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Art 103 Art as System
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Reading #1

1. My definition of a system is a set of elements and components collectively work as a whole toward a common purpose or goal. It doesn't have to be any size, shape. It's not an entity.
2. Four systems definition:
 - a) Modularity is the components of a system that can rearrange or recombined in used. For example, desktop computer's components can be replaced with better components for better performance. Molecules
 - b) Decomposability is the possibility or the point that an object can/cannot decompose or broken down. An example would be papers, toilet papers, tertiary colors.
 - c) Emergence is mean arise out or begin to appear due to complex interaction. An example would be the video of "Cymatics", the crystal elements on the surface react to the sound vibration, and form into some visible shapes/pattern. Snow itself.
 - d) Chaos theory focus on the study of chaos, an unpredictable behavior. An example may be is climate change, predict the weather, or butterfly effect.

Class: Exponential change that uncontrolled. Ex: weather pattern, flowing water

3. A tessellation is a surface that covered by a set of patterns with regular shape repeatedly on a plane and never overlaying each other. Sunflower, snake scales, fish scales are the example from nature.

Class: idea of interlocking, regular shape like triangle, hexagon.

4. Modularity can refer to an object's components, use in physical thing. Tessellation is commonly use for decorative design on a surface plane. In modular system, each modular has a system defined in it, can be separately in use. Tessellation cannot have any gaps between the shapes, the shapes must connect side by side in order to form pattern.

Class: modularity can be rearrange/replace, allow for flexibility. Tessellation is interlocking on each other, no gaps for replace, the shape a orientate in specific way.

5. Visual design as example, a periodic tessellation that repeated the same over and over times, from a visual aspect it will let the viewers/audiences feel formal, less interesting visually, and less visual appealing. An aperiodic tessellation in other hand, provides more visual interest and appealing due to the irregular or random pattern.

6. Diagrams
 - a) 2 system diagrams that have more than 100 elements

a) 2 system diagrams that have more than 100 elements



PERIODIC TABLE

Atomic Properties of the Elements

Group

1 IA 2 IIA

1 H
Hydrogen
1.00794

2 He
Helium
4.002602

3 Li
Lithium
6.941

4 Be
Beryllium
9.012182

5 B
Boron
10.811

6 C
Carbon
12.011

7 N
Nitrogen
14.00643

8 O
Oxygen
15.999

9 F
Fluorine
18.9984032

10 Ne
Neon
20.1797

11 Na
Sodium
22.98976928

12 Mg
Magnesium
24.3050

13 Al
Aluminum
26.9815386

14 Si
Silicon
28.0855

15 P
Phosphorus
30.973762

16 S
Sulfur
32.06

17 Cl
Chlorine
35.453

18 Ar
Argon
39.948

19 K
Potassium
39.0983

20 Ca
Calcium
40.078

21 Sc
Scandium
44.955912

22 Ti
Titanium
47.88

23 V
Vanadium
50.9415

24 Cr
Chromium
51.9961

25 Mn
Manganese
54.938045

26 Fe
Iron
55.845

27 Co
Cobalt
58.933195

28 Ni
Nickel
58.6934

29 Cu
Copper
63.546

30 Zn
Zinc
65.38

31 Ga
Gallium
69.723

32 Ge
Germanium
72.630

33 As
Arsenic
74.9216

34 Se
Selenium
78.96

35 Br
Bromine
79.904

36 Kr
Krypton
83.798

37 Rb
Rubidium
85.4678

38 Sr
Strontium
87.62

39 Y
Yttrium
88.90585

40 Zr
Zirconium
91.224

41 Nb
Niobium
92.90638

42 Mo
Molybdenum
95.96

43 Tc
Technetium
(98)

44 Ru
Ruthenium
101.07

45 Rh
Rhodium
102.90550

46 Pd
Palladium
106.42

47 Ag
Silver
107.8682

48 Cd
Cadmium
112.411

49 In
Indium
114.818

50 Sn
Tin
118.710

51 Sb
Antimony
121.760

52 Te
Tellurium
127.60

53 I
Iodine
126.90447

54 Xe
Xenon
131.29

55 Cs
Cesium
132.9054519

56 Ba
Barium
137.327

57 La
Lanthanum
138.9047

58 Ce
Cerium
140.12

59 Pr
Praseodymium
140.90768

60 Nd
Neodymium
144.24

61 Pm
Promethium
(144.9127)

62 Sm
Samarium
150.36

63 Eu
Europium
151.964

64 Gd
Gadolinium
157.25

65 Tb
Terbium
158.92535

66 Dy
Dysprosium
162.50015

67 Ho
Holmium
164.93033

68 Er
Erbium
167.259

69 Tm
Thulium
168.93047

70 Yb
Ytterbium
173.054

71 Lu
Lutetium
174.967

72 Hf
Hafnium
178.49

73 Ta
Tantalum
180.94788

74 W
Tungsten
183.84

75 Re
Rhenium
186.207

76 Os
Osmium
190.23

77 Ir
Iridium
192.222

78 Pt
Platinum
195.084

79 Au
Gold
196.966569

80 Hg
Mercury
200.59

81 Tl
Thallium
204.3833

82 Pb
Lead
207.2

83 Bi
Bismuth
208.980399

84 Po
Polonium
(209)

85 At
Astatine
(210)

86 Rn
Radon
(222)

87 Fr
Francium
(223)

88 Ra
Radium
(226)

89 Ac
Actinium
(227)

90 Th
Thorium
(232)

91 Pa
Protactinium
(231)

92 U
Uranium
(238)

93 Np
Neptunium
(237)

94 Pu
Plutonium
(244)

95 Am
Americium
(243)

96 Cm
Curium
(247)

97 Bk
Berkelium
(247)

98 Cf
Californium
(251)

99 Es
Einsteinium
(252)

100 Fm
Fermium
(257)

101 Md
Mendelevium
(258)

102 No
Nobelium
(259)

103 Lr
Lawrencium
(262)

104 Rf
Rutherfordium
(261)

105 Db
Dubnium
(262)

106 Sg
Seaborgium
(266)

107 Bh
Bohrium
(264)

108 Hs
Hassium
(277)

109 Mt
Meitnerium
(276)

110 Ds
Darmstadtium
(281)

111 Rg
Roentgenium
(282)

112 Cn
Copernicium
(285)

113 Nh
Nihonium
(286)

114 Fl
Flerovium
(289)

115 Uu
Ununpentium
(292)

116 Uuh
Ununhexium
(293)

117 Uus
Ununseptium
(294)

118 Uuo
Ununoctium
(294)

Frequently used fundamental physical constants

For the most accurate values of these and other constants, visit physics.nist.gov/constants

1 second = $9.126\,317\,70 \times 10^{23}$ periods of radiation corresponding to the transition between the two hyperfine levels of the ground state of ^{133}Cs

speed of light in vacuum c 299 792 458 m s⁻¹ (exact)

Planck constant h $6.626\,070\,15 \times 10^{-34}$ J s (exact) ($h = h/2\pi$)

elementary charge e 1.602 176 634 × 10⁻¹⁹ C

electron mass m_e 9.109 383 56 × 10⁻³¹ kg

proton mass m_p 1.672 621 63 × 10⁻²⁷ kg

fine-structure constant α 1/137.036

rydberg constant R_∞ 1.097 373 157 × 10⁷ m⁻¹

Bohr radius a_0 5.291 772 348 × 10⁻¹¹ m

Boltzmann constant k 1.380 67 × 10⁻²³ J K⁻¹

Solids

Liquids

Gases

Artificially Prepared

Period

1 2 3 4 5 6 7 8 9 10 11 12

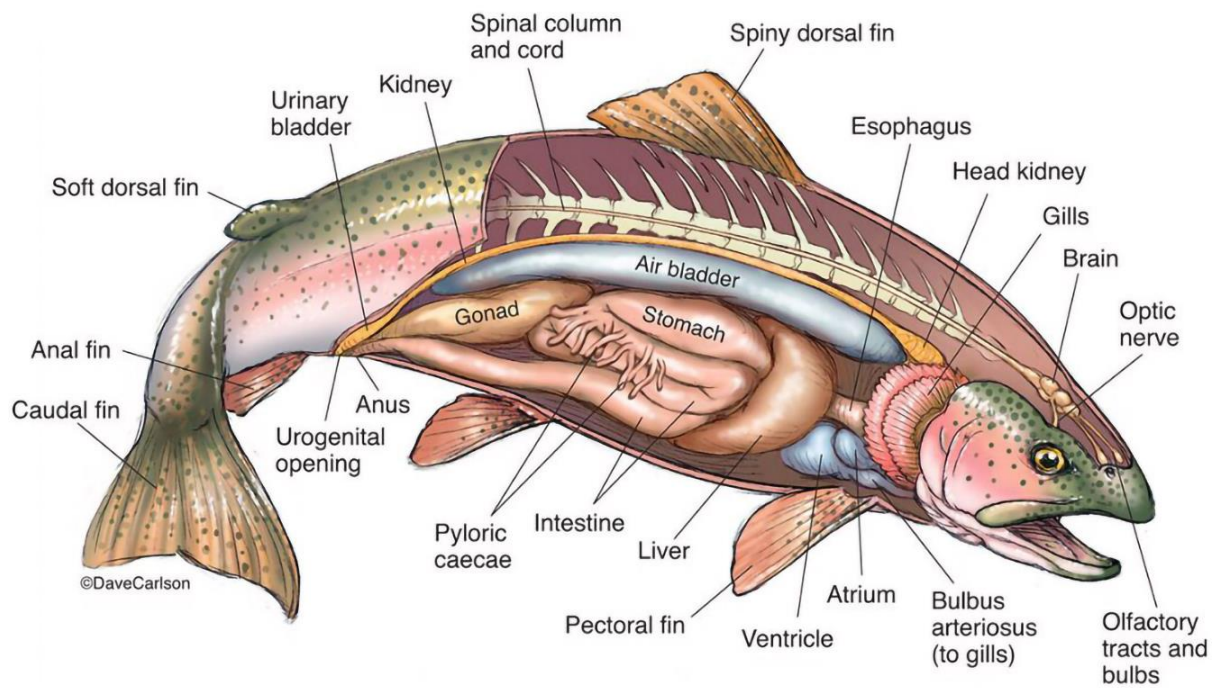
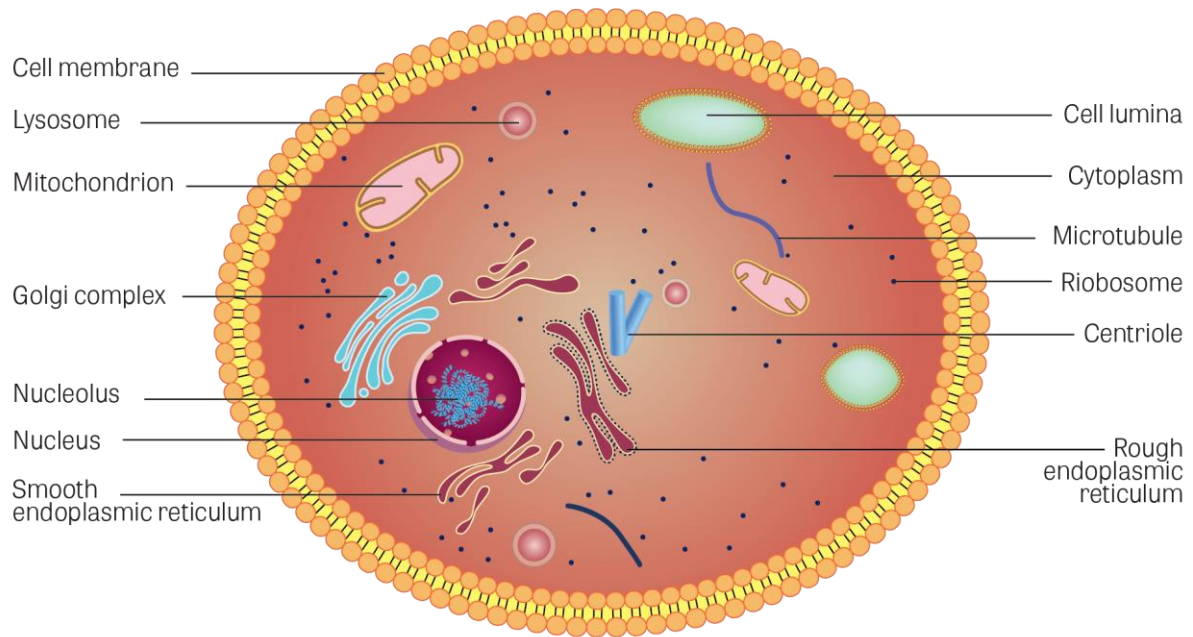
Physics Laboratory

13 IIIA 14 IVA 15 VA 16 VIA 17 VIIA 18 VIIIA

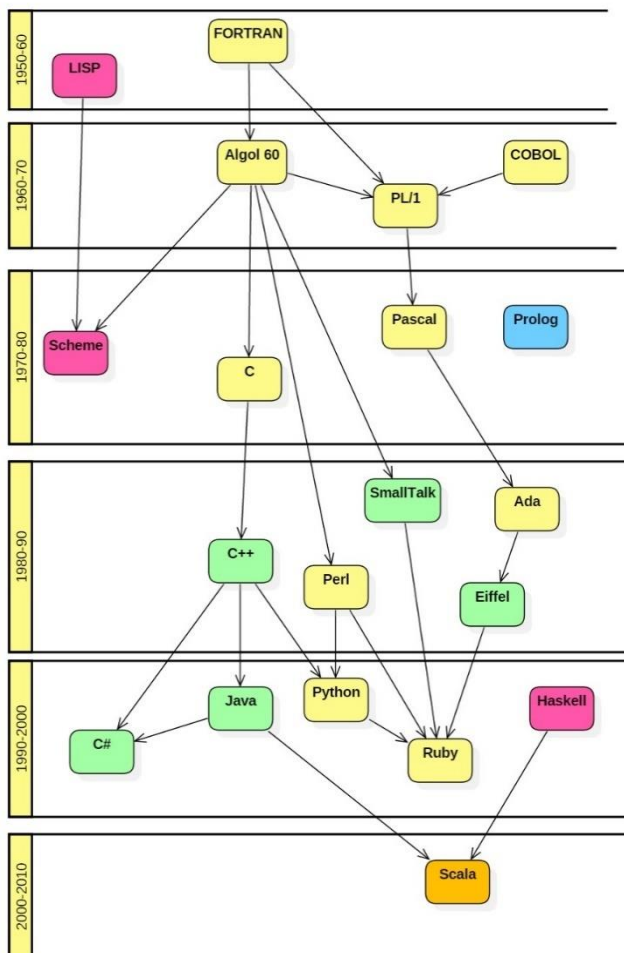
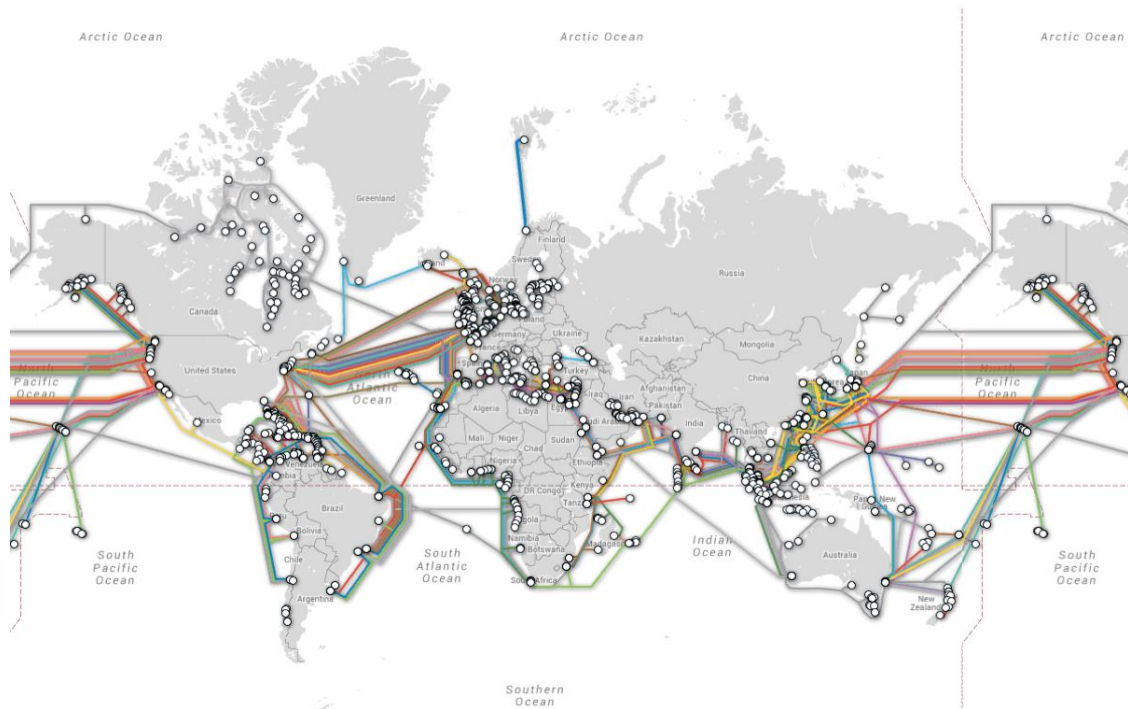
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Atomic Number</

b) 2 system diagrams that is something considered living



c) 2 system diagrams that represent something that is not visible or physical



d) 2 system diagrams that represent a system that incorporates modularity

