

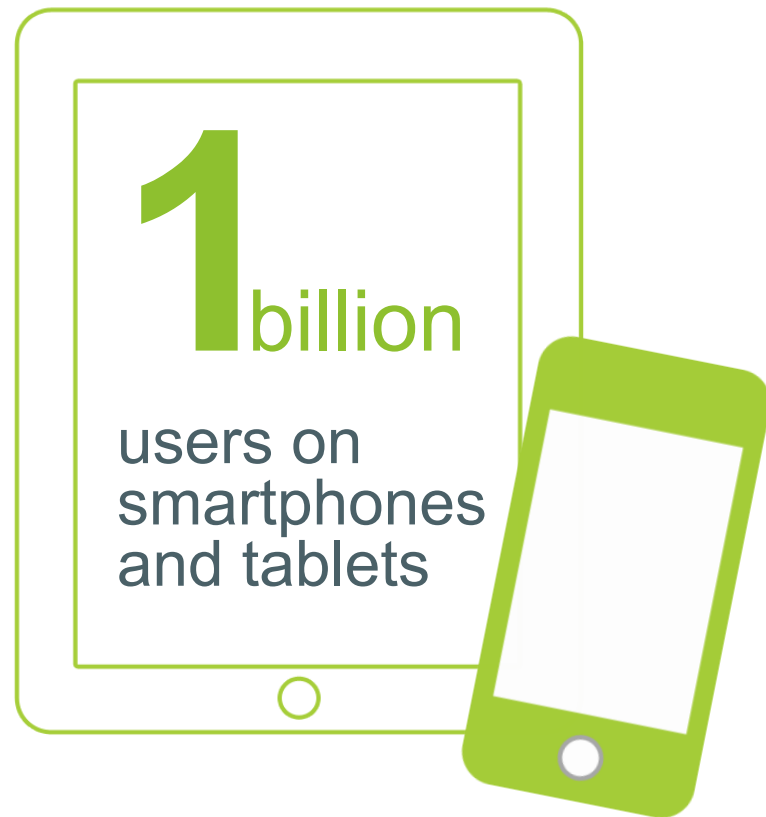
Best Practices for Structuring Content and Integrating eLearning and eTextbooks

Partner / Vendor Perspective

John Prabhu
VP, Solutions Architect
Strategy & Emerging Technologies

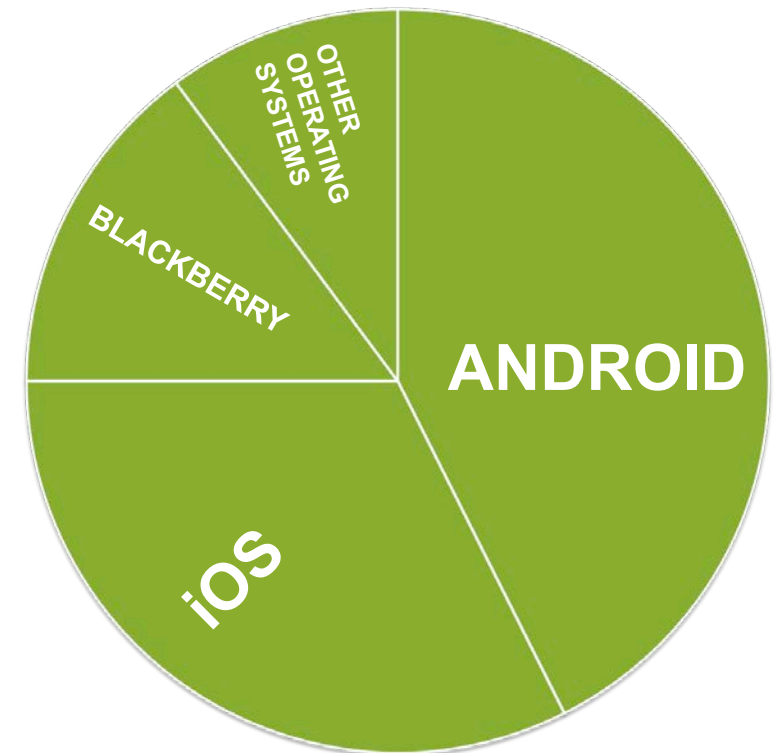
44%

OF EBOOK
READERS
PREFER
TABLETS,
UP FROM
37% IN
AUGUST 2012



OVER
1.5 TRILLION
DIGITAL TRANSACTIONS
PER MONTH

OVER
1.5 MILLION
DOMAINS
MEASUREMENT FROM 172 COUNTRIES



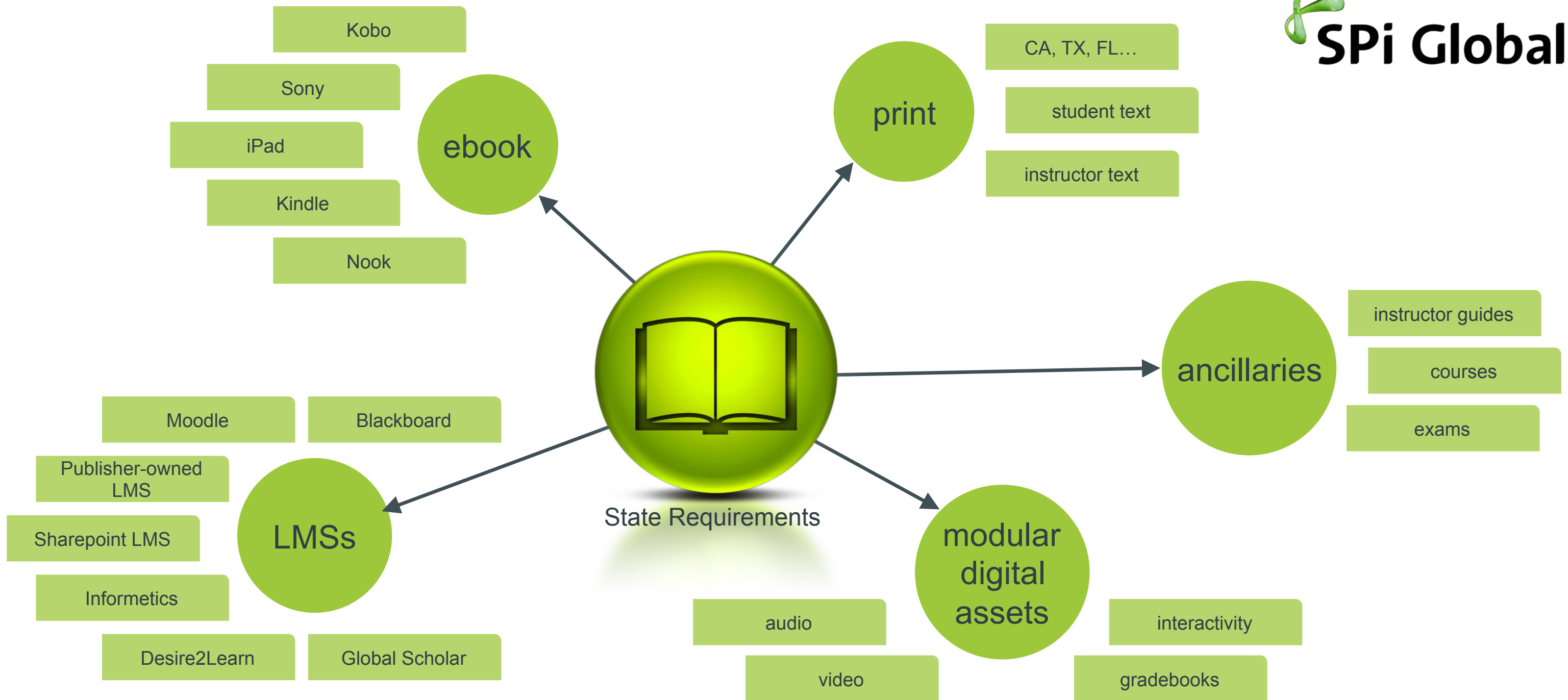


- Slow Pace of Change
- Isolated, Pockets of Innovation—
Publisher, Retailer & eBook Vendors
- Teachers/Textbooks Dominant
(Traditional Paradigms)
- Skillset and Workforce Environment
Gaps
- Rising Cost of Education

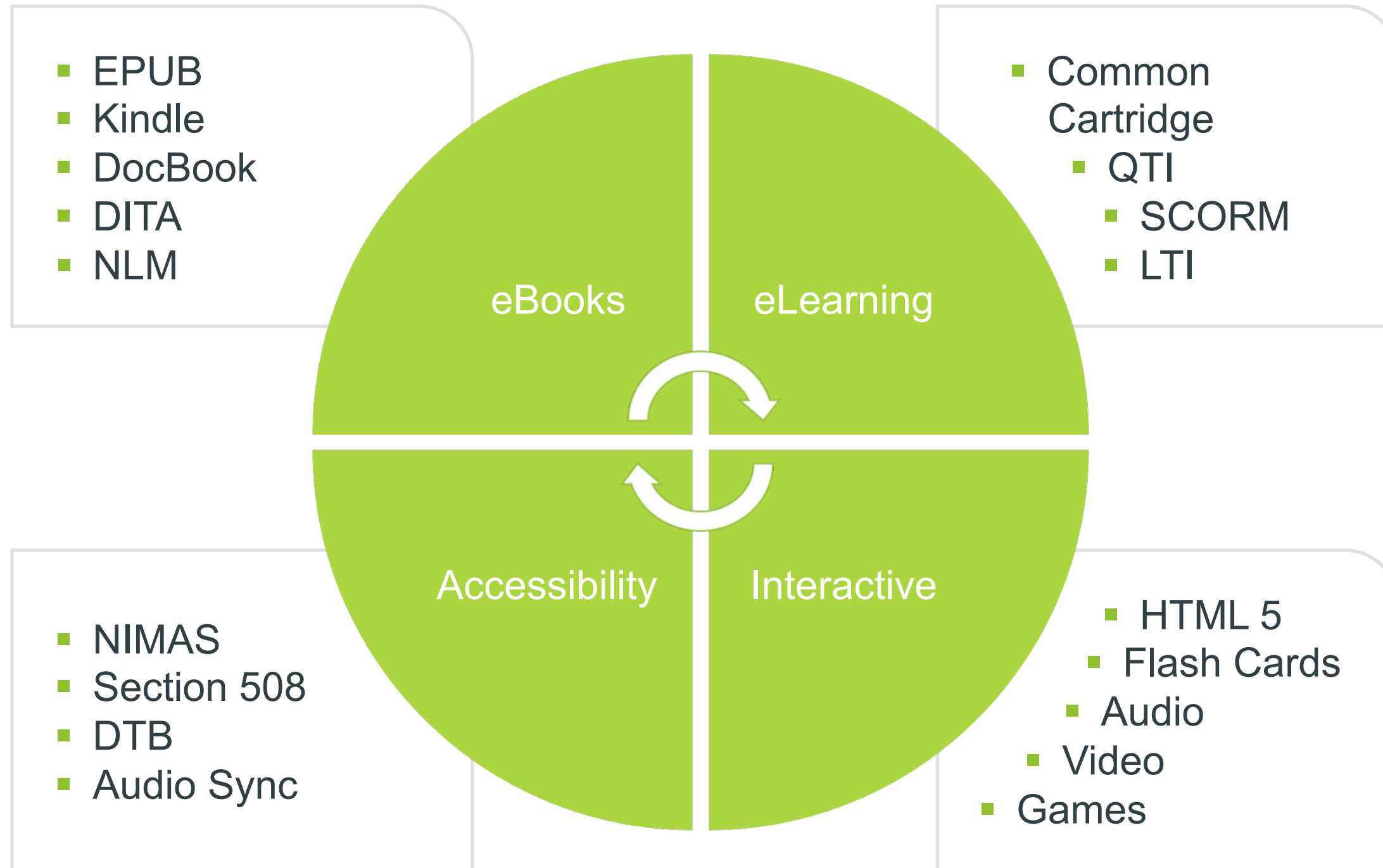


$E=MC^2$

Goal: Fun & Engaging Process



Courtesy: RSI



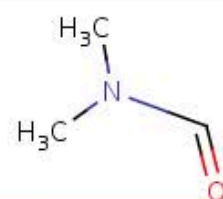
Special Issues
 Very Important Papers
 Cover Gallery
 Article Index
 Editorials
 Tag Cloud
 Society Spotlights
 Read Cover Story

Providing a healthy mix



owing to their desirable properties, such as strong absorption in the red visible region through singlet oxygen generation, and ease of **chemical modification** that facilitates modulation. However, phthalocyanines have a large hydrophobic π skeleton, which reduces the solubility and promotes their aggregation in biological environments. This aggregation not only complicates *in vivo* but also drastically reduces their photodynamic activities. To circumvent these problems, the peripheral or axial positions.³ Alternatively, nanocarriers such as liposomes, protein nanoparticles can also be employed.⁴ The latter approach is of particular interest because it allows the release of the drugs, enhance their biocompatibility and stability, and prolong their circulation. Localization property by the enhanced permeability and **retention** (EPR) effect.⁵ Ligands which have high affinity to tumor-associated molecular markers can also be incorporated on the surface to further enhance the targeting property of the drugs. As part of our continuing effort in the development of efficient and selective phthalocyanine-based photosensitizers,⁶ we report herein a novel series of zinc(II) phthalocyanines which are monosubstituted with a polyethylene glycol (PEG) chain with different length, including their preparation, encapsulation in micelles and silica-based nanoparticles, and *in vitro* photodynamic activity. The compound with the shortest PEG chain (with an average molecular weight of ca. 550 g mol⁻¹), after being encapsulated into silica-based nanoparticles, exhibits high stability and *in vitro* photocytotoxicity and is therefore a highly promising photosensitizing system for PDT application.

These PEGylated phthalocyanines (compounds **1**, **2**, **3**) were prepared by **substitution reactions** of polyethylene glycol monomethyl ether monotosylate with an average molecular weight of ca. 550, 2000, or 5000 g mol⁻¹ with 2-hydroxyphthalocyaninatozinc(II) (**4**)⁷ in the presence of K₂CO₃ in *N,N*-dimethylformamide (DMF; Scheme 1). Unlike many other substituted phthalocyanines prepared by cyclic tetramerization,⁸ these compounds are isononaphthalene-like in nature, which get purified by repeated silica gel column chromatography on hexane.



[Highlight all instances in article](#)

[Full details](#)

[Search this compound](#)

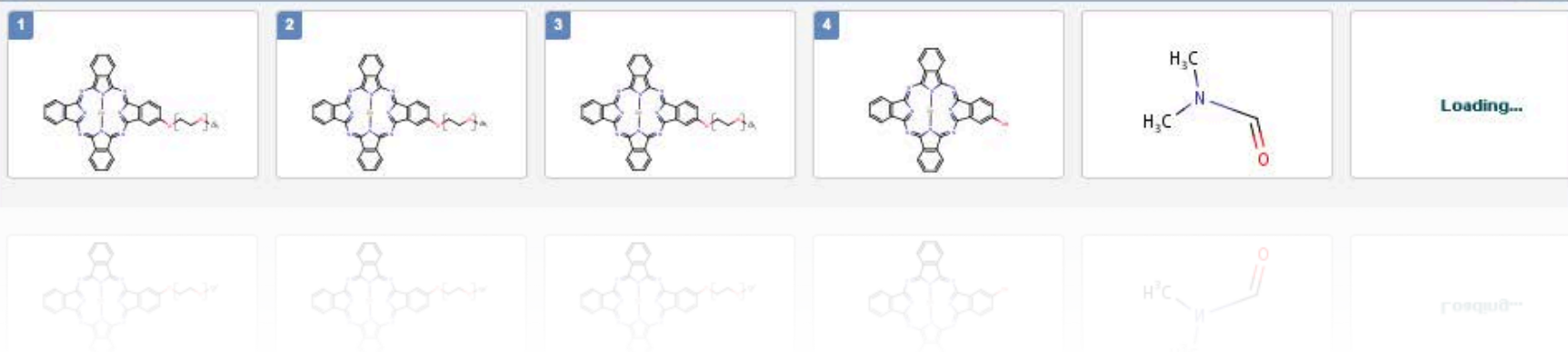
[View structure info](#)

CHEMISTRY TERMS

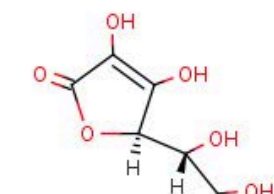
Choose one or more boxes to highlight terms.

- Chemical Names
- Reagents & Catalysts
- Drug Synonyms
- Reaction Types
- Chemical Technology

COMPOUND BROWSER 4 featured compounds in this article. (show all 14 compounds)



COMPOUND RECORD : D-isoascorbic acid expand



[Export structure or image](#)

Structure data

Search for this structure on:

- This publication
- Wiley Online Library
- Google
- Google Scholar

SUMMARY

Compound Information	
Formula	C6H8O6
Molecular Weight	176.1241
Synonyms	Not available

Structure Descriptors

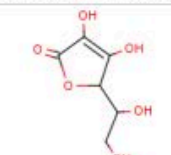
SMILES: [H][C@@](O)(CO)[C@@]1([H])OC(=O)C(O)=C1O

InChI: 1S/C6H8O6/c7-1-2(8)5-3(9)4(10)8(11)12-5/h2,5,7-10H,1H2/t2-,5-/m1/s1

InChIKey: CIWBSHSHKHDKBQ-DUZGATOHSA-N

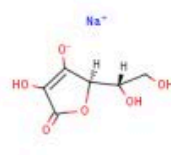
Search for articles containing similar structures:

100%



[Search this compound](#)

99%



[Search this compound](#)

myWorld History Self Study

Glossary

Academia

escuela de filosofía fundada por Platón

Spanish

English

Spanish ✓

A

Academia

Acta de la Suprema

Alejandro

Andes

Augusto

abdicar

abjurar

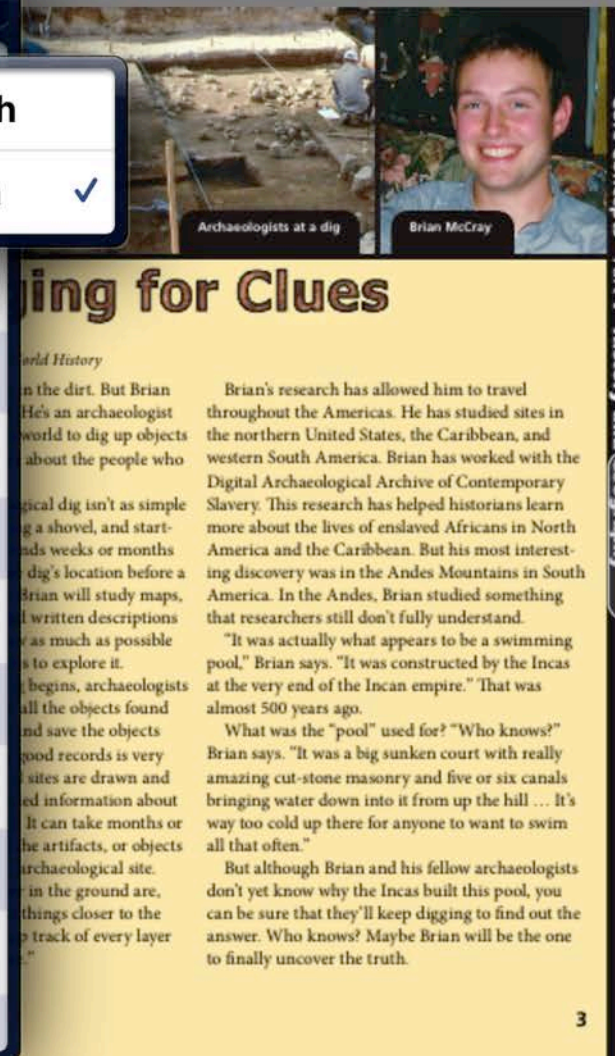
acción

acrópolis

acueducto

acupuntura

adaptarse



Core Concepts Part 1 History and Geography

The Solar System and Beyond

1. What is the name given to planets like Jupiter and Neptune?

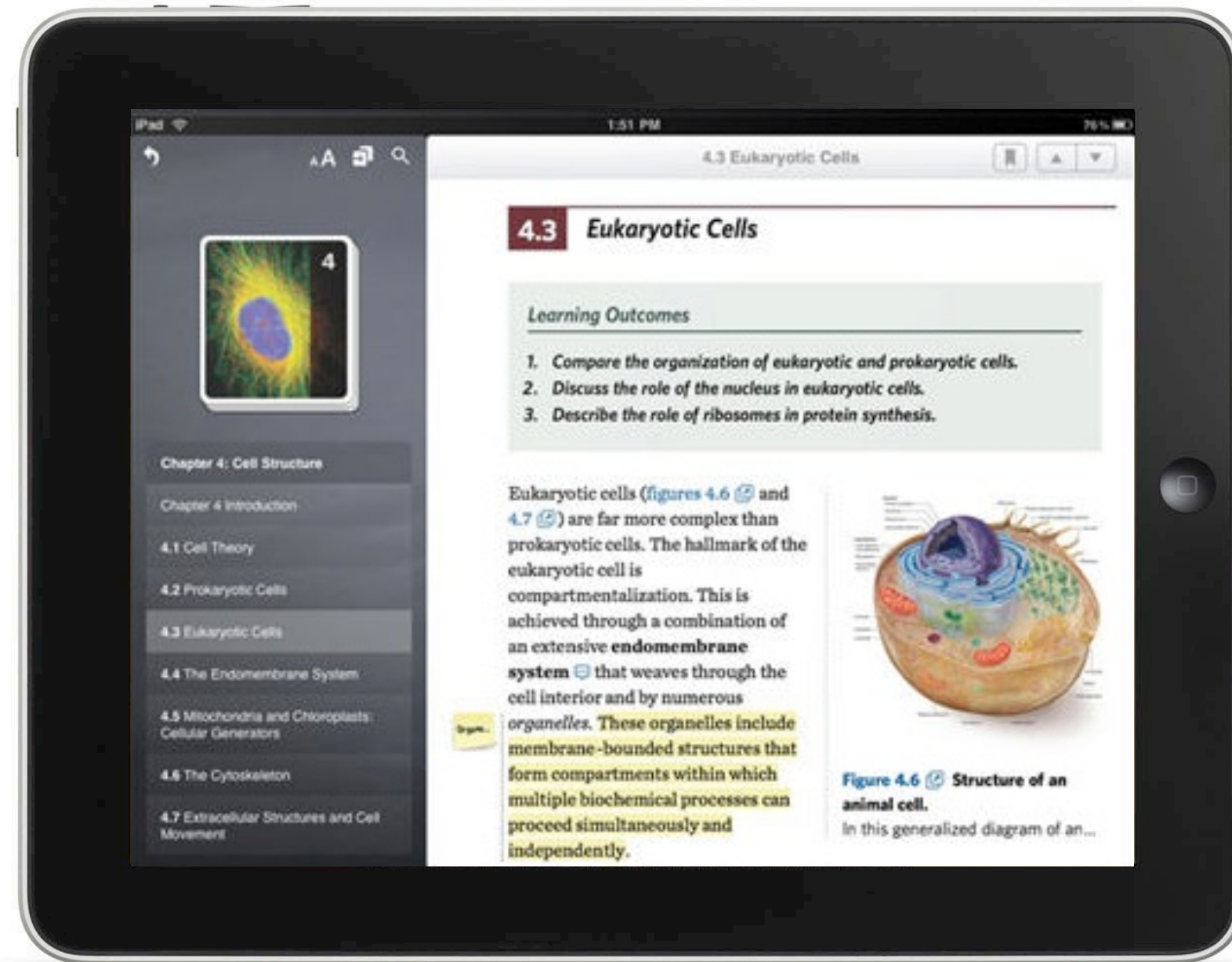
- Gas Giants
- Gas Monsters
- Rocky Dwarves
- Rocky Giants

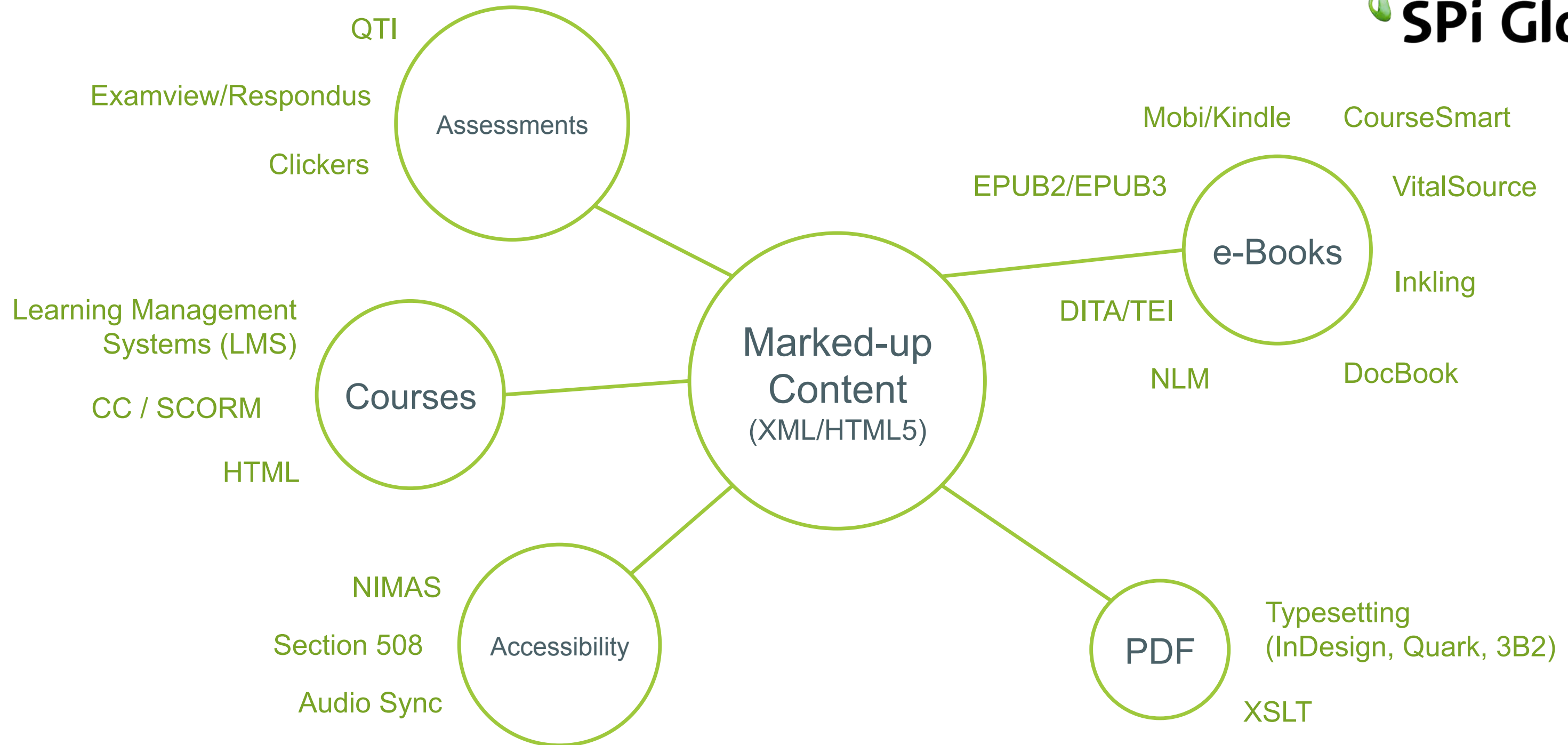
2. Why does Saturn have a longer year than Earth?

- Saturn is closer to the Sun than Earth
- Saturn spins slower than Earth
- Saturn is bigger than Earth
- Saturn is further away from the Sun than Earth

2013

IS THE YEAR OF
ENHANCED eBOOKS
WITH ROBUST
INTERACTIVITY





Simultaneous & Digital First/Only Publishing

- Start with Product & Concept Planning
- Learning Objects (instead of Books, Chapters, Pages concept)
- Structured Content (XML/HTML5)
- Simultaneous Publishing, Digital First or Digital Only (i.e., “Digital” Typesetting)
- Central Repository
- CMS/Publishing Engine
- Test Across Multiple Devices & Platforms