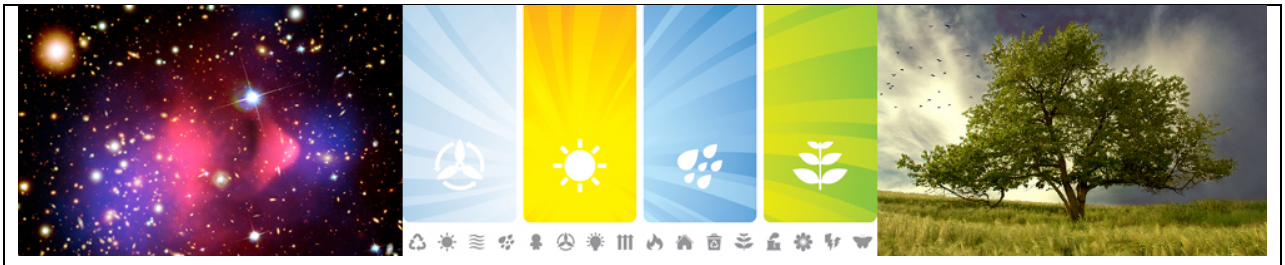
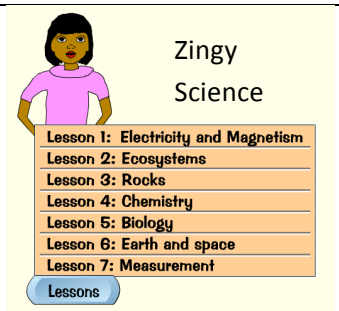
OTA SCIENCE: MATTER • ENERGY • LIFE ON EARTH **CYCLE RUNS 3 TIMES: KINDER-1ST-2ND • 3RD-4TH-5TH • 6TH-7TH-8TH**

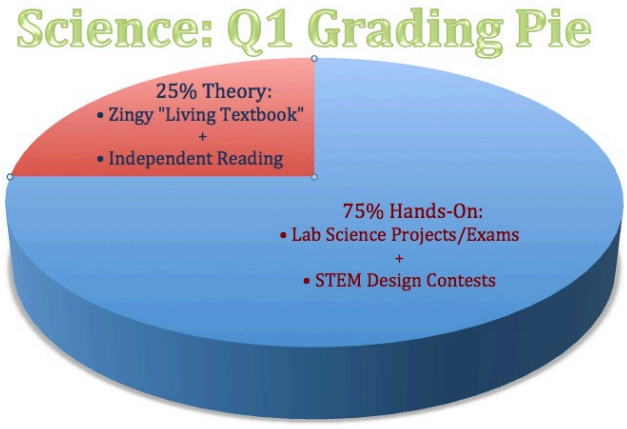


MATTER: is the "Stuff" of the Universe (has Weight, takes up Space): ENERGY: is the ability to move MATTER around (do *work*); LIFE-ON-EARTH: Life is Made of MATTER, Needs ENERGY to Move-Eat-Repair-& Survive, Lives on Earth and… in Space?!

25% THEORY:	75% HANDS-ON:
• ZINGY ONLINE "LIVING TEXTBOOK" • INDEPENDENT READING/VIEWING PROJECTS	• LAB SCIENCE PROJECTS & EXAMS • STEM ENGINEERING DESIGN CONTESTS







ZINGY SCIENCE Online "Living Textbook" Projects + INDEPENDENT READING/VIEWING Science Projects

QUESTIONS to ask Sharon (developer) are:

1. How can I assign something twice in same year and repeat it again in a different years? (& can we reset the tracker at year's end?) .
2. Can I rearrange order so things come up in this order?
   - *Note: I renumbered Topics (3.1, 3.2, etc) so I could trace them back to their original Lessons.*
   - *Note: I rebundled the Topics to go with Old Town Academy's Matter·Energy·Life-on-Earth 3 year science cycle*

Original **Order/Grade** for Zingy **Lessons /Topics** are captured by adding "6th" before each Lesson & Topic:

- 6th **Lesson 3: Heat (*Thermal Energy*)**
- 6th Topic 3.1: Radiation

Topics Lesson number is captured by adding "3" before each Topic: 3.1, 3.2, etc. Note: 3.1, 3.2 are grouped together

Questions for Cassandra to research are:

1. What do you have to do to pass each Topic (% correct? Etc.) and can these targets be adjusted (e.g. from 100% to 80%?)
2. How long does it take, on average, to pass each Topic?
3. *Are current 4th Grade, Third Quarter Chemistry Topics 4.7-4.15 too hard for 4th grade? Should we keep them all for 5th?... and instead move the 6th grade Heat Energy Topics to 4th?*
4. How many can we assign each quarter? (right now I've got 8 per quarter as a standard, *based on no testing*… but in a 9 week quarter that's one/week basically—seems feasible; but in 5th grade 3rd and 4th quarter I'm up to 16 and 18 Topics! Impossible to finish?). What will the Achievement Scale look like? 8/8 = A+ 7/8 = A, etc.
5. Get SCREENSHOT of EACH TOPIC for LAB SCIENCE PROJECT TREES: and so we can plan Motivation (aka "Ignition"), Video and Web Links, Introductory Demos to KEY Zingy Science Topics (or at Beginning of each LESSON). We OWE the students this: Explain Why I Should Study This?... we can't just give them the targets and say "go…all on your own!"
6. What are the ACTIVITIES? How are they different from Topics? Get SCREENSHOT/s of EACH for SCIENCE THEORY COMPUTER PROJECT TREES (TargetScores). Can we make them double credit? Can we tie them to LAB Projects?
7. *Where is Classification/Variety of Life covered? & Cycles? (Carbon cycle, water cycle, etc.?)*

- Note: no choice when it comes to this core reading, but we could have optional INDEPENDENT READING CHALLENGE BOOKS (That would be added to this reading/theory Tree as green optional branches—if so we would have e.g., 8 Zingy Topics and 2 or 3 optional Readings: So 8/11 = B+…9/11 = A 10/11= A+

Based on CA 4th / 5th Grade Science Standards	Yellow means review of Topics already presented to students either in the previous year or earlier in the current year
Fourth Grade Matter & Energy **Zingy Science Computer TargetScores** (to be done in classroom, lab, or in your own time)	**Fifth Grade Life-on-Earth** **Zingy Science Computer TargetScores** (to be done in classroom, lab, or in your own time)
4th Grade • 1st Quarter Zingy **Review/Intro to Matter & Energy** ❑ 4th/5th Topic 4.1: Atoms ❑ 4th/5th Topic 4.2: Images of atoms ❑ 4th/5th Topic 4.3: Elements & Compounds ❑ 4th/5th Topic 1.5: Transformation of energy **Electro-Magnetic Energy, Part 1: Electric Circuits** 4th/5th **Lesson 1: Electricity & Magnetism** ❑ 4th/5th Topic 1.1: Simple circuits ❑ 4th/5th Topic 1.2: Series and parallel circuits ❑ 4th/5th Topic 1.3: Resistance ❑ 4th/5th Topic 1.4: (*Electric*) Current	**5th Grade •1st Quarter Zingy** **Life-on-Earth, Part 1: Life is Made of Matter** 4th/5th **Lesson 4: Chemistry (*of Life*)** (repeat from 4th) ❑ 4th/5th Topic 4.1: Atoms (review from 4th grade) ❑ 4th/5th Topic 4.2: Images of atoms ❑ 4th/5th Topic 4.3: Elements and compounds ❑ 4th/5th Topic 4.14: Chemistry of earth (too big a jump? 4.3 to 4.14??) ❑ 4th/5th Topic 4.15: ACTIVITY: *WHAT IS IT?* ❑ 4th/5th Topic 1.5: Transformation of energy **Life-on-Earth, Part 2: Ecology & Ecosystems**[1] 4th/5th **Lesson 2: Ecosystems** ❑ 4th/5th Topic 2.1: Atoms & Molecules ❑ 4th/5th Topic 2.2: Plants/producers ❑ 4th/5th Topic 2.3: Consumers ❑ 4th/5th Topic 2.4: Decomposers *Where is Classification covered? & Cycles?* ❑ Topic 2.5: Plant and animal relationships
Pass/Try Again Grading Scale • 8/8* Topics Passed = *A* • 7/8 Topics Passed = B+ • 6/8 Topics Passed = B • 5/8 Topics Passed = *C* • 0-4 Topics Passed = Inc.	**Achievement Scale** • 11/11* Topics Passed = *A+* • 10/11 Topics Passed = *A* • 9/11 Topics Passed = *A-* • 8/11 Topics Passed = B • 7/11 Topics Passed = B- • 6/11 Topics Passed = *C* • 0-5 Topics Passed = Inc

[1] Insert NOTES from 3012 book on 8 Biomes, XX EcoTerrains. (add new Marine Eco-Terrains, from Article/Map)… plus Mammal Class: XXXX species, Most Populous Orders: Rodentia, Bats….

* Unless we add the Independent Reading/Video Titles: then it's 8/11 = B+ etc.: Attenborough's *Life on Earth* & *The Oceans* ; & *Planet Earth*; etc. etc.