRUSTWORTHY-LIFEGUARD PLEDGE – AND THEY WILL ALSO RECOGNIZE YOU (INCLUDING DURING A JOB INTERVIEW, OR DURING “A NORMAL CONVERSATION” -- THAT YOU DO NOT KNOW IS REALLY “A JOB INTERVIEW”!).

**BONUS QUESTION!!!** **WHAT IS THE MOST BEAUTIFUL WORD IN THE ENGLISH LANGUAGE?** THE NAME OF THE PERSON THAT YOU ARE TALKING TO RIGHT NOW! SCIENTIFICALLY, EVERY WORD THAT YOU ARE ACTUALLY HEARING IN YOUR LIFE – NOW, TOMORROW & ALWAYS -- IS ACTUALLY BEING SPOKEN BY SOMEONE, FOR SOME REASON. WHO IS SPEAKING TO YOU – AND WHY? ARE YOU WILLING TO DO YOUR PART TO MAKE YOUR CONVERSATIONS WITH OTHERS BOTH MEMORABLE & VALUABLE?

THE MEMBERS OF YOUR SOCIAL-NETWORKS DESERVE YOUR FULL ATTENTION – IF YOU REALLY WANT THEIR FULL ATTENTION IN RETURN (THIS IS A VITAL MEASURABLE DIMENSION OF A HEALTHY SOCIAL-NETWORK). WHEN YOU CARE ENOUGH TO REMEMBER THE NAMES OF OTHERS, THEY ARE MORE LIKELY TO REMEMBER YOU & TO APPRECIATE YOUR PRESENCE IN THEIR LIVES (INCLUDING DURING A JOB INTERVIEW, OR DURING A “NORMAL CONVERSATION” -- THAT YOU DO NOT KNOW IS REALLY “A JOB INTERVIEW”!, OR A DURING A “WOULD YOU LIKE TO COLLABORATE WITH ME?” CONVERSATION!).