REMOTE DISTANCE LEARNING

A SCHOOL LEADER'S VIEW

PART 2

FLINN SCIENTIFIC

Leading Education in 2020–Part 2

In part two of our series we continue to examine the important and pivotal role our school leaders play in this current 2020 education climate. We continue to study how the interplay between keeping everyone safe, supporting teachers, and achieving educational goals is a delicate balancing act. Actionable resources and recommendations will be provided.

OVERVIEW OF THIS SESSION

Calming the Chaos

School-Based Logistics

Plan of Action & Next Steps

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.

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Session 1

✓Importance of Relationship

✓Experiential Teaching & Learning

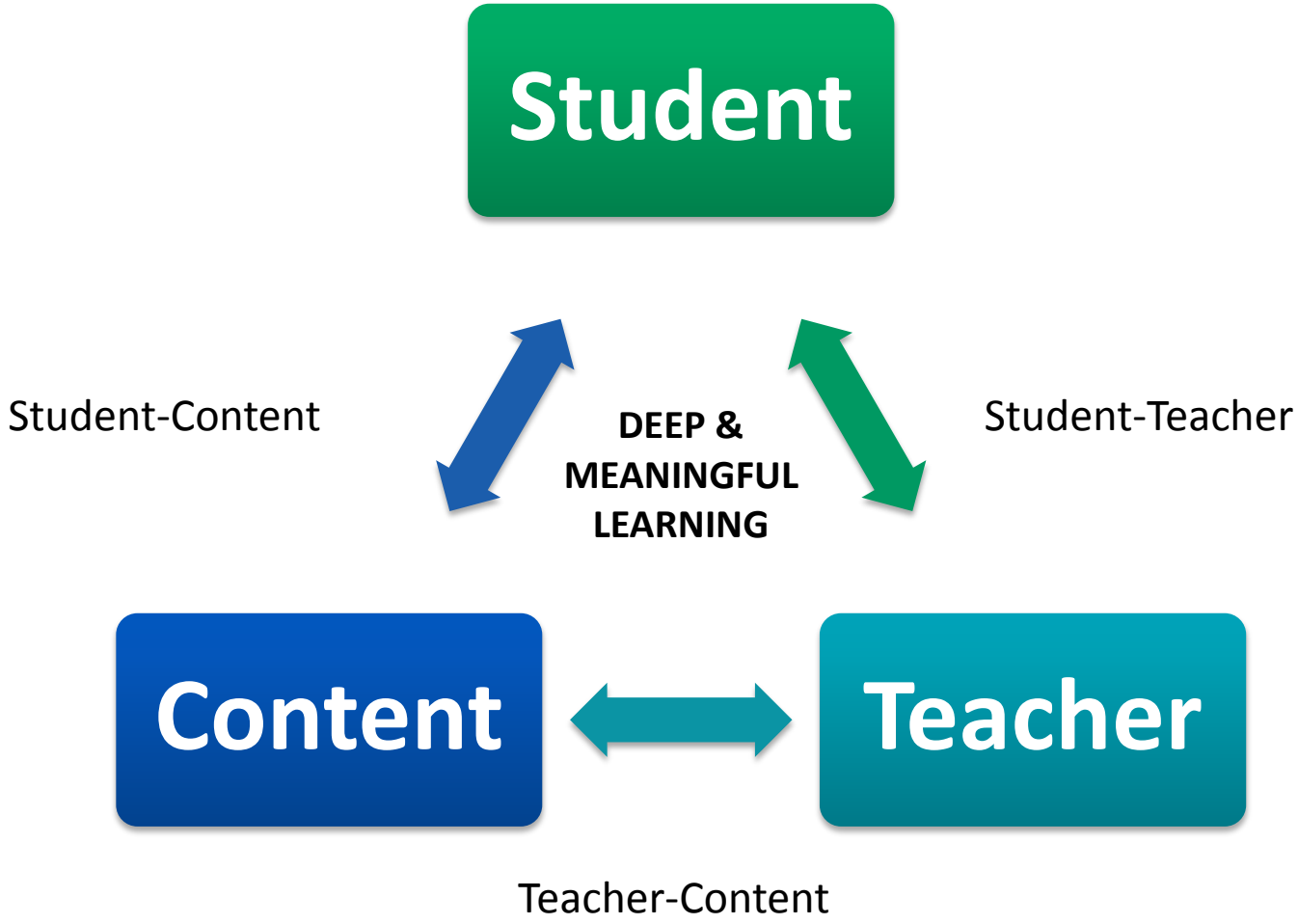
✓Approaches to Technology

✓Supporting Teachers

Calming the Chaos

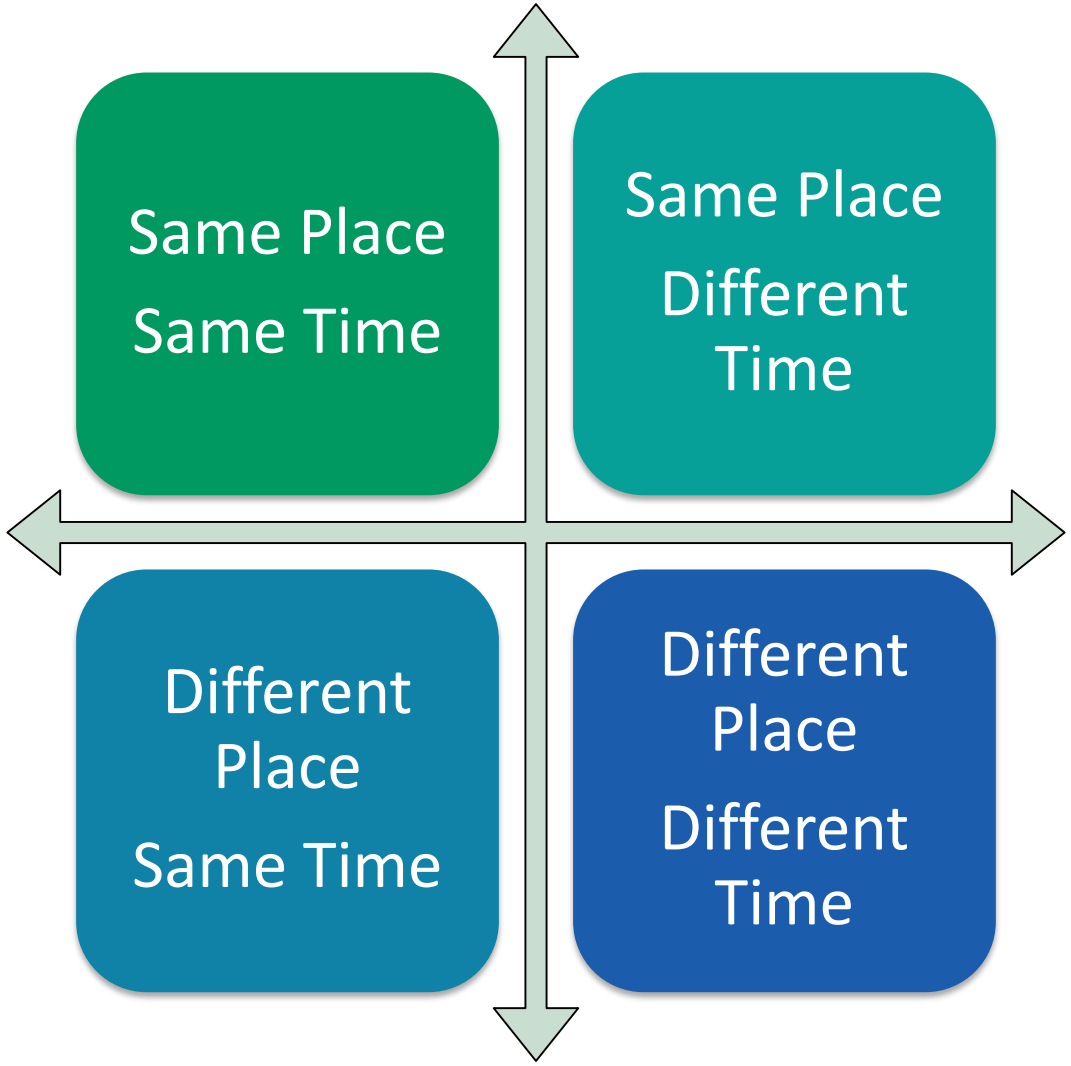
1. TeacherMeme

Modes of Interaction



1. Anderson & Garrison, 1998

Time & Place Shifting

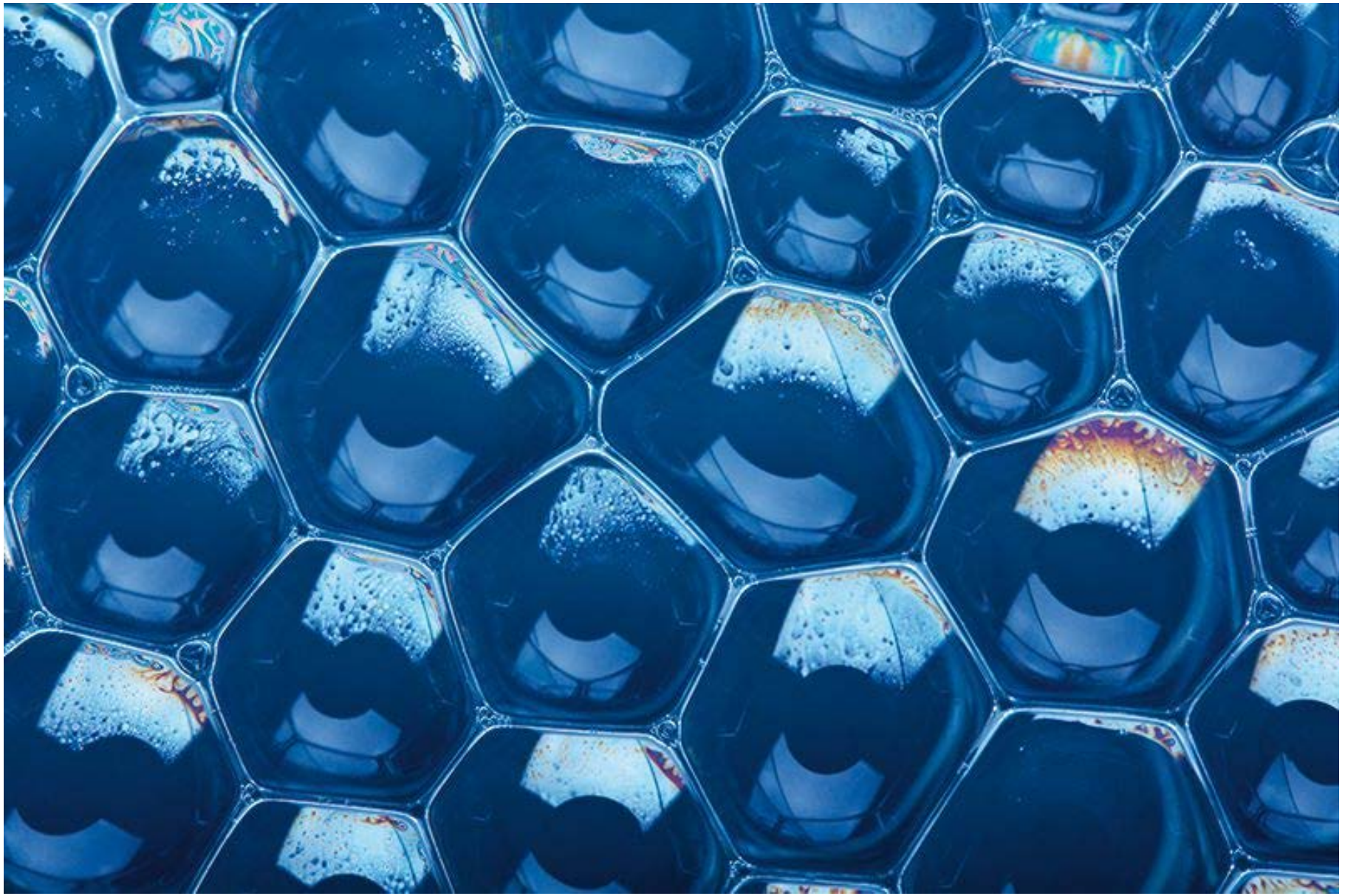


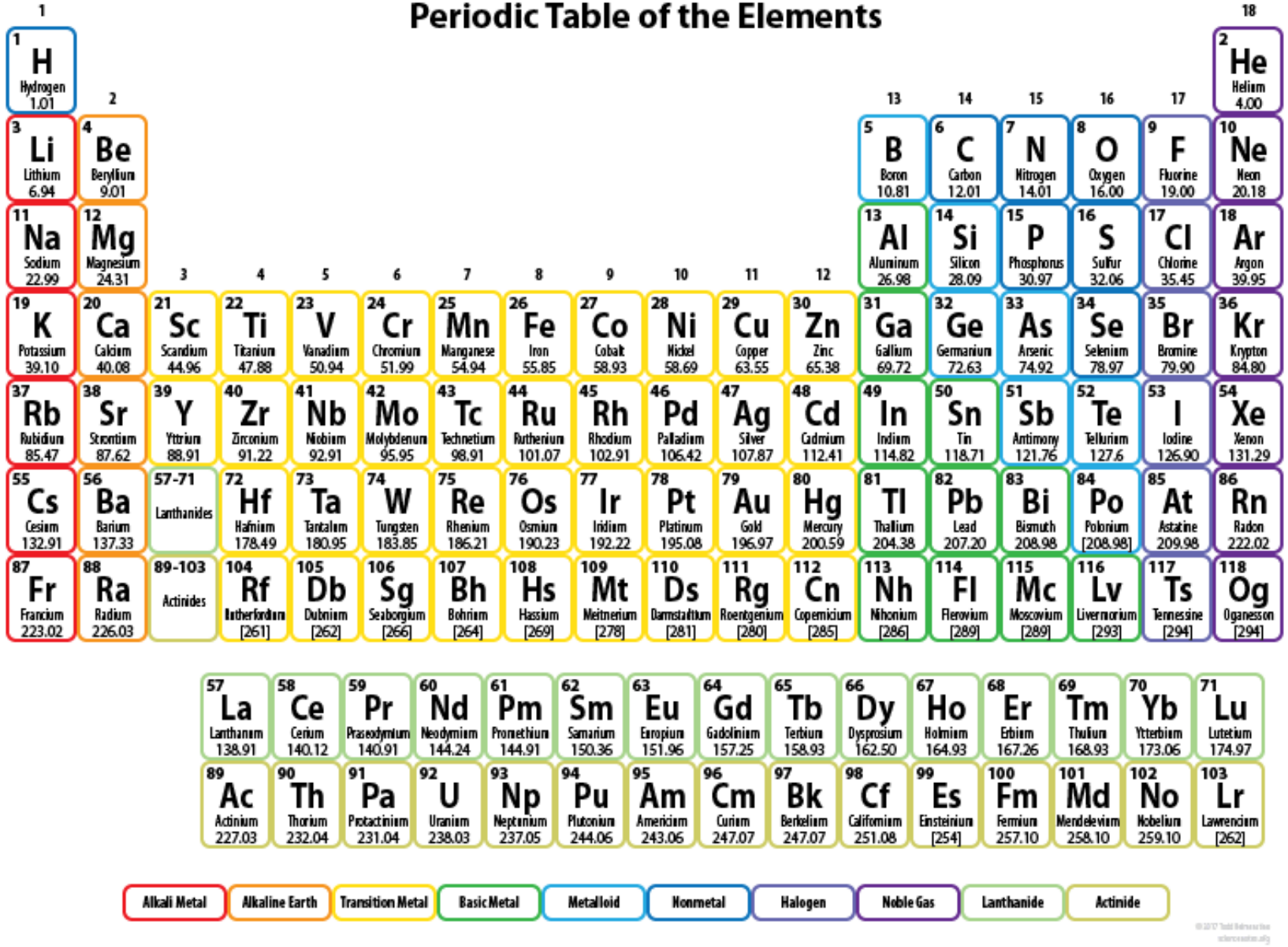
Importance of Patterns

“

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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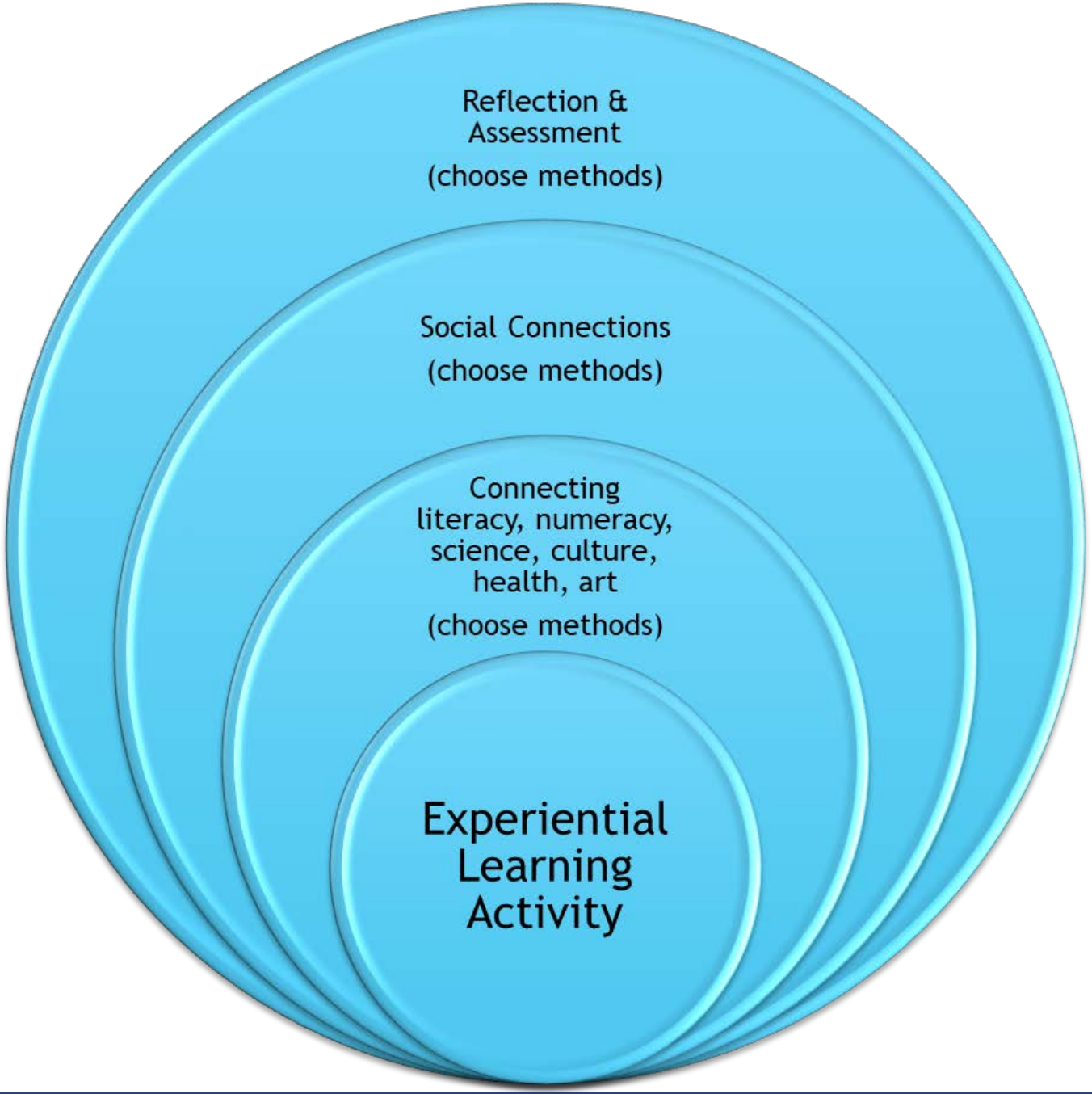
1 H Hydrogen 1.01
2 He Helium 4.00
3 Li Lithium 6.94
4 Be Beryllium 9.01
5 B Boron 10.81
6 C Carbon 12.01
7 N Nitrogen 14.01
8 O Oxygen 16.00
9 F Fluorine 19.00
10 Ne Neon 20.18
11 Na Sodium 22.99
12 Mg Magnesium 24.31
13 Al Aluminum 26.98
14 Si Silicon 28.09
15 P Phosphorus 30.97
16 S Sulfur 32.06
17 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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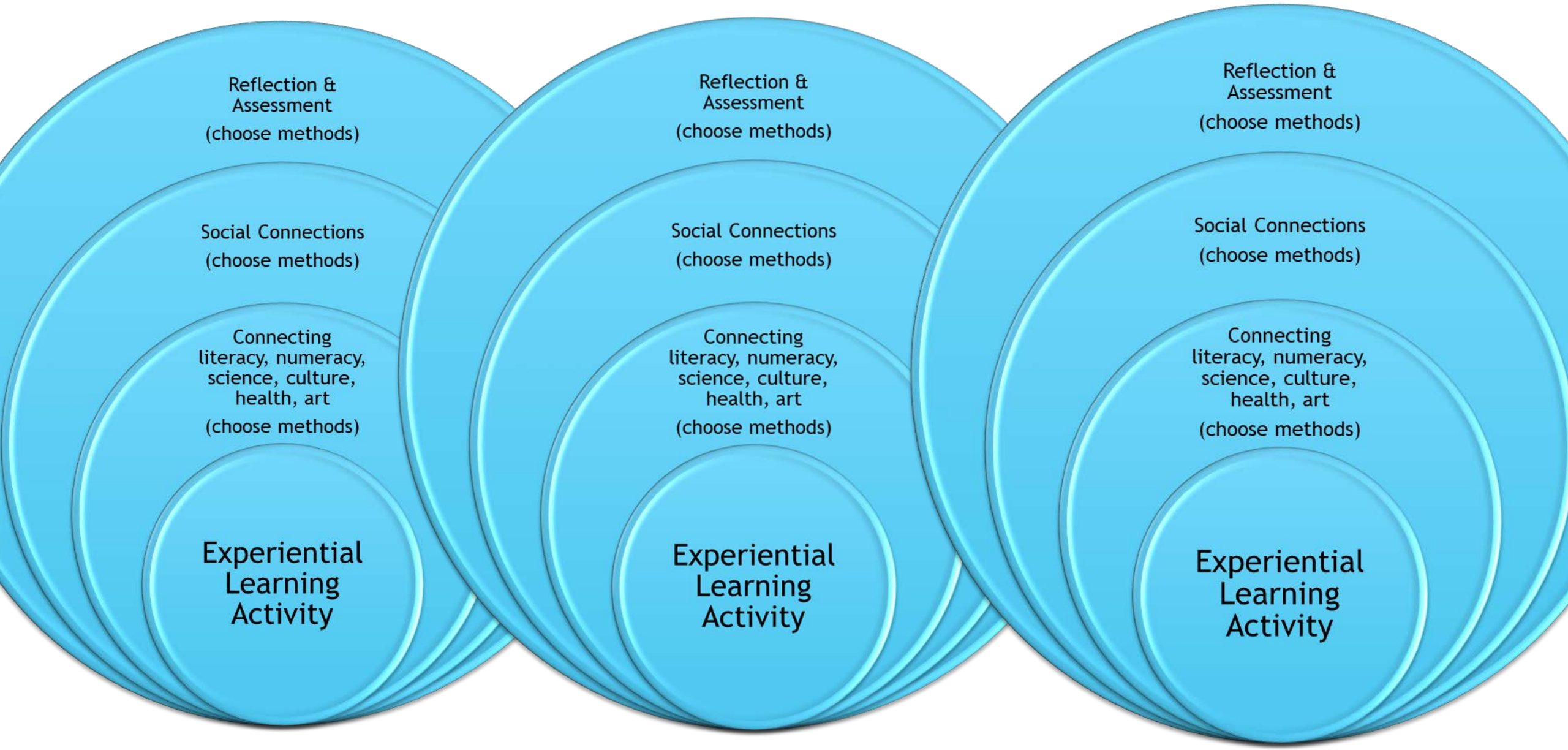
(choose methods)
Social Connections
(choose methods)
Connecting literacy, numeracy, science, culture, health, art
(choose methods)
Experiential Learning Activity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Experiential Learning Activity
Reflection & Assessment
(choose methods)
Social Connections
(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

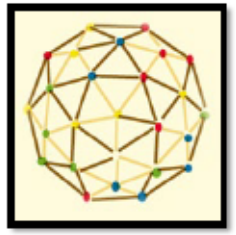
FRONTIER SCHOOL DIVISION

There's No Place Like Dome

SCIENCE • TECHNOLOGY • ENGINEERING • MATH

CHALLENGE

Build a geodesic dome.



Materials

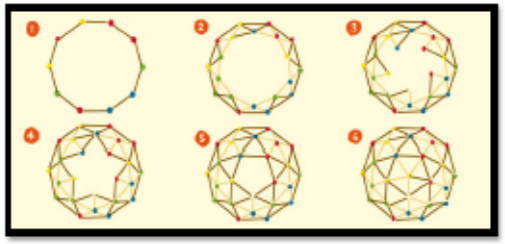
- 35 twigs or toothpicks that are 6.5 cm long
- 30 twigs or toothpicks that are 5 cm long
- Play-doh, clay, marshmallows, gumdrops, or other similar binding agent

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

POLL!

Plan Of Action & Next Steps

Teacher Support

Time to transfer from emergency teaching to Distance Ed!

✓One week Distance Ed training and planning

✓One week student and parent training and planning

One Week Distance Ed Training & Support

Whole-school educator conversations

Determining most common denominator with technology

What can and cannot be done over a distance

One Week Distance Ed Training & Support

- 2-day tech training
- Creation of specific logistics plan
- Creation of activity packages
- Effective use of school supports:

Educational assistants, bus drivers, and more

Teacher Support

Introduce a new tech option once every 2-3 months

Allot a minimum of two days of training for each technology.

YES! Two days!!

Two days will allow teachers to learn the tech AND how it can be useful in personal teaching practices.

Teachers need 2-3 times more planning time than synchronous teaching time

WHY??

Purposeful planning which focuses on learning relationships

Using Maslow’s to get to Bloom’s

Preparing all pre-delivered activity packages

Preparing for whole-class teaching time

Preparing for small-group & Individual teaching time

WHY??

Assessment and evaluation from a distance

Learning new technology features to enhance their practice

Outreach to families

Open office hours

One Week Student & Family Support

- Whole-community conversations
- Setting up at-home learning stations
- Training students on technology
- Training families on technology
- Helping families to support their learners
- Detailed school logistics plan

School Plan

Take time to plan and train properly- this will help our teachers, students, and communities immensely!! No more emergency teaching.

Ideally, teachers would have 3-1 planning vs connecting time

Planning properly is incredibly time consuming:
activity packages, class time, small group time, individual time

Monday	Tuesday	Wednesday	Thursday	Friday
Whole Class: 1 hour direct teaching Small Groups & Individuals: 1 hour direct teaching	Whole Class: 1 hour direct teaching Small Groups & Individuals: 1 hour direct teaching	Whole Class: 1 hour direct teaching Small Groups & Individuals: 1 hour direct teaching	Whole Class: 1 hour direct teaching Small Groups & Individuals: 1 hour direct teaching	Student Catch Up Materials Exchange Office Hours
Students: I hour asynchronous work 1 hour experiential family activities	Students: I hour asynchronous work 1 hour experiential family activities	Students: I hour asynchronous work 1 hour experiential family activities	Students: I hour asynchronous work 1 hour experiential family activities	Students: I hour asynchronous work 1 hour experiential family activities

Daily Teacher Schedule

One hour whole-class

One hour small groups

One hour individual help

2-3 hours prep & additional needs

Student Daily Schedule

One hour whole-class

Up to one hour small groups

One hour independent work time

One hour family-based experiential activities

Secondary Scheduling Options

Option 1: 1-2 subject blocks of time

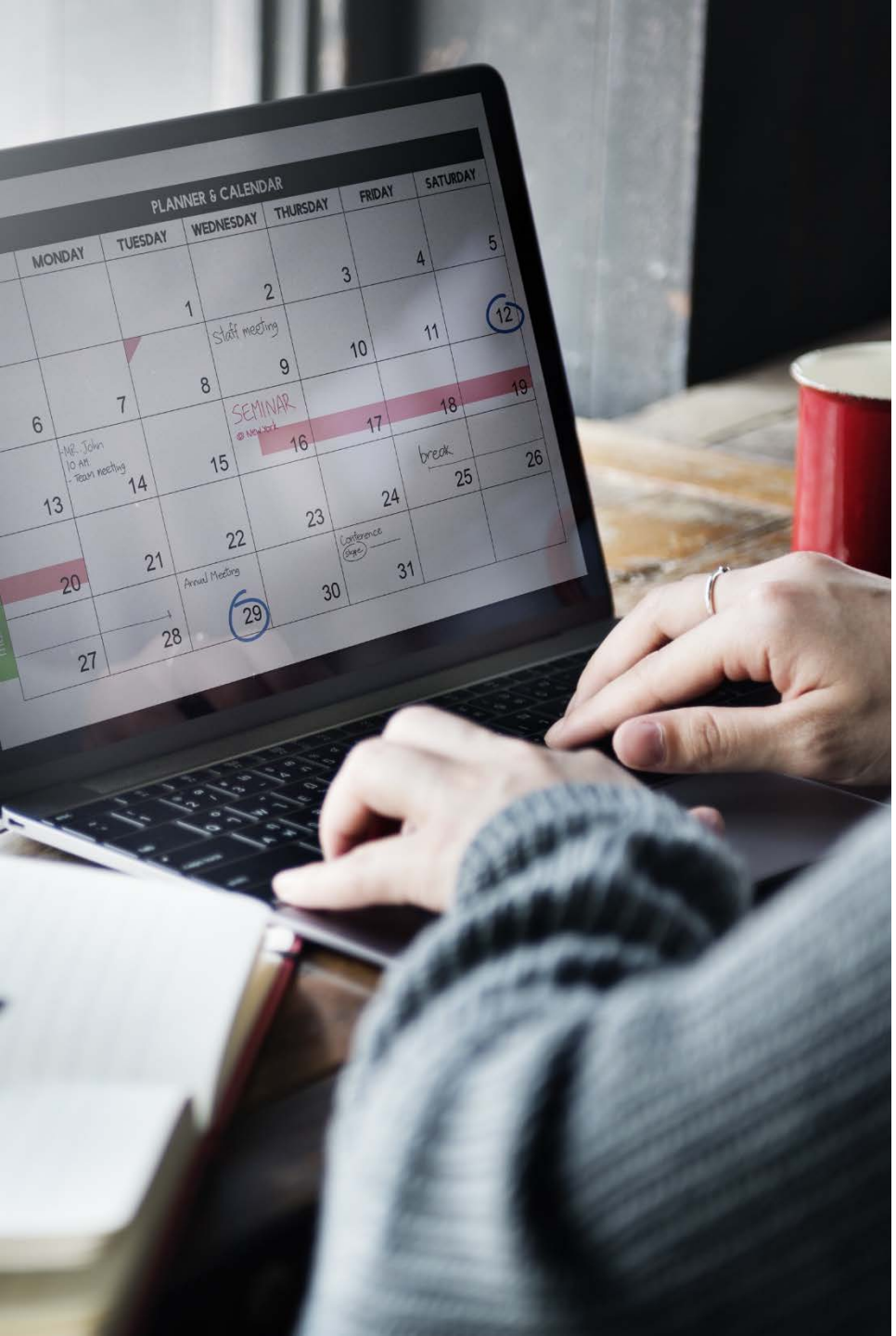
Option 2: One subject per day (all work can be completed that day)

Maximum 1 hour whole-class teaching

Maximum 1 hour small group/individuals

Approximately 1 hour independent work time

1 hour family-based experiential activities



Mystery Schedule Considerations

Consider planning from a Distance Ed standpoint for the remainder of this school year

(can transfer to face-to-face much easier)

Consider longer Distance Ed periods of time

For example:

Monthly re-entry points after school shut-downs

Hybrid Teaching

Teaching face to face and virtually at the same time

Options:

- F2F/Virtual every second day (school-wide)
- Re-organize teachers for one-focus classes
- Create focus time and independent work times within your own class

Summary: Relationship

Maslow Before Bloom

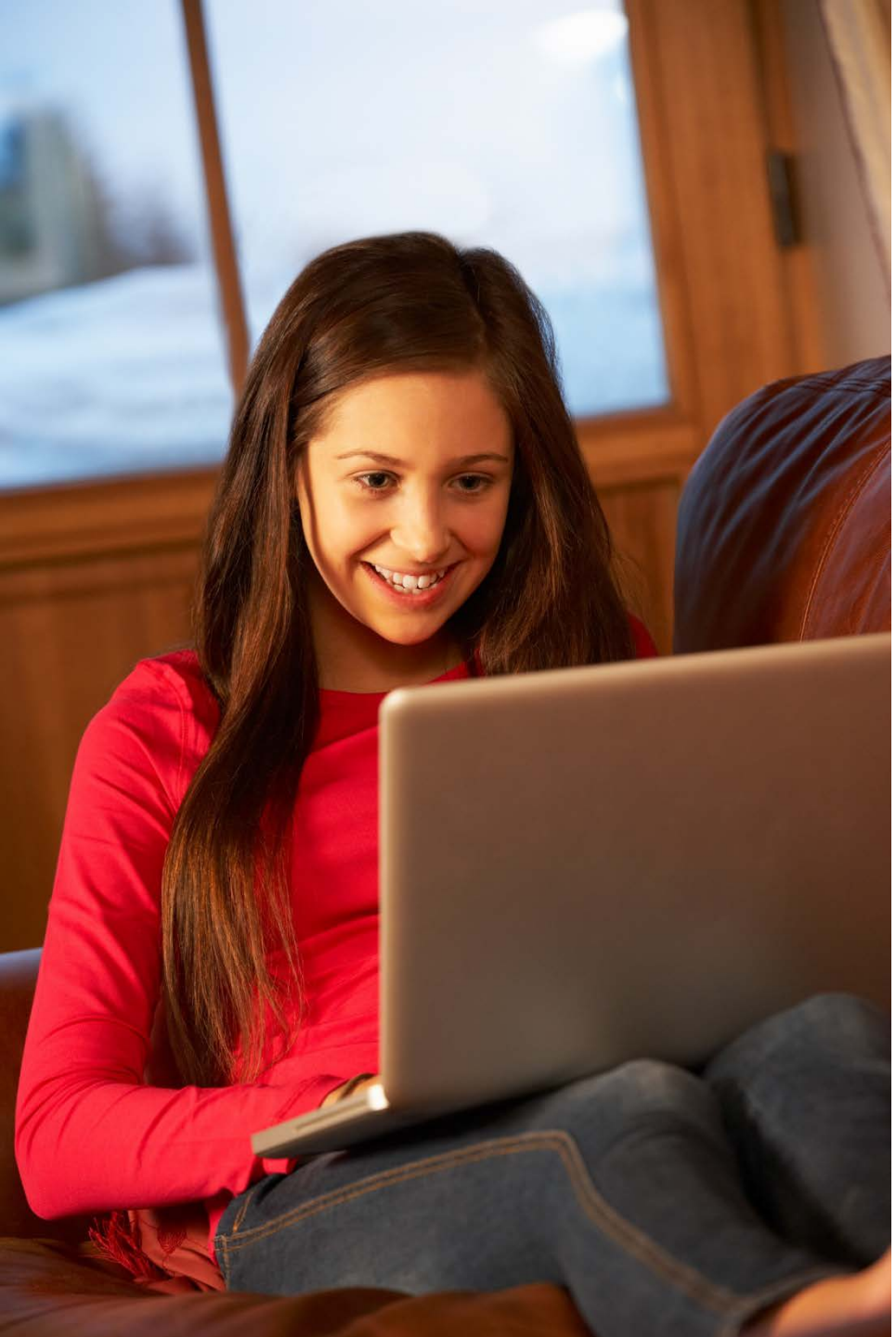
Student-Teacher

Student-Content

Student-Student

Student-Self

Direct Connection to Intrinsic Motivation



Summary: Technology

Find the most common denominator

Print & telephone are a viable option

Technology is a tool to achieve learning objectives

Summary: Experiential Teaching

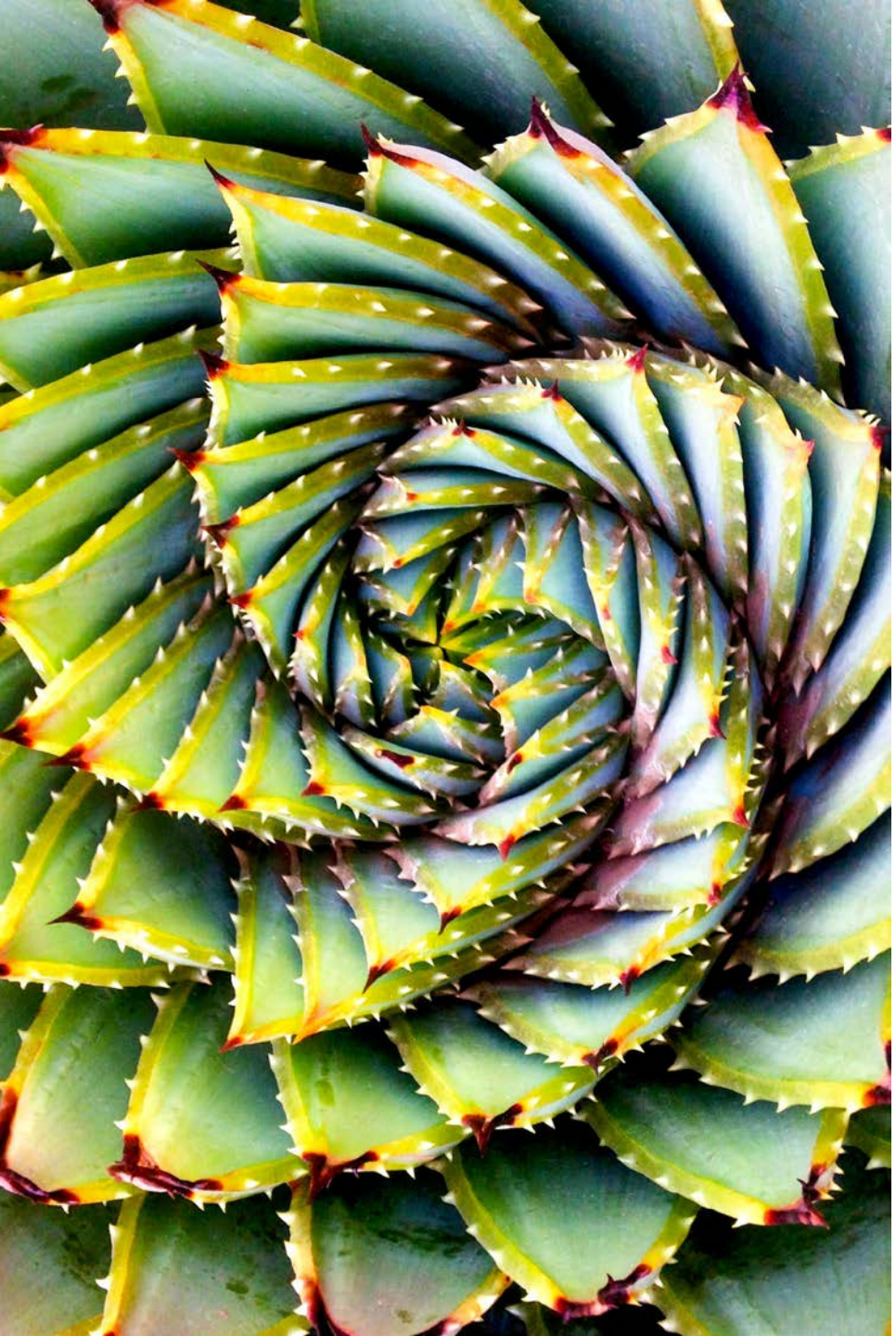
Identify what can and cannot be done through a distance

Create a common core experience (Science!)

Build learning objectives onto the common core

Repeat this pattern

FSD
Simon the Scientist 5-Min Field Trips STEM Cards Flinn Scientific



Summary: Patterns

We naturally seek patterns

Patterns help calm the chaos

Experiential Learning becomes the core of your school pattern

Summary: School Plan

Take time to plan and train properly- this will help our teachers, students, and communities immensely!! No more emergency teaching.

Ideally, teachers would have 3-1 planning vs connecting time

Planning properly is incredibly time consuming:

activity packages, class time, small group time, individual time

Consider longer short-term Distance Ed periods

Action Plan!

Work as a team to create a logistics plan of action using these guidelines

Work with families and community in creating a viable plan

Allow time for teachers to plan and prepare

Allow time to help families plan and prepare

Fast Fail Approach

Celebration!

GAME TIME!!!

1 Point	Use of any ONE of Jacq's amazing jokes
2 Points	Become the official tie-breaker in any tie-breaker situation
3 Points	100% of proceeds that teachers donate to this celebration! 100%!!!!

Liz Ard

How much did Bond weigh at 7 months old?

51-60 lbs

61-70 lbs

71-80 lbs

81-90 lbs

91-100 lbs

101-110 lbs

111-120 lbs


YES!
I WON THAT SHIT!
memegenerator.net

Contact Jacqueline

K-12 Science

Distance Education Pedagogy

Distance Education Action Plans

Off-LIne Distance Ed

Out of the Box Thinking

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truenorthedmb@gmail.com