REMOTE DISTANCE LEARNING

A CLASSROOM TEACHER'S VIEW

PART 1

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Leading Education in 2020– Session 1 for K-12 Teachers

Teachers are on the front lines of Education, and have become guiding lights for our youth during these strange times. In part one of a two-part series, we'll provide Kindergarten through Grade 12 teachers with the basics of Distance Education pedagogy. Teachers will finish the series with specific education tools and a firm grasp on how to approach an unstable school year.

OVERVIEW OF THIS SESSION

Maintaining Relationships

The Importance of Patterns

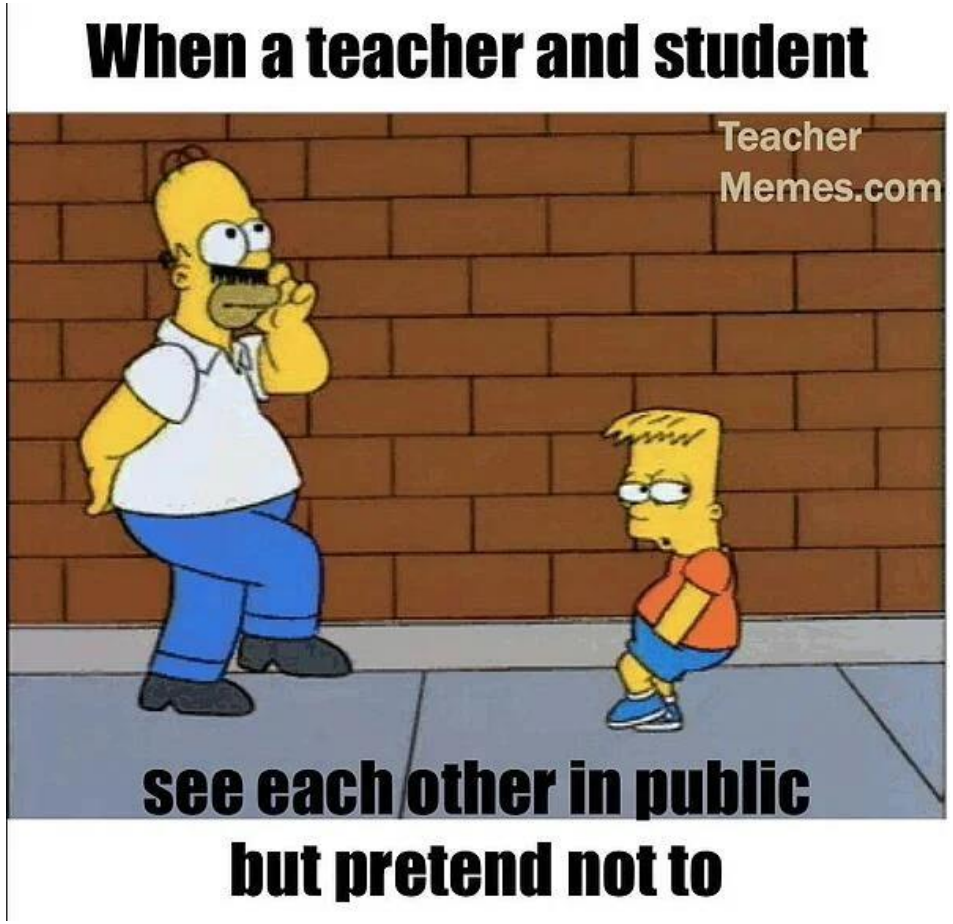
Experiential Teaching & Learning

ABOUT OUR PRESENTER, JACQUELINE MONTEITH:

Jacqueline began teaching high school in Northern Manitoba after graduating from the University of Winnipeg. In 2012, she received her Master's Degree in Distance Education. In 2013, Jacqueline began her current position as a Science Instructional Coach with Frontier School Division. Her role is to teach and support teachers, and thus our youth, using a variety of methods across a massive geographical area. Jacqueline's 18 years of experience throughout the province, her degree in Distance Education, and her zest for thinking differently has created an ideal leader for 2020.

Jacqueline can also help support your organization, your school and your Division in both Science and Distance Education pedagogy. Please contact her directly to discuss your specific professional development needs at truenorthedmb@gmail.com.

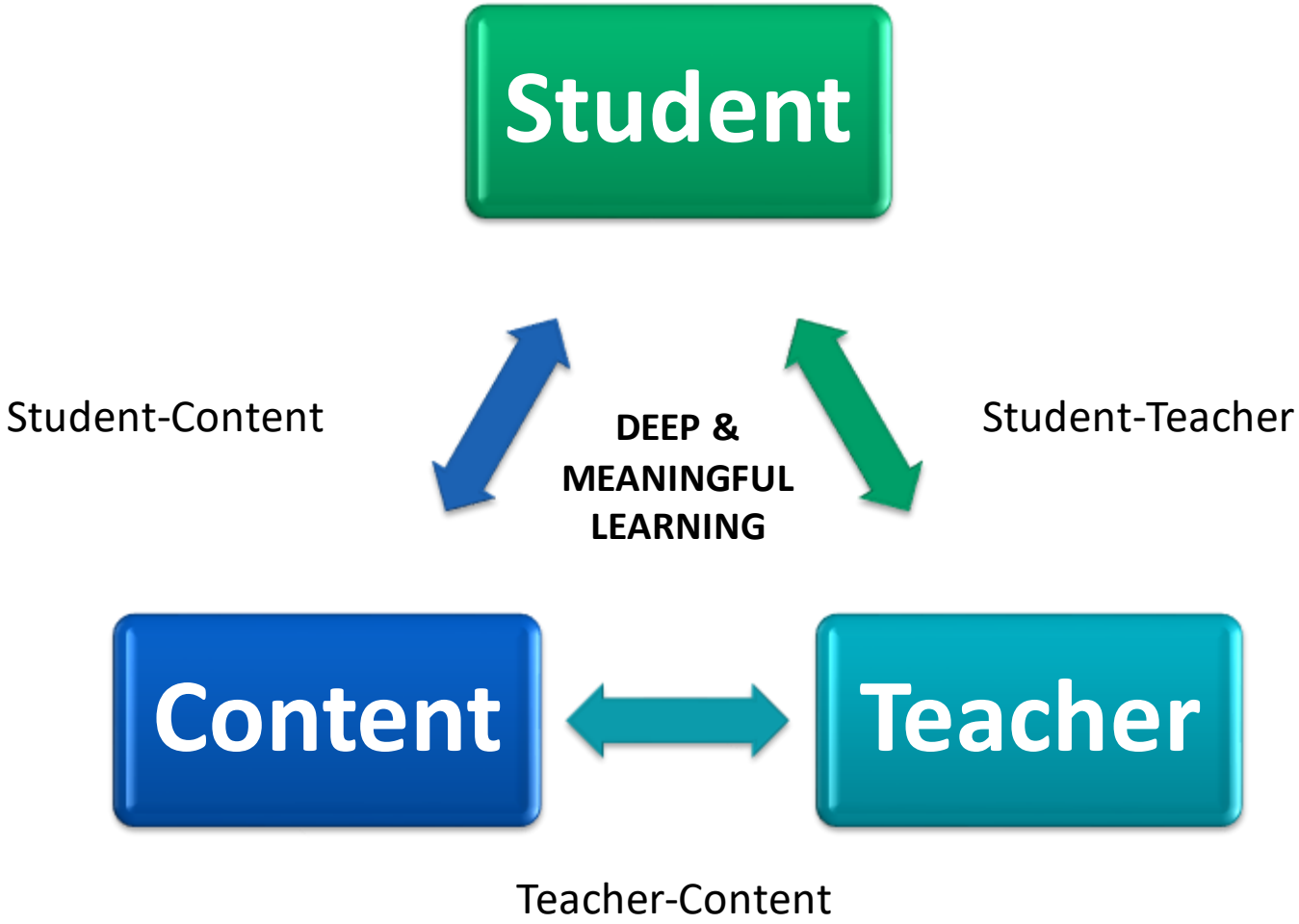
Pedagogy of Distance Education



1. TeacherMeme

Emergency Teaching
vs
Distance Education

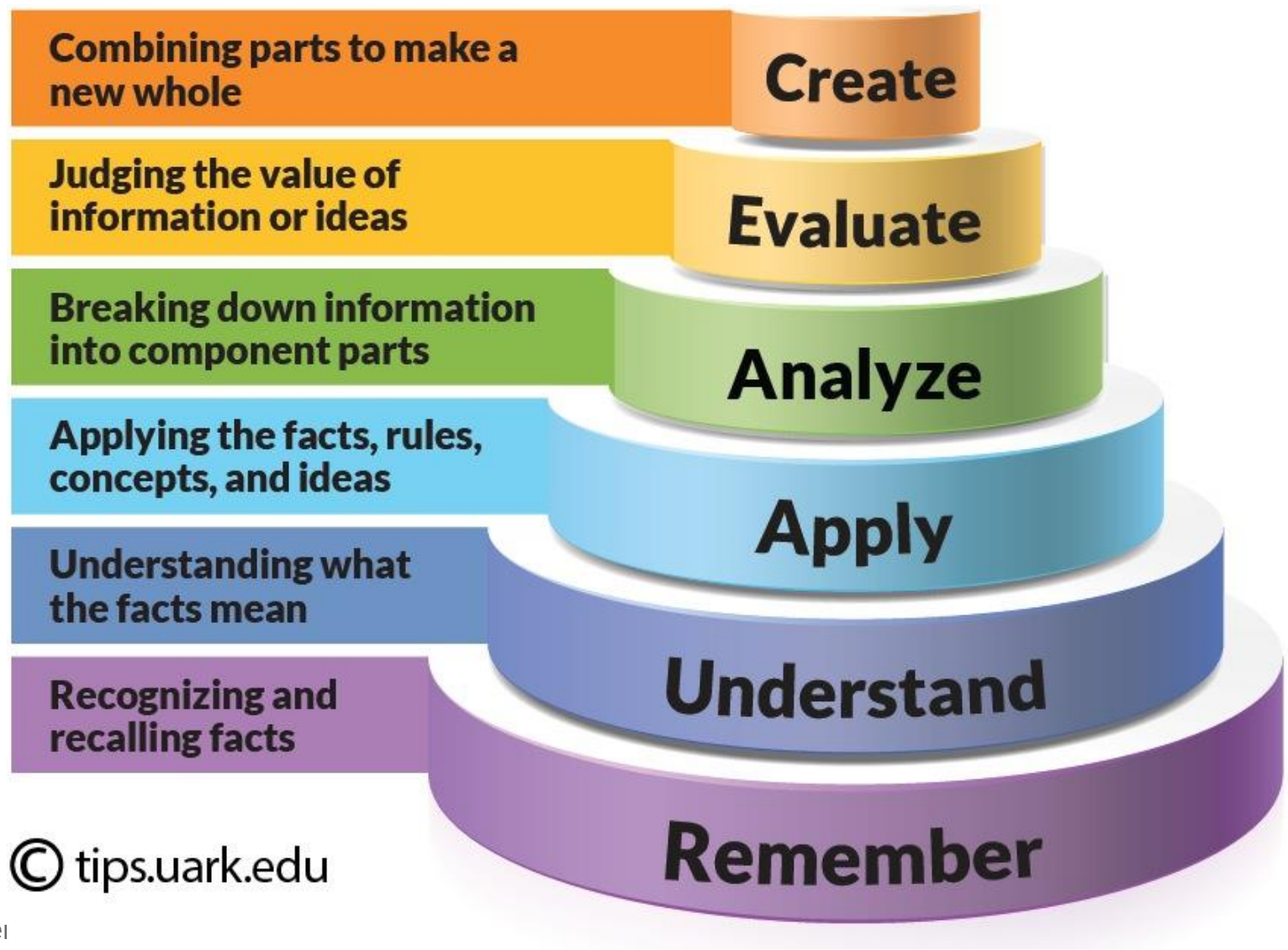
Modes of Interaction



Anderson & Garrison, 1998

Maslow Before Bloom


Self-actualization
desire to become the most that one can be
Esteem
respect, self-esteem, status, recognition, strength, freedom
Love and belonging
friendship, intimacy, family, sense of connection
Safety needs
personal security, employment, resources, health, property
Physiological needs
air, water, food, shelter, sleep, clothing, reproduction



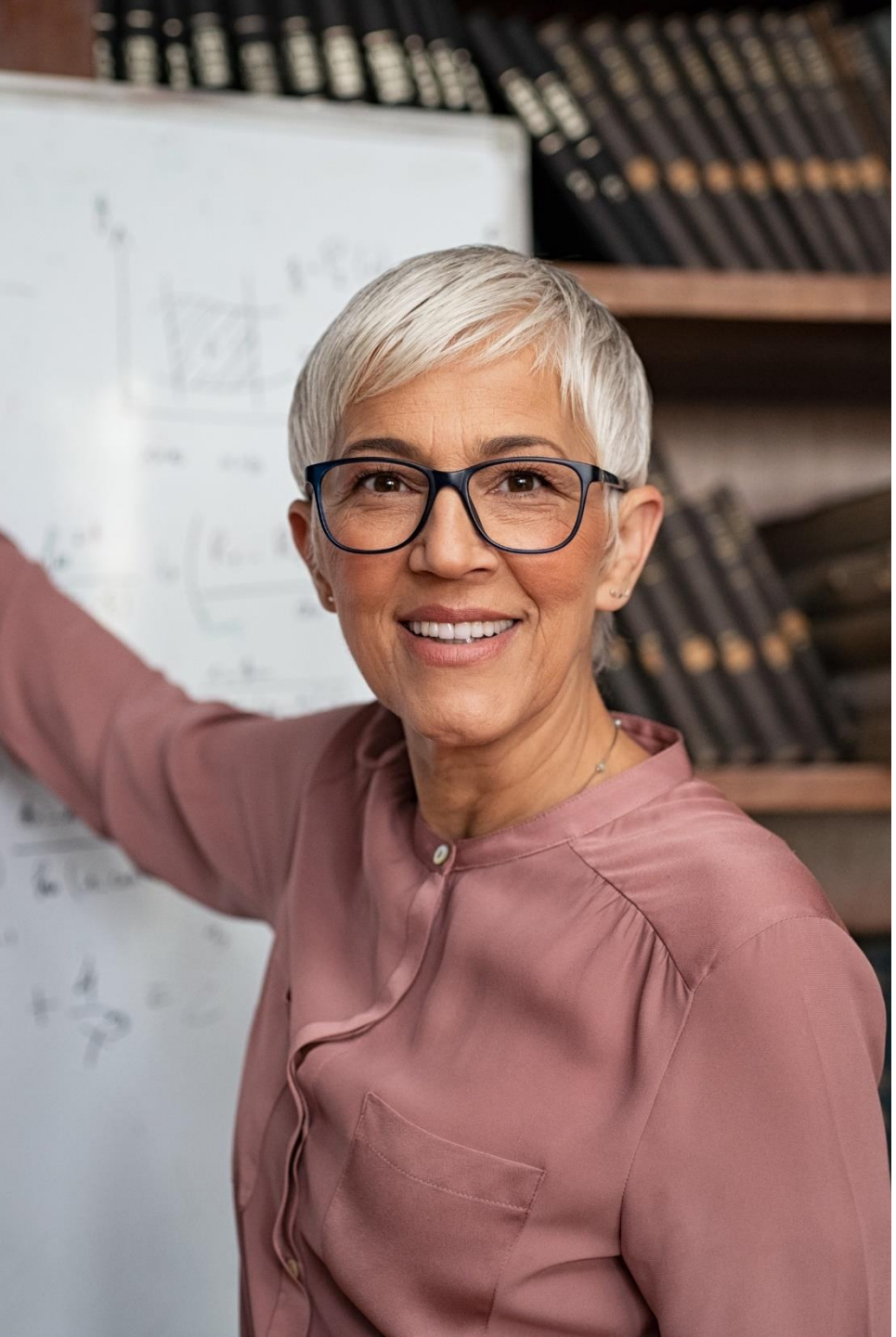
1. Vanderbilt University, Cer

Coming Together

A sense of community comes from a sense of shared identity, discourse, or values.

These create a sense of trust.

1. Burge & Haughey, 2001,p. 79



Cultivating a Connection

Communicate your own unique voice: students desire learning that is coloured with the personality of their teacher.

1. Johnson, 2013, p 15

Creating Positive Relationships

Letters with Articles or pictures of interest

Small tokens

Share stories from own experience

Academic/social split during sessions

Instructor participation in activities

Redesign assignments and activities

Give choices! Celebrate the diversity of choices


To corona
virus
you destroyed
my birthday.
you are
the f-word

Importance of Celebration

Celebrate our learners, our year, and their academic success!

Celebrate as Educators: our ability to transform, to help our students in a world crisis, and to help ourselves.


SARDINE

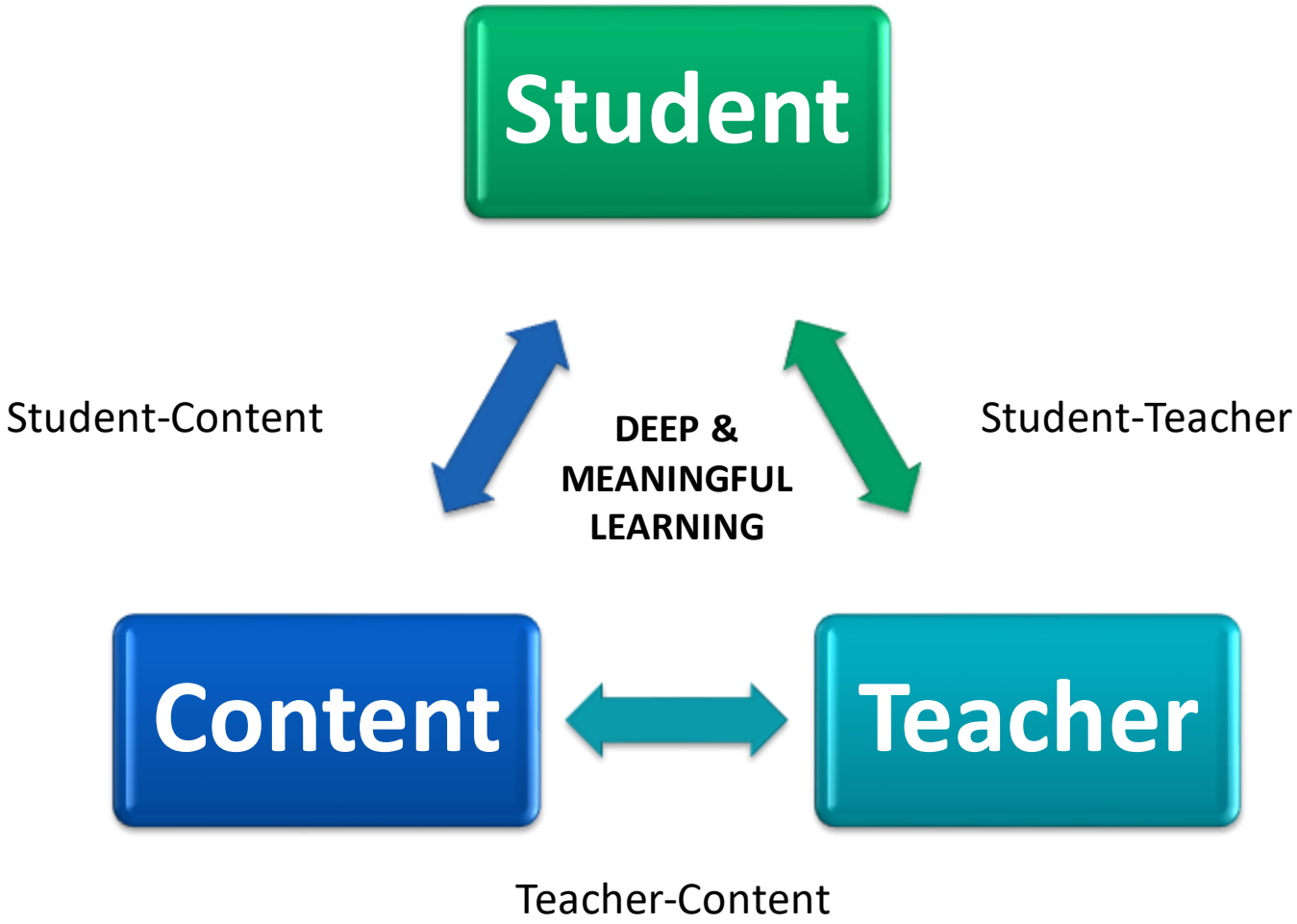
Importance of Early Wins: What is Success??

- ✓ Connecting with teachers, students & families
- ✓ Building upon prior successes with students
- ✓ Participating in the transition from emergency teaching to distance education

Experiential Teaching & Learning


PAPER AIRPLANE
YOU'RE DOING IT RIGHT
imgflip.com

Modes of Interaction



1. Anderson & Garrison, 1998

Student-Content Relationships

Humans are viewed as goal-directed agents who actively seek information.

They come to formal education with a range of prior knowledge, stills, beliefs, and concepts that significantly influence what they notice about the environment and how they organize and interpret it.

This, in turn, affects abilities to remember, reason, solve problems, and acquire new knowledge.

1. National Research Council, 2000, p. 10

Motivation to Learn

Directly affects the amount of time that people are willing to devote to learning!!

1. National Research Council, 2000, p. 61

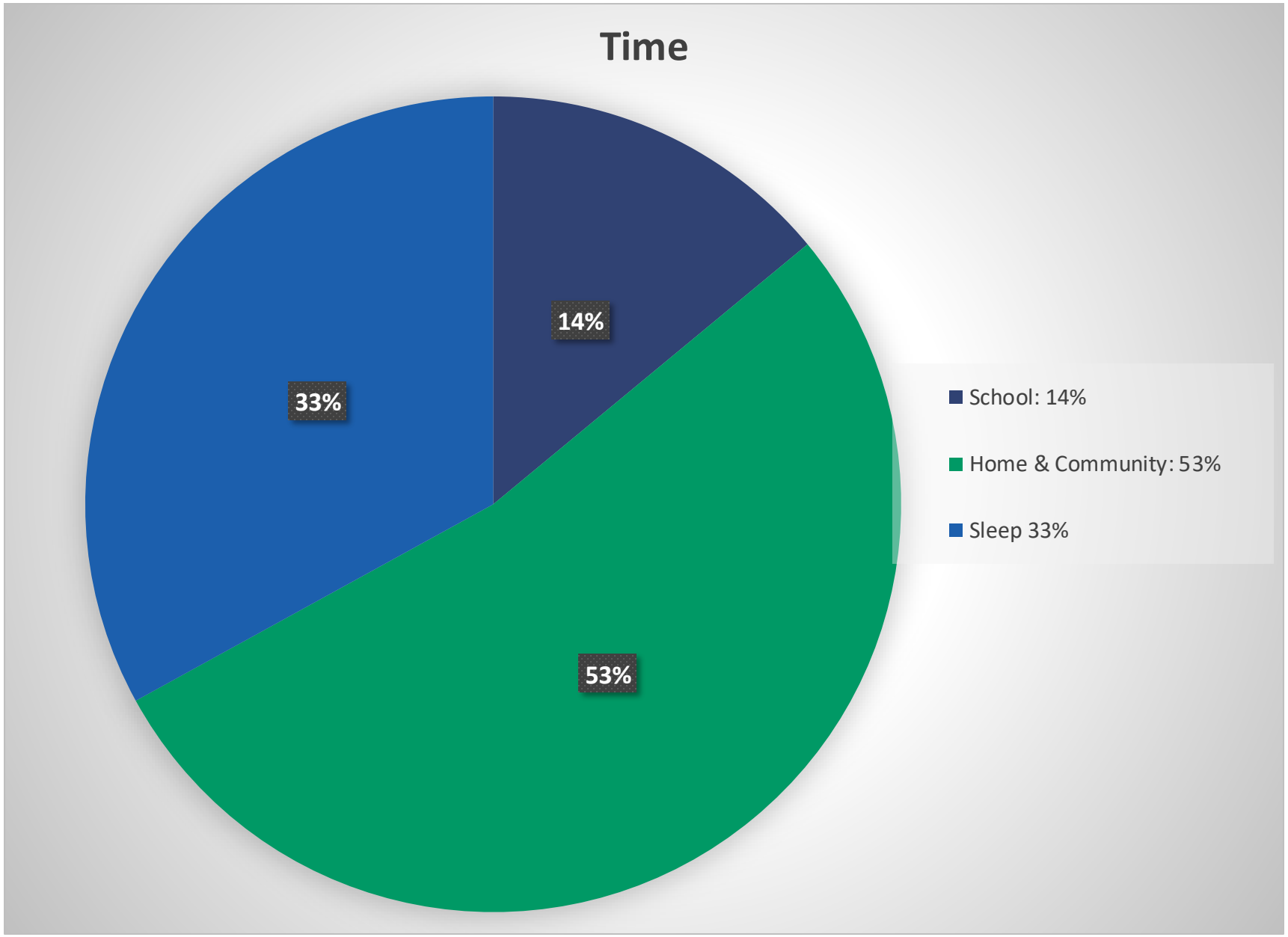
Intrinsic Motivation

- Failure is not punished
- Objectives are meaningful
- A variety of strategies are used
- Higher level objectives and divergent questions
- Problems are at appropriate level of difficulty
- Opportunities for active response
- Opportunity to create finished products
- Opportunity to interact with peers

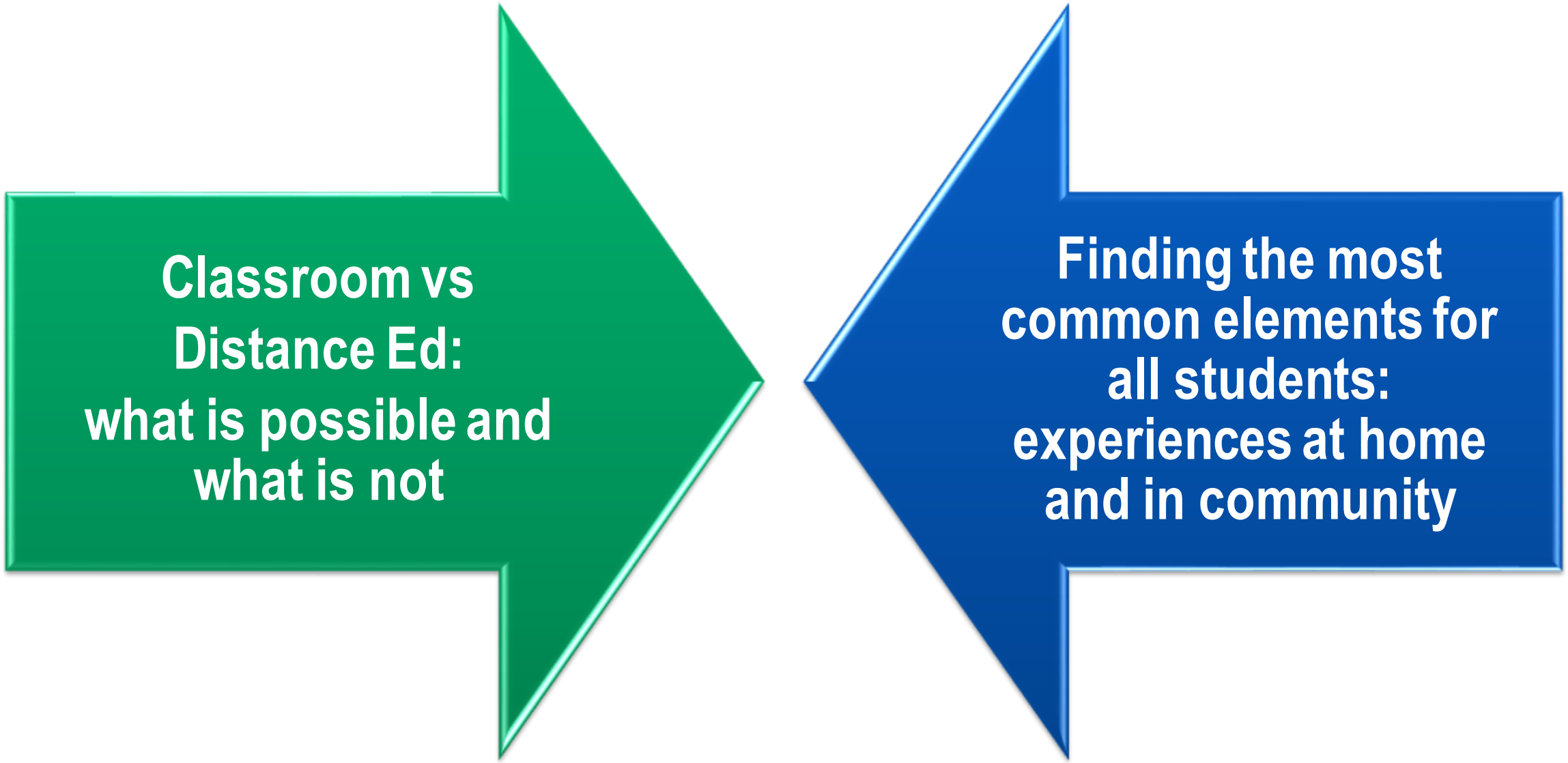
1. Fahy, 2011, p. 57

Community-centered environments include:

Class
School
Homes
Community
Businesses
Culture



1. National Research Council, 2000, p. 26


Classroom vs
Distance Ed:
what is possible and
what is not
Finding the most
common elements for
all students:
experiences at home
and in community

What Is Experiential Learning?

Dirkx writes of

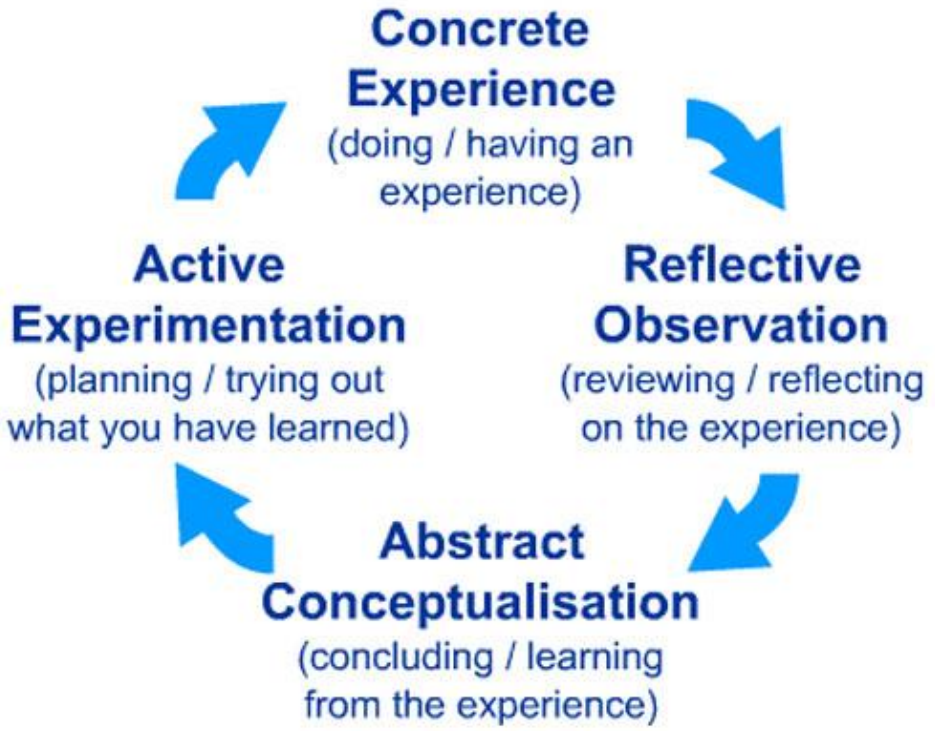
‘learning through soul’

involving a

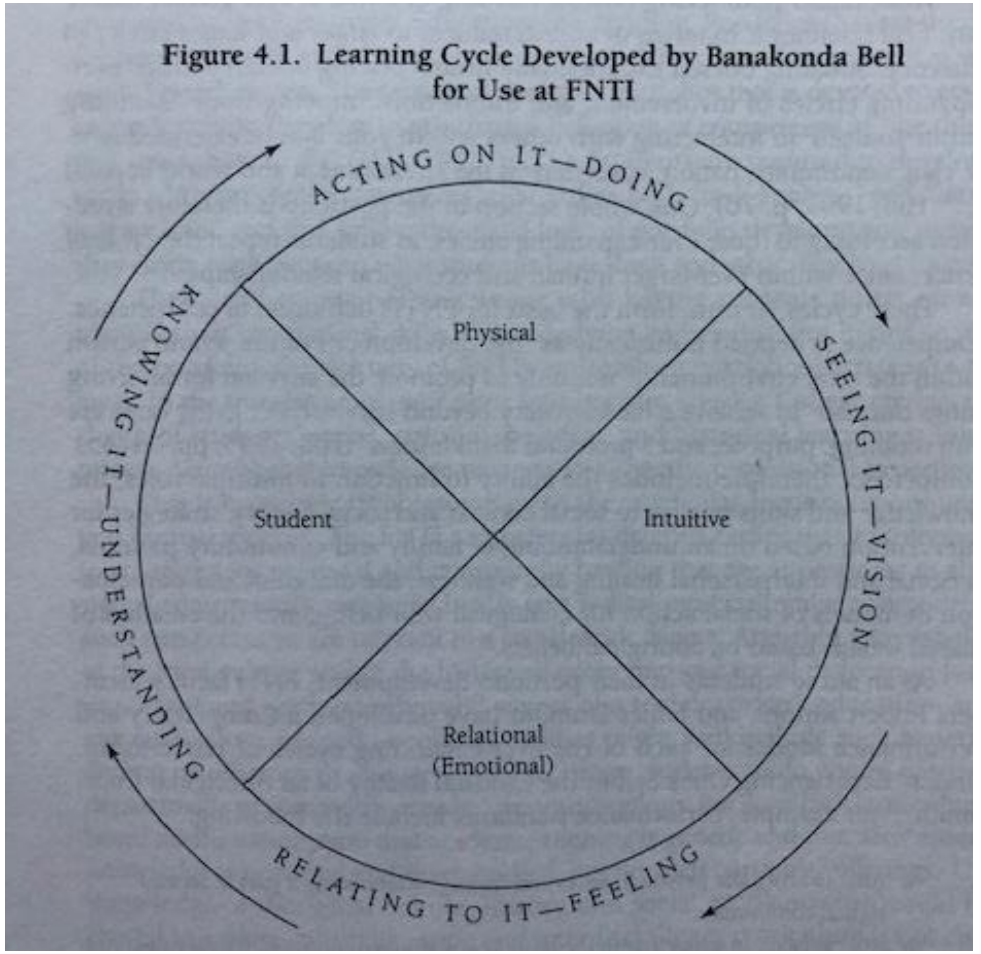
‘focus on the interface where the socioemotional and the intellectual world meet, where the inner and outer worlds converge”.

1. Dirkx (1997, p. 85)

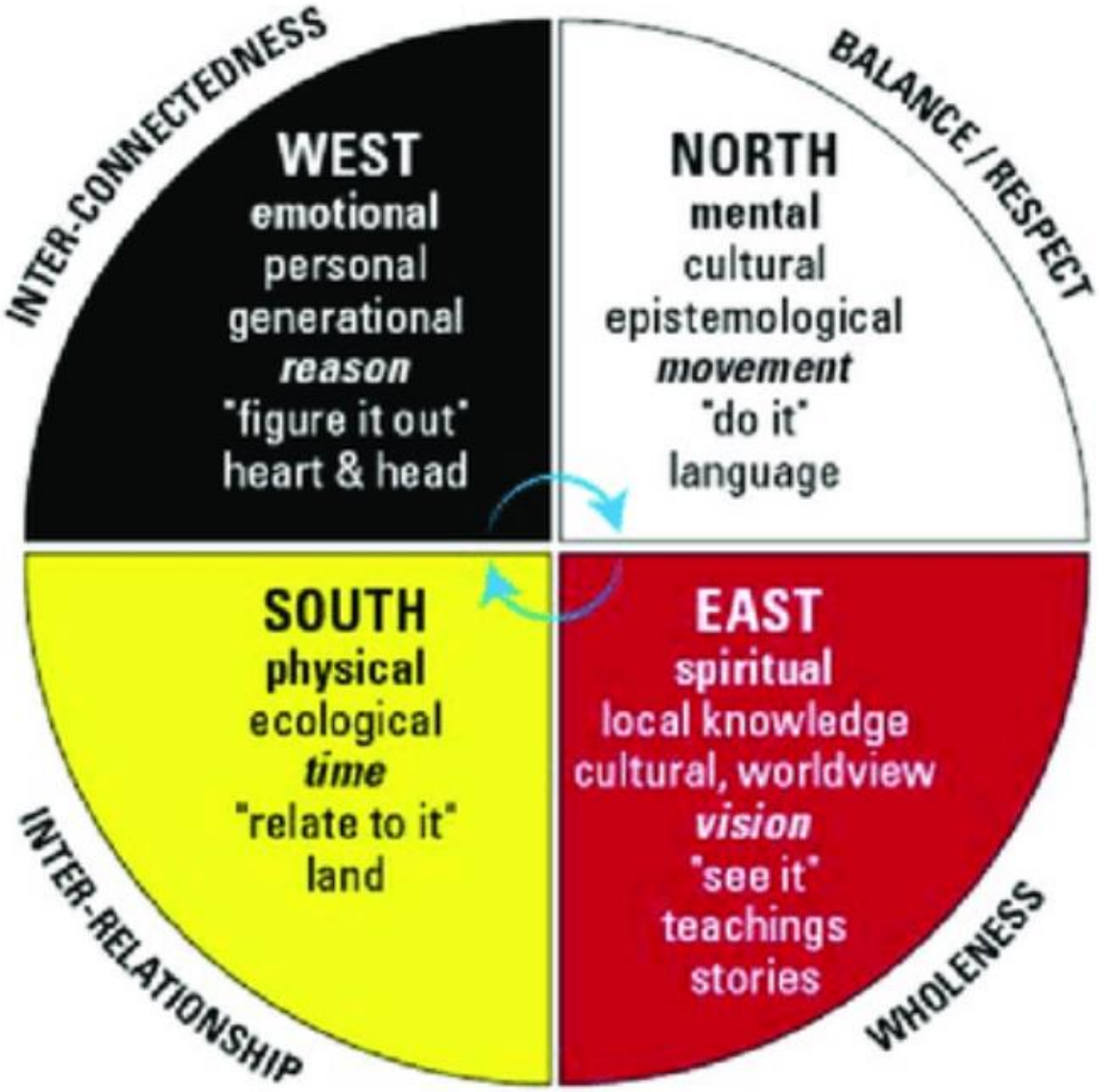
Kolb’s Experiential Learning Cycle



First Nations Technical Institute



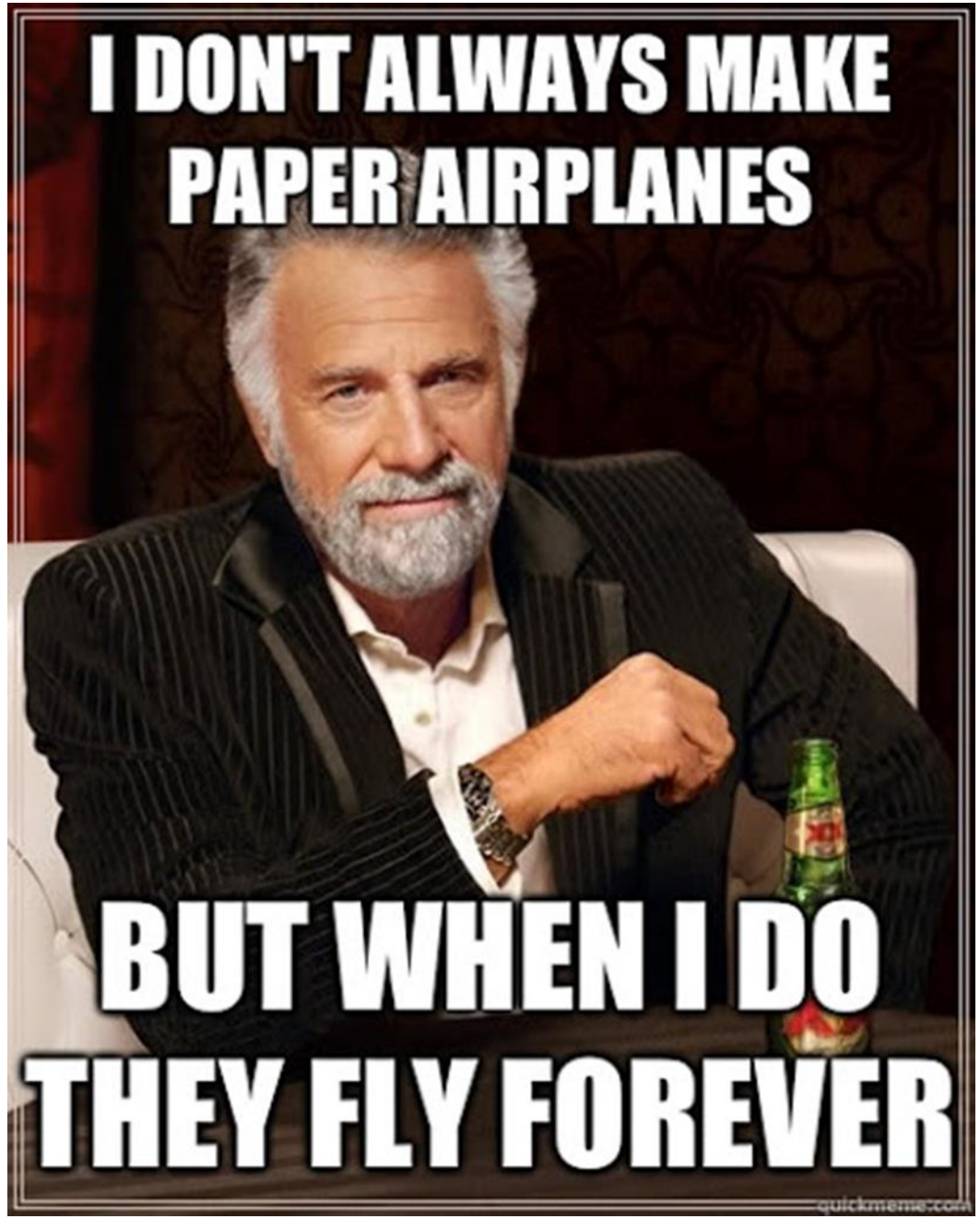

KNOW IT
DO IT
SEE IT
FEEL IT
FULL CIRCLE:
FIRST NATIONS,
MÉTIS, INUIT
WAYS OF
KNOWING

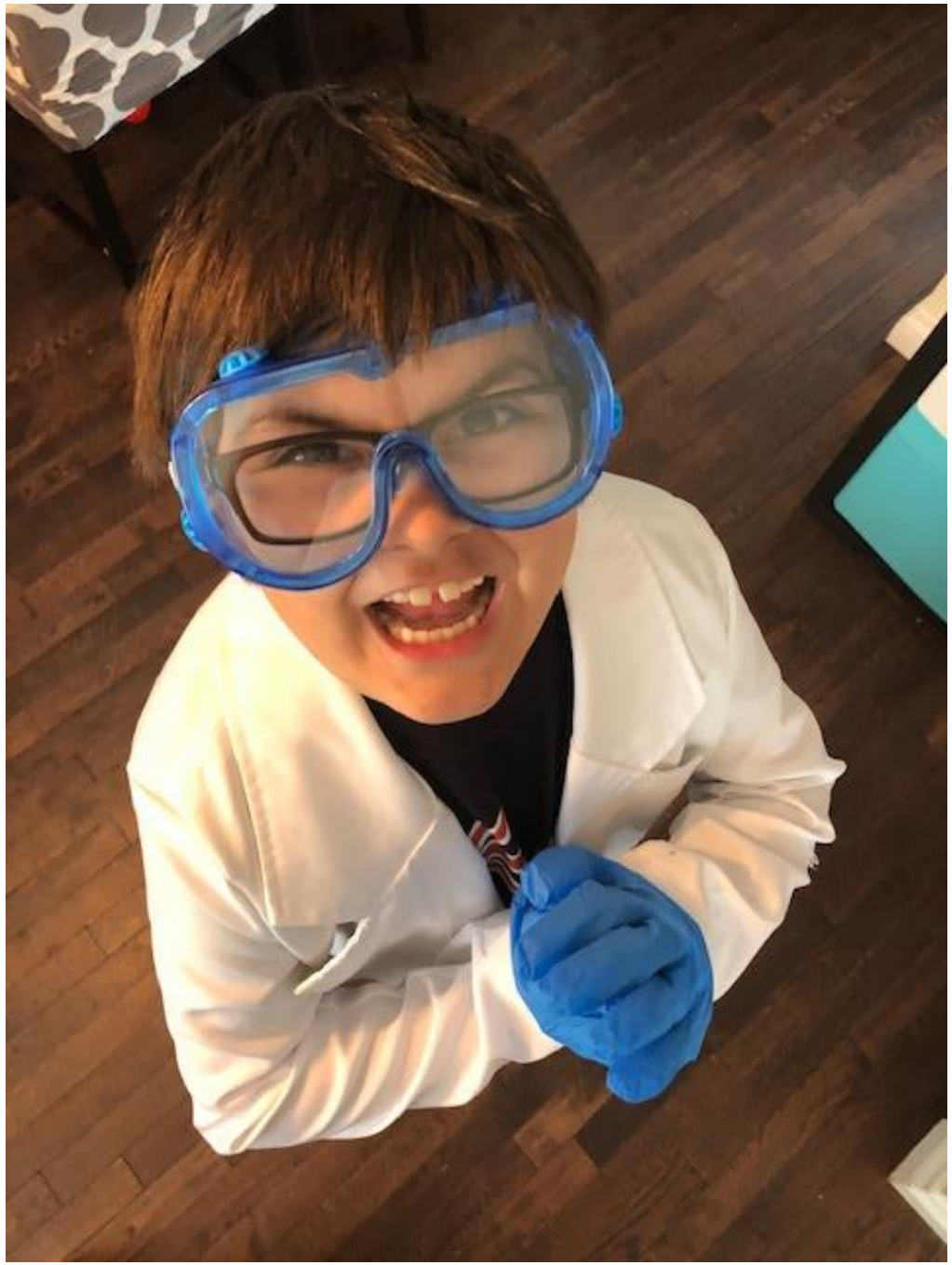

INTER-CONNECTEDNESS
BALANCE / RESPECT
WEST
emotional
personal
generational
reason
"figure it out"
heart & head
NORTH
mental
cultural
epistemological
movement
"do it"
language
SOUTH
physical
ecological
time
"relate to it"
land
EAST
spiritual
local knowledge
cultural, worldview
vision
"see it"
teachings
stories
INTER-RELATIONSHIP
WHOLENESS

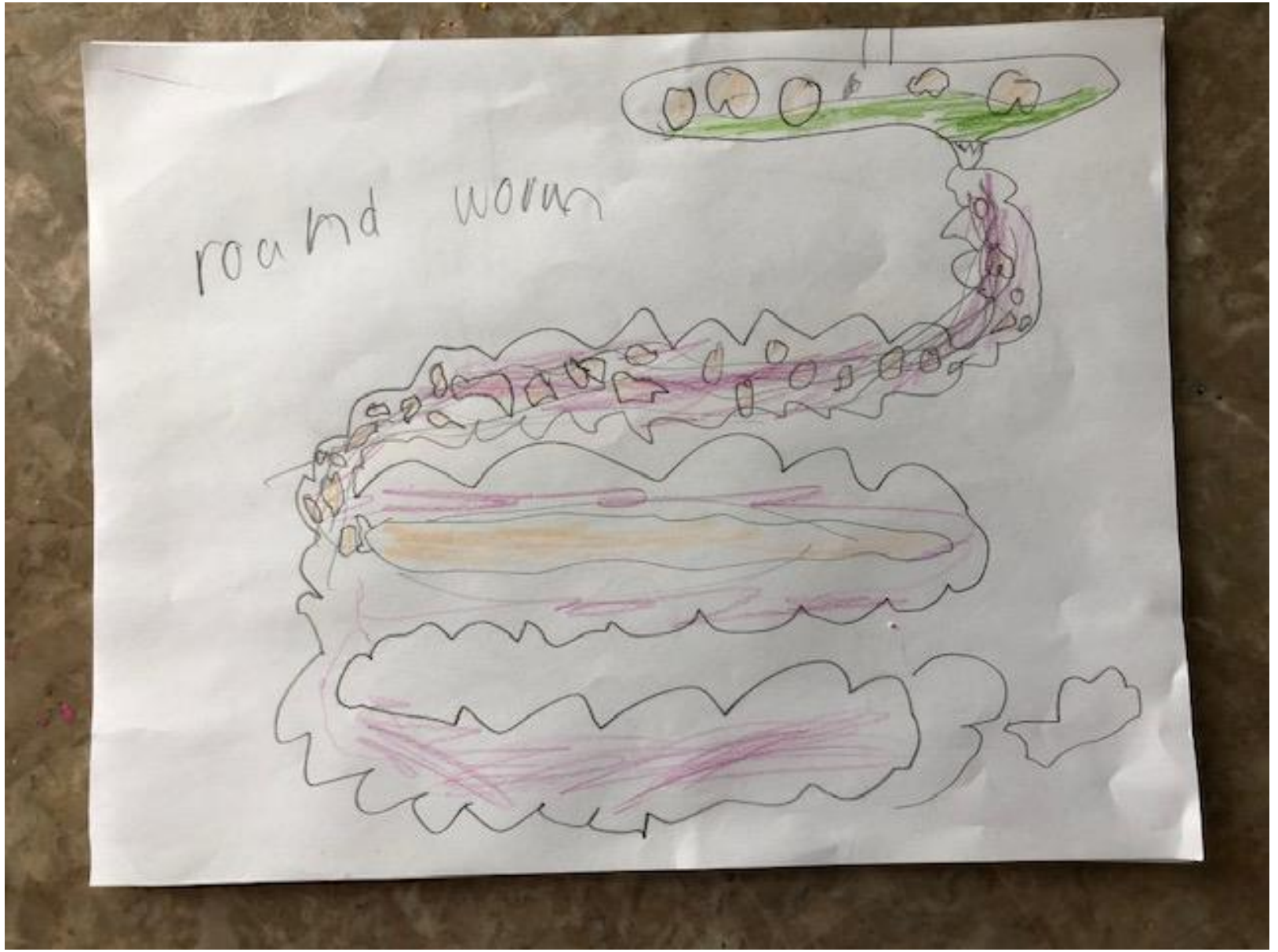
Anticipated Results

1. Helping students to prize themselves, to build confidence and self-esteem
2. A better understanding of what theory from reading or lectures might mean in actual practice
3. Uncovering the excitement in intellectual and emotional discovery
4. Helping teachers to grow as persons, finding rich satisfaction in their interactions with learners

1. Weil & McGill, 1989, p.170


I DON'T ALWAYS MAKE PAPER AIRPLANES
BUT WHEN I DO THEY FLY FOREVER
quickmeme.com




round worm


tape worm
Yum


YOU GET A TAPEWORM,
EVERYONE GETS A TAPEWORM
imgflip.com

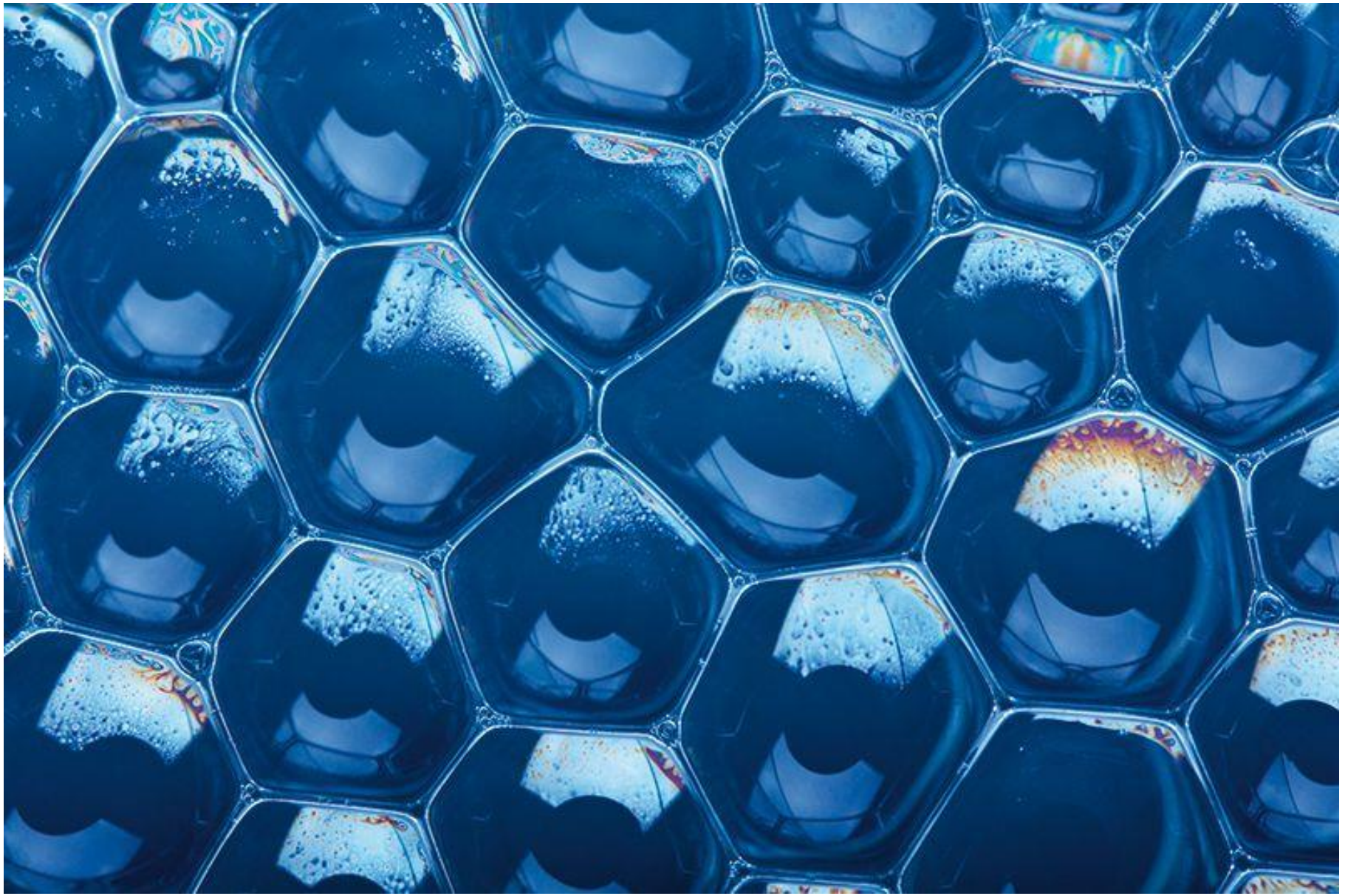
Poll!

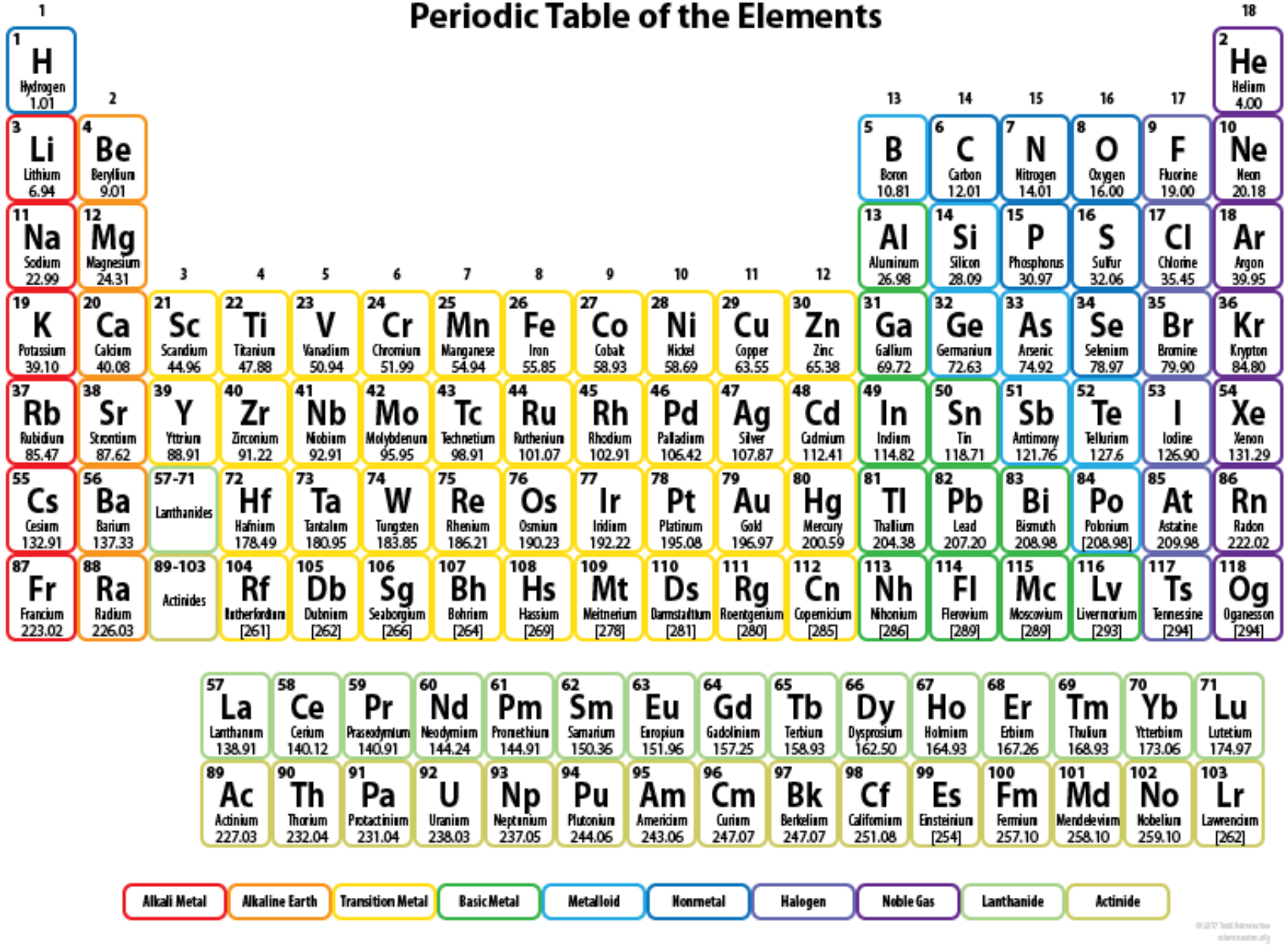
Importance of Patterns

“

When students seek patterns in the world around them, they see order instead of chaos which builds confidence in their understanding of how the world works and gives them greater control over it.

▷*Barkman, 1998*

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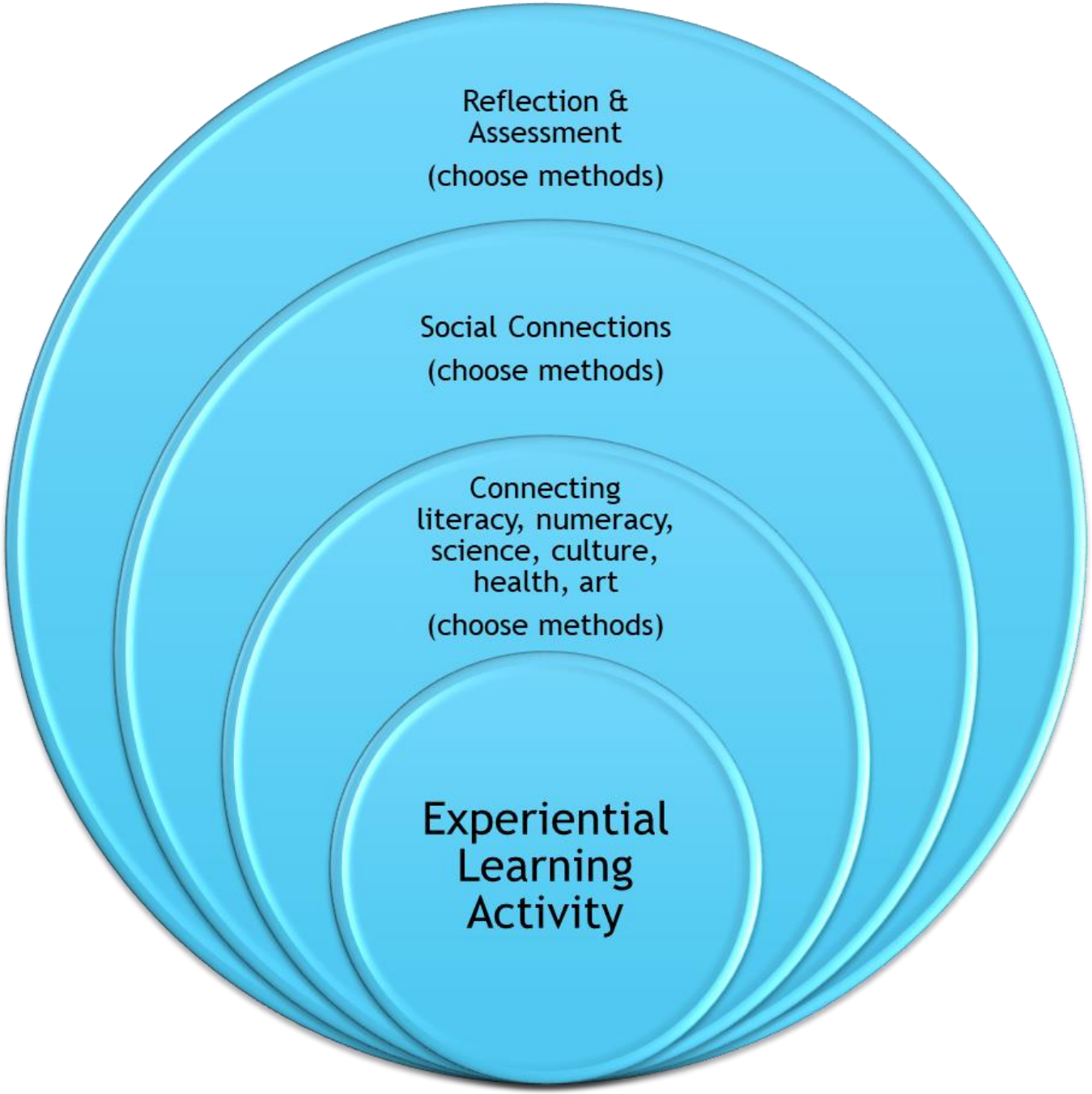
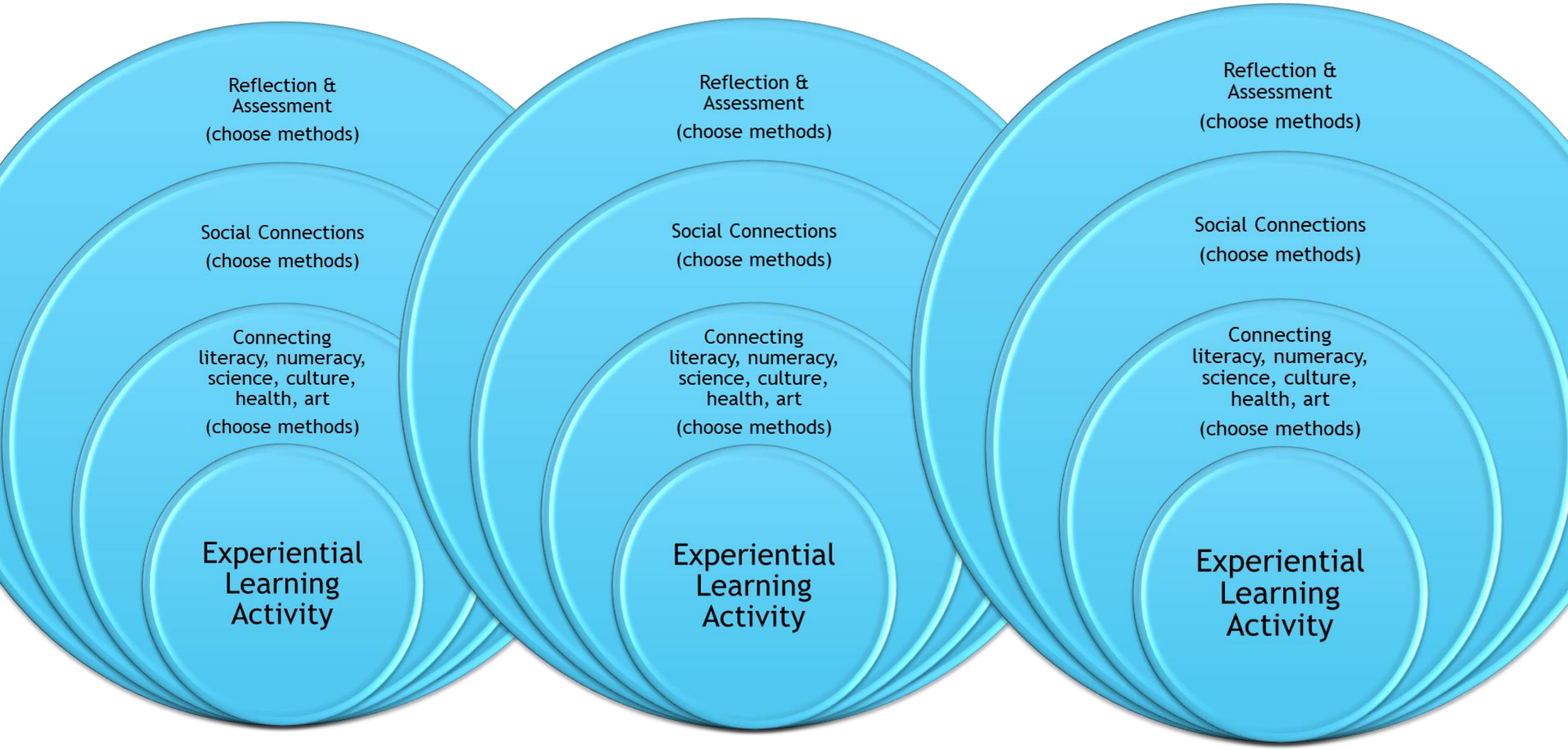
1 H Hydrogen 1.01
2 He Helium 4.00
3 Li Lithium 6.94
4 Be Beryllium 9.01
5 B Boron 10.81
6 C Carbon 12.01
7 N Nitrogen 14.01
8 O Oxygen 16.00
9 F Fluorine 19.00
10 Ne Neon 20.18
11 Na Sodium 22.99
12 Mg Magnesium 24.31
13 Al Aluminum 26.98
14 Si Silicon 28.09
15 P Phosphorus 30.97
16 S Sulfur 32.06
17 Cl Chlorine 35.45
18 Ar Argon 39.95
19 K Potassium 39.10
20 Ca Calcium 40.08
21 Sc Scandium 44.96
22 Ti Titanium 47.88
23 V Vanadium 50.94
24 Cr Chromium 51.99
25 Mn Manganese 54.94
26 Fe Iron 55.85
27 Co Cobalt 58.93
28 Ni Nickel 58.69
29 Cu Copper 63.55
30 Zn Zinc 65.38
31 Ga Gallium 69.72
32 Ge Germanium 72.63
33 As Arsenic 74.92
34 Se Selenium 78.97
35 Br Bromine 79.90
36 Kr Krypton 84.80
37 Rb Rubidium 85.47
38 Sr Strontium 87.62
39 Y Yttrium 88.91
40 Zr Zirconium 91.22
41 Nb Niobium 92.91
42 Mo Molybdenum 95.95
43 Tc Technetium 98.91
44 Ru Ruthenium 101.07
45 Rh Rhodium 102.91
46 Pd Palladium 106.42
47 Ag Silver 107.87
48 Cd Cadmium 112.41
49 In Indium 114.82
50 Sn Tin 118.71
51 Sb Antimony 121.76
52 Te Tellurium 127.6
53 I Iodine 126.90
54 Xe Xenon 131.29
55 Cs Cesium 132.91
56 Ba Barium 137.33
57-71 Lanthanides
72 Hf Hafnium 178.49
73 Ta Tantalum 180.95
74 W Tungsten 183.85
75 Re Rhenium 186.21
76 Os Osmium 190.23
77 Ir Iridium 192.22
78 Pt Platinum 195.08
79 Au Gold 196.97
80 Hg Mercury 200.59
81 Tl Thallium 204.38
82 Pb Lead 207.20
83 Bi Bismuth 208.98
84 Po Polonium [208.98]
85 At Astatine 209.98
86 Rn Radon 222.02
87 Fr Francium 223.02
88 Ra Radium 226.03
89-103 Actinides
104 Rf Rutherfordium [261]
105 Db Dubnium [262]
106 Sg Seaborgium [266]
107 Bh Bohrium [264]
108 Hs Hassium [269]
109 Mt Meitnerium [278]
110 Ds Darmstadtium [281]
111 Rg Roentgenium [280]
112 Cn Copernicium [285]
113 Nh Nihonium [286]
114 Fl Flerovium [289]
115 Mc Moscovium [289]
116 Lv Livermorium [293]
117 Ts Tennessine [294]
118 Og Oganesson [294]
57 La Lanthanum 138.91
58 Ce Cerium 140.12
59 Pr Praseodymium 140.91
60 Nd Neodymium 144.24
61 Pm Promethium 144.91
62 Sm Samarium 150.36
63 Eu Europium 151.96
64 Gd Gadolinium 157.25
65 Tb Terbium 158.93
66 Dy Dysprosium 162.50
67 Ho Holmium 164.93
68 Er Erbium 167.26
69 Tm Thulium 168.93
70 Yb Ytterbium 173.06
71 Lu Lutetium 174.97
89 Ac Actinium 227.03
90 Th Thorium 232.04
91 Pa Protactinium 231.04
92 U Uranium 238.03
93 Np Neptunium 237.05
94 Pu Plutonium 244.06
95 Am Americium 243.06
96 Cm Curium 247.07
97 Bk Berkelium 247.07
98 Cf Californium 251.08
99 Es Einsteinium [254]
100 Fm Fermium 257.10
101 Md Mendelevium 258.10
102 No Nobelium 259.10
103 Lr Lawrencium [262]
Alkali Metal
Alkaline Earth
Transition Metal
Basic Metal
Metalloid
Nonmetal
Halogen
Noble Gas
Lanthanide
Actinide


Reflection & Assessment
(choose methods)
Social Connections
(choose methods)
Connecting literacy, numeracy, science, culture, health, art
(choose methods)
Experiential Learning Activity


Reflection & Assessment
(choose methods)
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Experiential Learning Activity
Reflection & Assessment
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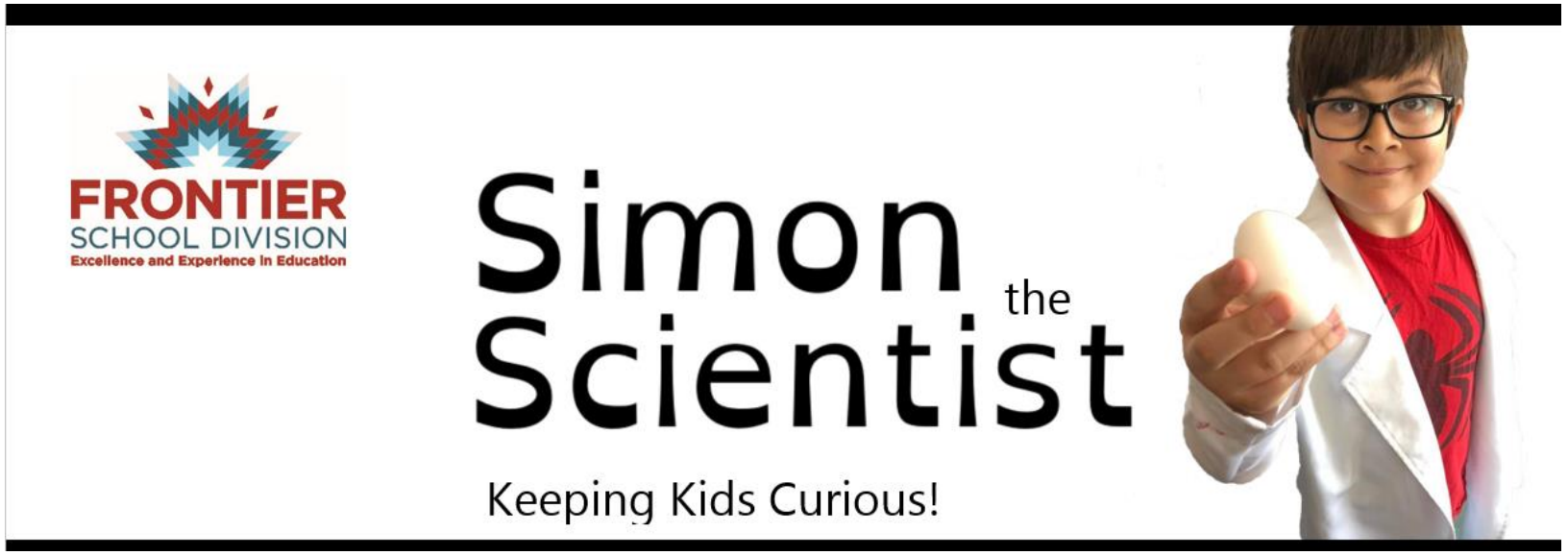
(choose methods)
Experiential Learning Activity
Reflection & Assessment
(choose methods)
Social Connections
(choose methods)
Connecting literacy, numeracy, science, culture, health, art
(choose methods)
Experiential Learning Activity

Simon the Scientist



FB: Simon Scientist

Youtube: Simon the Scientist

Volcanoes!!! (with ASL)

6 views • 1 month ago

Astronomy!!! (with ASL)

1 view • 1 month ago

Inventions!!! (with ASL)

No views • 1 month ago

April Fool's Science!!! (with ASL)

No views • 1 month ago

Bernoulli's Principle of Flight!!! (with ASL)

No views • 1 month ago

Physical and Chemical Changes!!! (with ASL)

3 views • 1 month ago

Reflection and Refraction!!! (with ASL)

2 views • 1 month ago

Density!!! (with ASL)

8 views • 1 month ago

Coronavirus Explanation!!! (with ASL)

23 views • 1 month ago

Furs, Feathers & Adaptations!!! (with ASL)

9 views • 3 months ago

Grade 7

Cluster	Ideas
Interactions within Ecosystems 	• Find And Discuss One-Way And Two-Way Relationships • Find Evidence Of Complex Change: Sprouting Seed, Cocoon, Etc. • Find Evidence Of Simpler Change: Decaying Plant Or Animal • Reinforce Needed Vocabulary With Specific Examples In A Natural Setting
Particle Theory of Matter 	• Observe Allocations Made For Heating/Cooling In The Community: Tar In Sidewalk, Hydro Lines, Docks, Etc. • Collect Water Samples From Around The Community (Lake Areas, Pond, Tap, and Rain). Test Boiling Points, Discuss Results • Each Student Collects Snow in a Container. At Timed Intervals, Record Temperature. Create A Graph, Compare With Entire Class
Forces & Structures 	• Visit A Structure In Your Community (Bridge, Dock). Identify How It Is Able To Withstand Natural Forces. Observe Any Effects Of Force Onto The Structure • Identify Static, Live, Dead And Dynamic Loads Around The School. Use A Bicycle To Demonstrate Some Concepts • Challenge Students to Design a Structure (Tallest Or Strongest) Using Only Natural Objects They Have Collected
Earth's Crust 	• Collect Rocks and Minerals in the Community. Describe Using Observations On Lustre, Cleavage, Etc. • Near A Water Source, Find Evidence Of Erosion • Visit A Local Garden. Identify Soil Properties To Make That Garden Successful

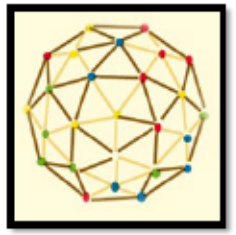
FRONTIER SCHOOL DIVISION

There's No Place Like Dome

SCIENCE • TECHNOLOGY • ENGINEERING • MATH

CHALLENGE

Build a geodesic dome.



Materials

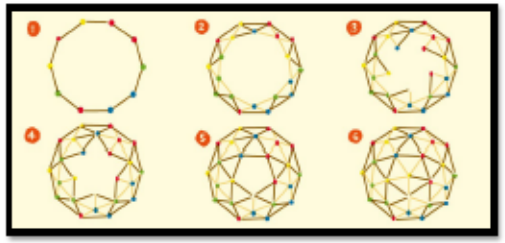
- 35 twigs or toothpicks that are 6.5 cm long
- 30 twigs or toothpicks that are 5 cm long
- Play-doh, clay, marshmallows, gumdrops, or other similar binding agent

Method

- Follow the steps in the diagram below.

Brown lines in the diagram represent longer sticks

Yellow lines in the diagram represent shorter sticks



How it Works

Domes are very strong structures. Domes must be strong enough to withstand pressure from weight, wind, rain, and snow. The triangles in a geodesic dome are very stable. They help distribute any pressure throughout the dome.

Indigi-Tech

First Nations and Inuit have used dome shapes for different types of buildings. The dome was used because it is very strong, and can be built from materials found in nature, like wood or snow. Wood from an ash tree or willow tree can be bent easily to build a wigwam (Ojibway) or mikiwap (Cree) house. Inuit build igloos from snow that is hard-packed and place them in spirals to make the dome shape. Bull boats are an example of an upside-down dome that was used for crossing rivers.

Bark covered Mikiwap/Wigwam

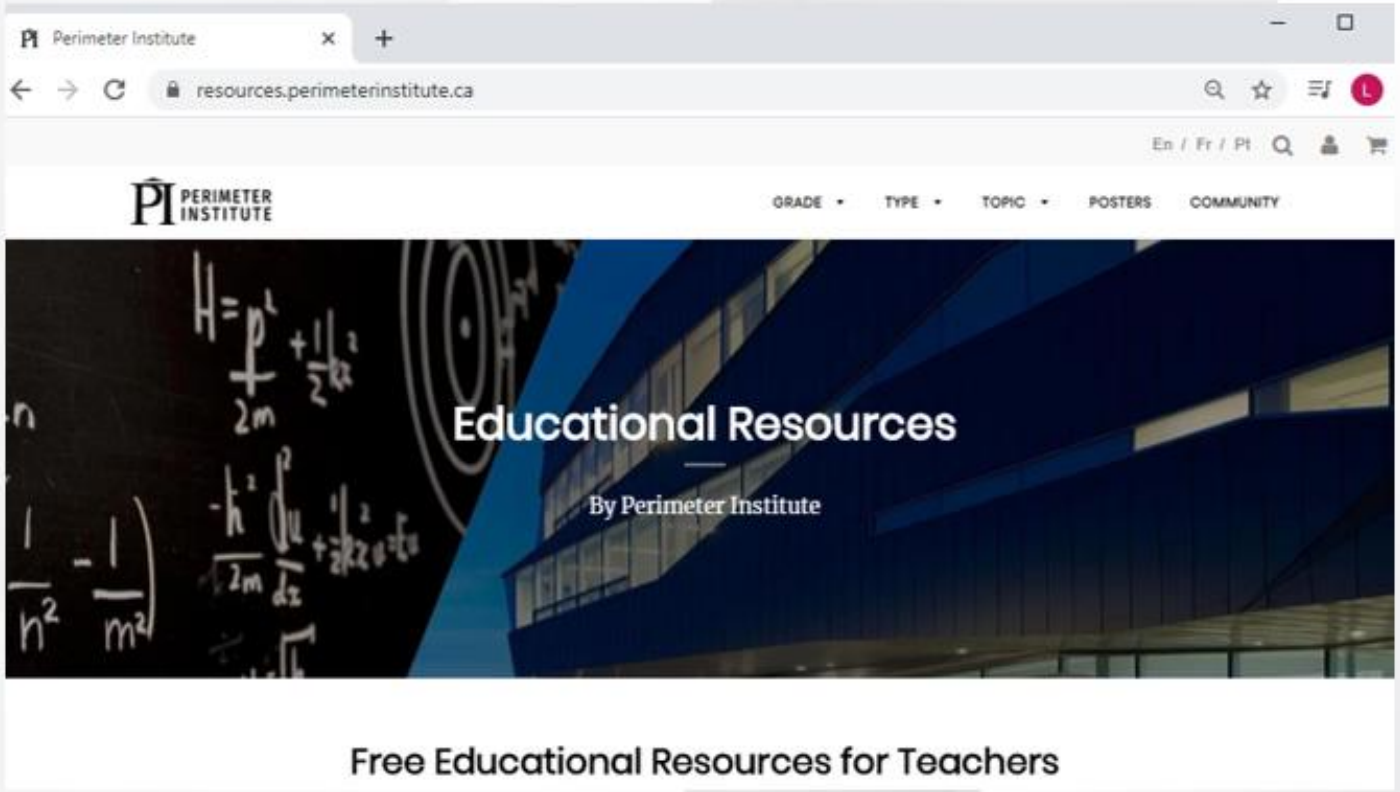
Bio-Links

Spiders make strong and flexible webs with a different network shape: "radial" threads come out from the center, connected with "spiral" threads. This means that even if some threads break, the whole web stays together.

A collaborative effort between our FSD Science and Indigenous Way of Life departments, with thanks to Parks Canada

Perimeter Institute Resources

https://resources.perimeterinstitute.ca/



FLINN AT-HOME SCIENCE

Access over 50 activities by subject and grade level to use.

Here's What You'll Get:

- Concepts-—the areas of scientific study covered in the activity
- Materials list—to gather items from your shelves or call us for the items you need
- Safety Precautions—The methods and personal protective equipment required to safely conduct the lab

Here's What You'll Be Able to Do:

- Preparation & Procedures—Conduct the step-by-step directions to get ready for and engage in the lab
- Tips—Provide possible variations that optimize outcomes during the procedure
- Results & Discussion—Guide students to draw conclusions and make reflections after the procedure.

1. Flinn At Home Science

Strategies & Approaches

✓ Involvement of each individual student in his or her own learning

✓ Correspondence of the learning activity to the world outside of the classroom (emphasis on quality of experience rather than location

✓ Learner control over learning experience

1. Weil & McGill, 1989, p.170

What does this mean for me?

1. Focus on your peer,
student, & family relationship

2. Use experiential learning as your base

3. Create learning patterns to calm the chaos

4. Cultivate an early win today!

Your next session:

November 4 at 7:00pm Central

- Approaches to technology
- Teaching methods in distance education
- Logistics & next steps

FSD Spooktacular!!

Friday, October 30, 2020

Halloween Yoga! 10:30-11:15am Central

Science Spooktacular! 1:00 – 2:00pm Central

Register Here:

https://permission.click/DEXp9/ca

Contact Jacqueline

Kindergarten – Grade 12 Science
Distance Education
School Plans of Action
Training on Outreach and Virtual Events
Out of the Box Thinking

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Jacqueline.Monteith@fsdnet.ca