

21st Century Learning

**KTEC Chat and Chew
January 29, 2009**





“Today’s education system faces irrelevance unless we bridge the gap between how youth live and how they learn.”

Learning for the 21st Century



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1

Why's 21st Century Learning Important?

2

How 21st Century Learning impacts youth?

3

Incorporating 21st Century Learning

4

Challenges Forward



Mind Streaming & Other Fun Things

Describe how the following have changed during YOUR lifetime:

▾ **Computers**

▾ **Cell Phones**

▾ **Internet**

▾ **Modem Speed**



Why are 21st Century Skills important?

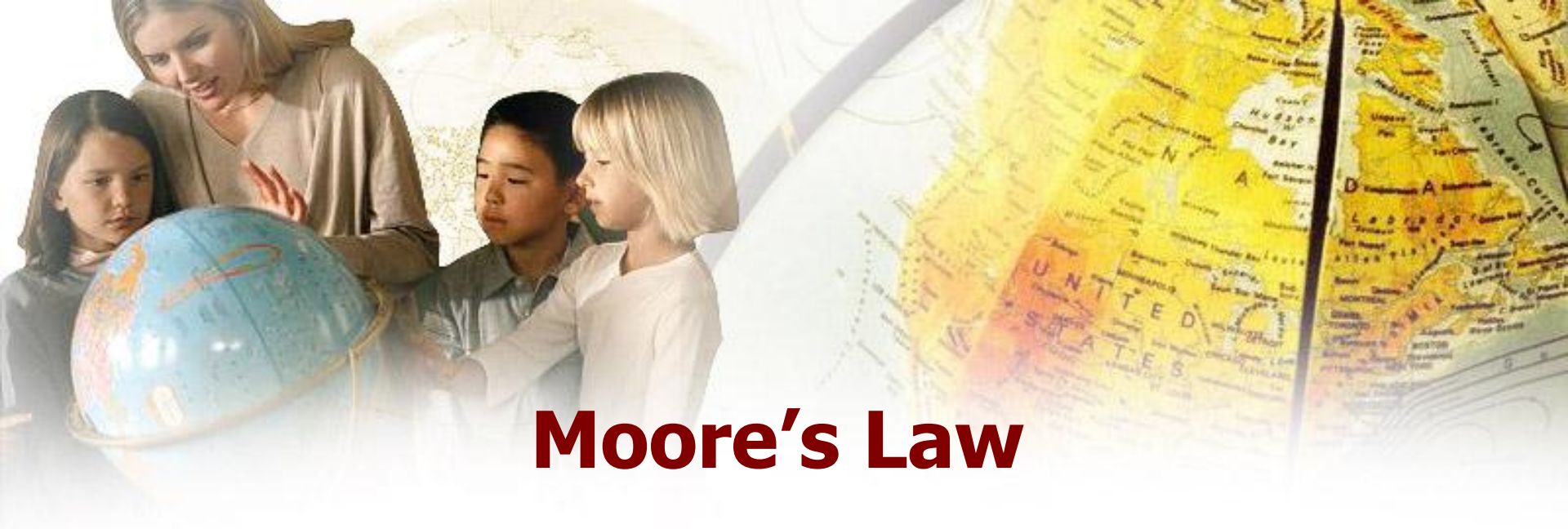


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A woman with blonde hair is pointing at a globe held by a young girl. Two other children, a boy and a girl, are looking at the globe. In the background, a large map of the United States is visible, showing the word 'UNITED STATES' in large letters. The scene is brightly lit, suggesting an educational or family learning environment.

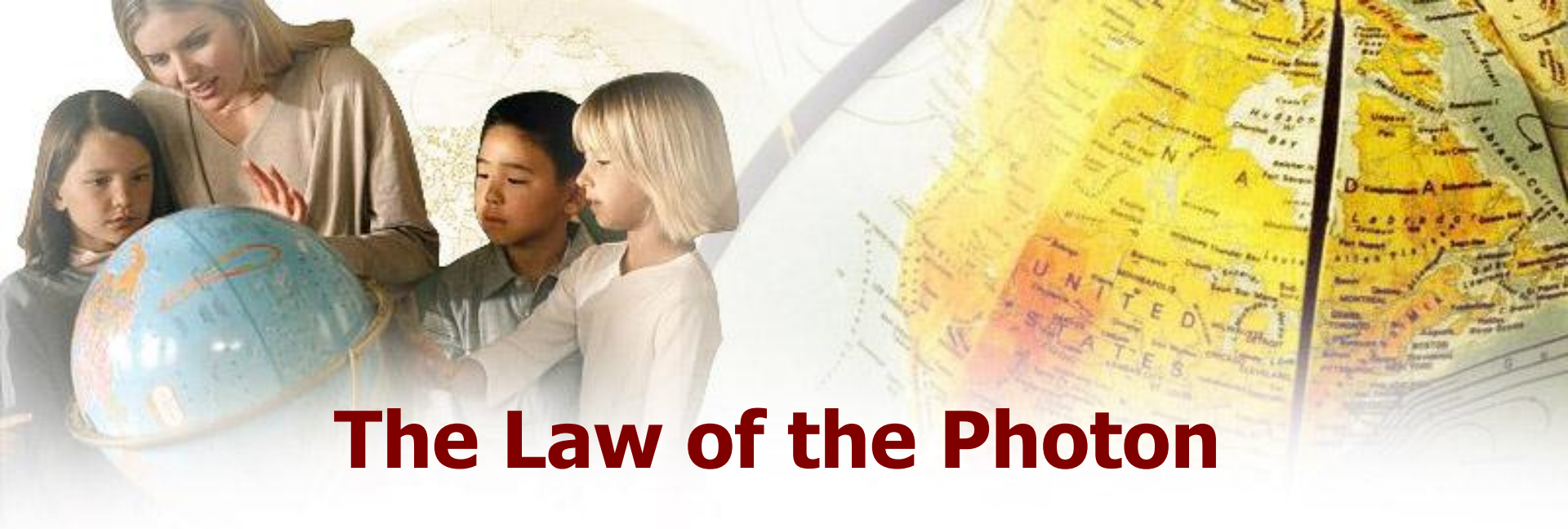
6 Exponential Trends

- Moore's Law
- The Law of the Photon
- The Internet Revolution
- The Age of Info Whelm
- Biotechnology
- Nanotechnology



Moore's Law

The processing power and speed of any electronic calculating device doubles every 18 months while the price decreases by 50%.



The Law of the Photon

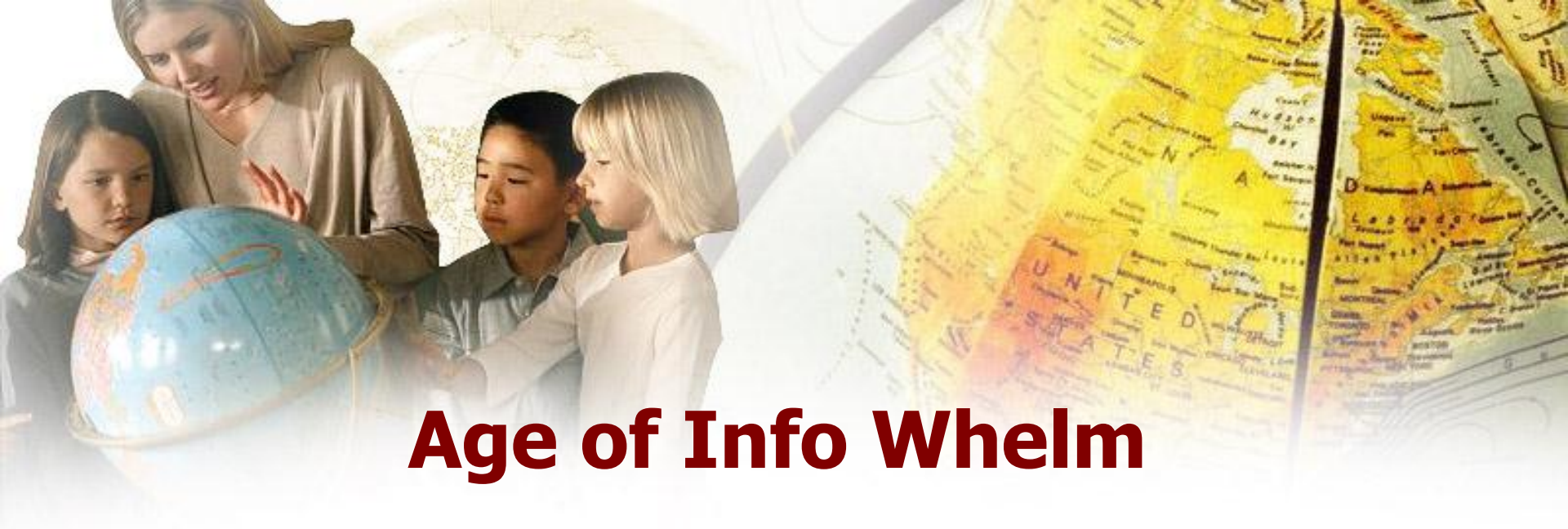
Bandwidth speed and capacity per dollar has been tripling every 12 months.



The Internet Revolution

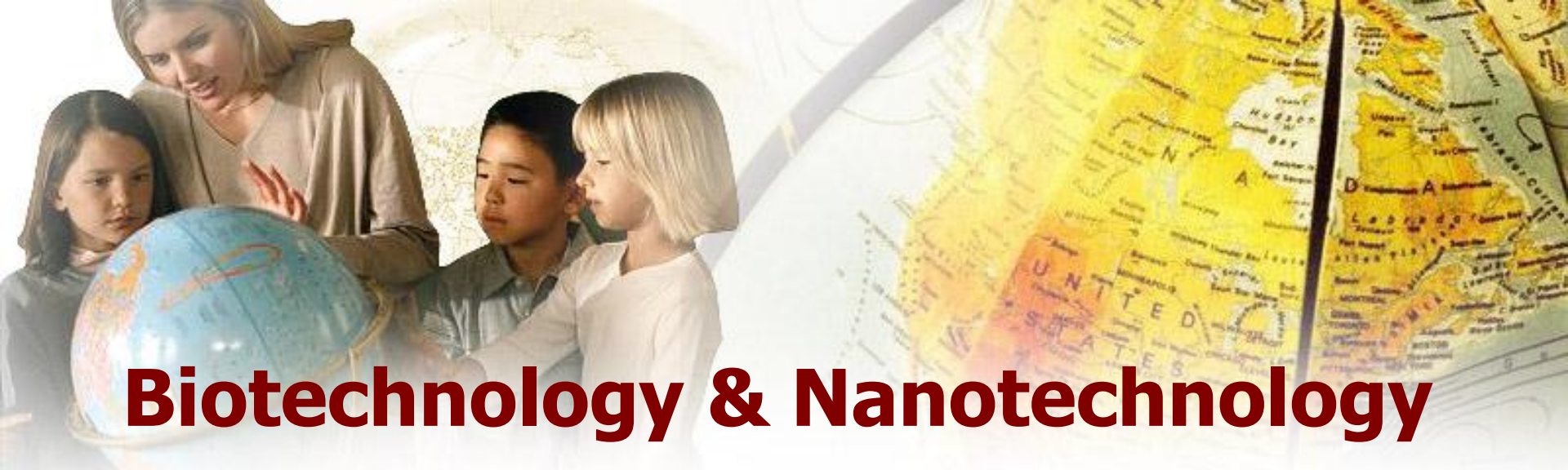
Each day there are:

- ▶ 2 million new web pages
- ▶ 10 billion instant messages
- ▶ 19 billion email messages and 12 billion spam messages
- ▶ The web is doubling in size every 120 days
 - ▶ **80% of the sites that WILL exist a year from now don't exist today**



Age of Info Whelm

- ▶ More data produced in the last 50 years than in the previous 5,000 years
- ▶ More than 3,000 books published daily
- ▶ Age of disposable information
- ▶ New technical information doubles every two weeks



Biotechnology & Nanotechnology

- ▶ **Biotechnology is using biological processes to develop products and create technological solutions to pharmacology, medicine, agriculture, mining, etc.**
- ▶ **Nanotechnology is not building things down by making them smaller, but building things up by manipulating one atom at a time.**



How does 21st Century Learning impact youth?



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Youth Today . . .

MISS WORMWOOD?

YES, CALVIN?



MY GENERATION DOESN'T ABSORB INFORMATION THIS WAY. COULD YOU REDUCE EVERYTHING TO FACTOIDS?

TURN TO PAGE 21, CLASS.



AT LEAST OUR TELEVISIONS UNDERSTAND US.





The Net Generation

- ▲ Born after 1982
- ▲ Ctrl + Alt + Del is as basic as ABC
- ▲ Fascinated with new technologies
- ▲ **Computers have always been in their backpacks**
- ▲ Photographs have always been processed in an hour or less
- ▲ They have never known life without a Starbucks
- ▲ **Bert & Ernie are old enough to be their parents or grandparents**



Our Connected Youth

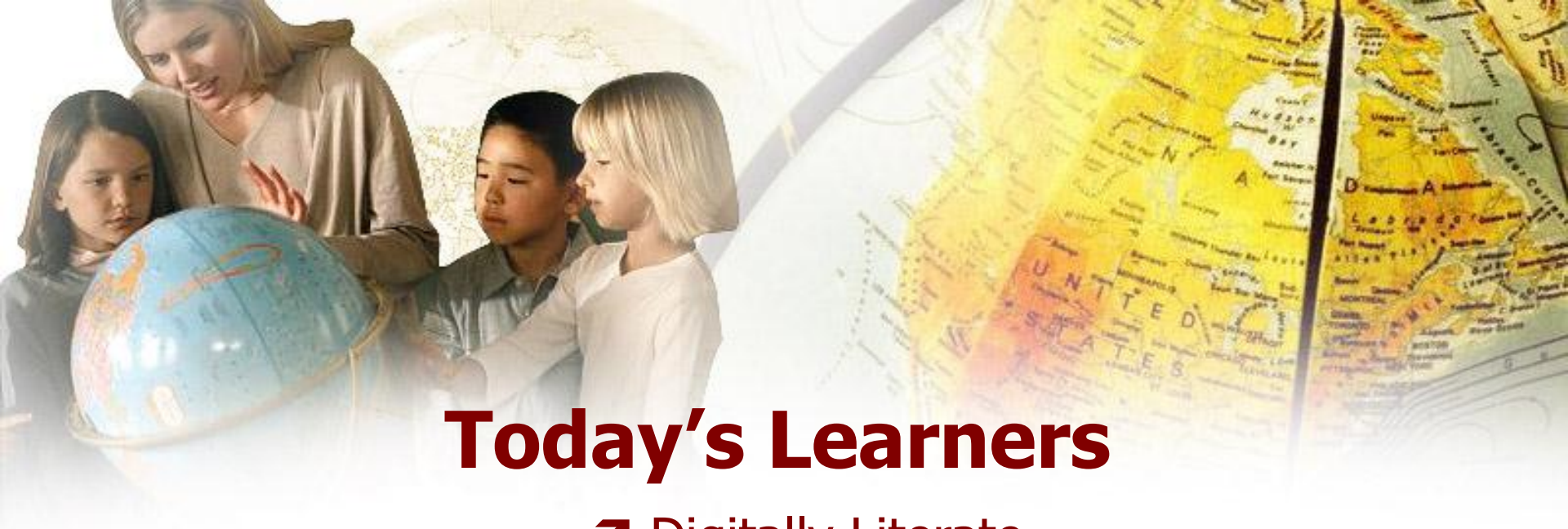
How many of you. . . .

- ▶ Check your email more than once a day?. . More than once an hour?
- ▶ IM or know what Iming is?
- ▶ Have their own Blog?
- ▶ Have used a Wiki?
- ▶ **Do you know what "You Tube" is?**



Youth Web Use

- ▶ **98% use the Internet to seek information on colleges, careers and jobs**
- ▶ **74% of youth use IM as a major communication vehicle vs. 44% of online adults**
- ▶ **54% of youth (grades 7-12) know more IM screen names than home phone numbers**
- ▶ **The Internet is a primary communication tool**
 - ◆ **81% email friends and relatives** ◆ **70% use IM to keep in touch**
 - ◆ **56% prefer the Internet to the telephone**



Today's Learners

- Digitally Literate
- Mobile
- Tuned In
- Experiential
- Social



How can we incorporate 21st Century Learning in our school / youth program?

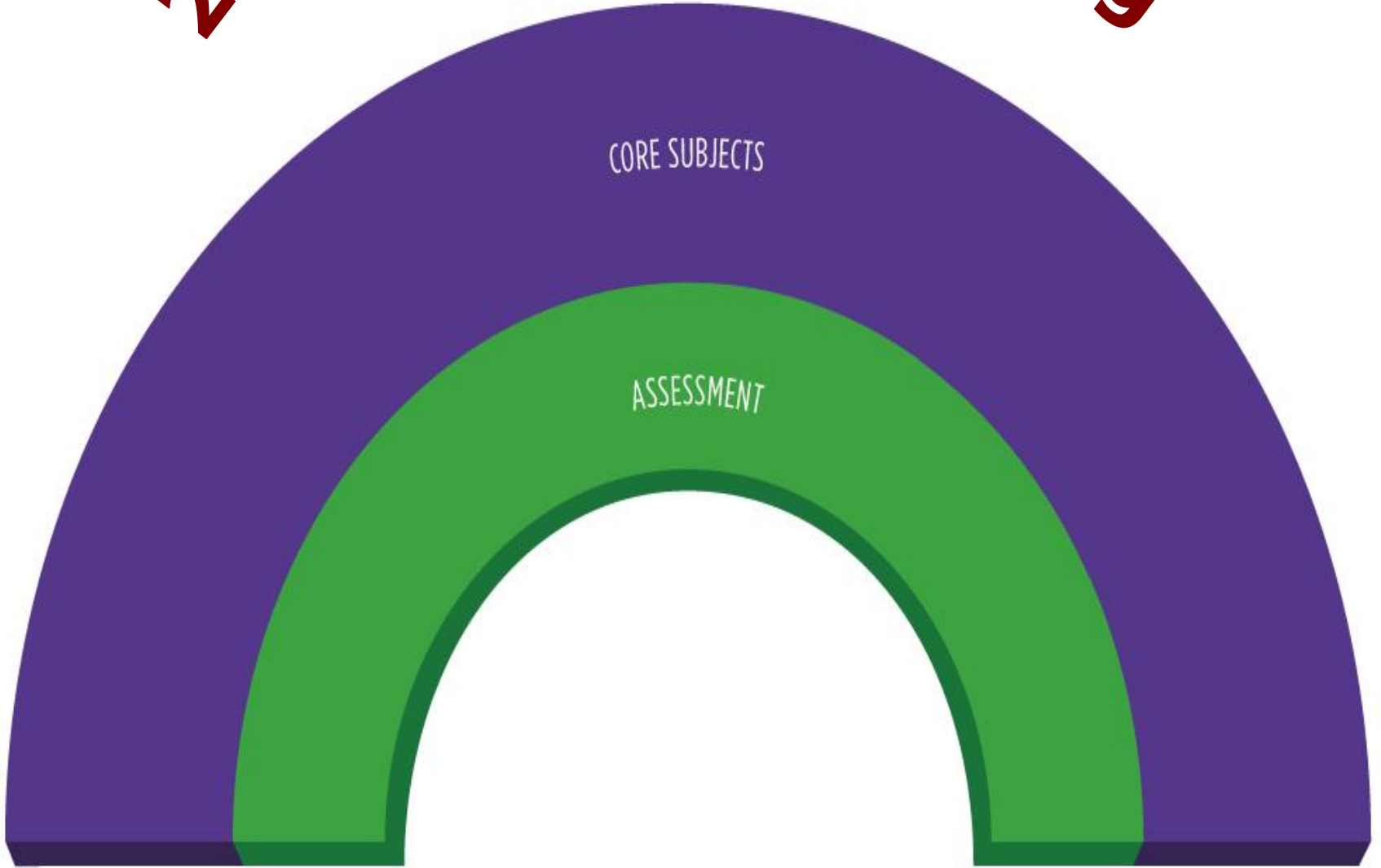


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20th Century Learning

CORE SUBJECTS

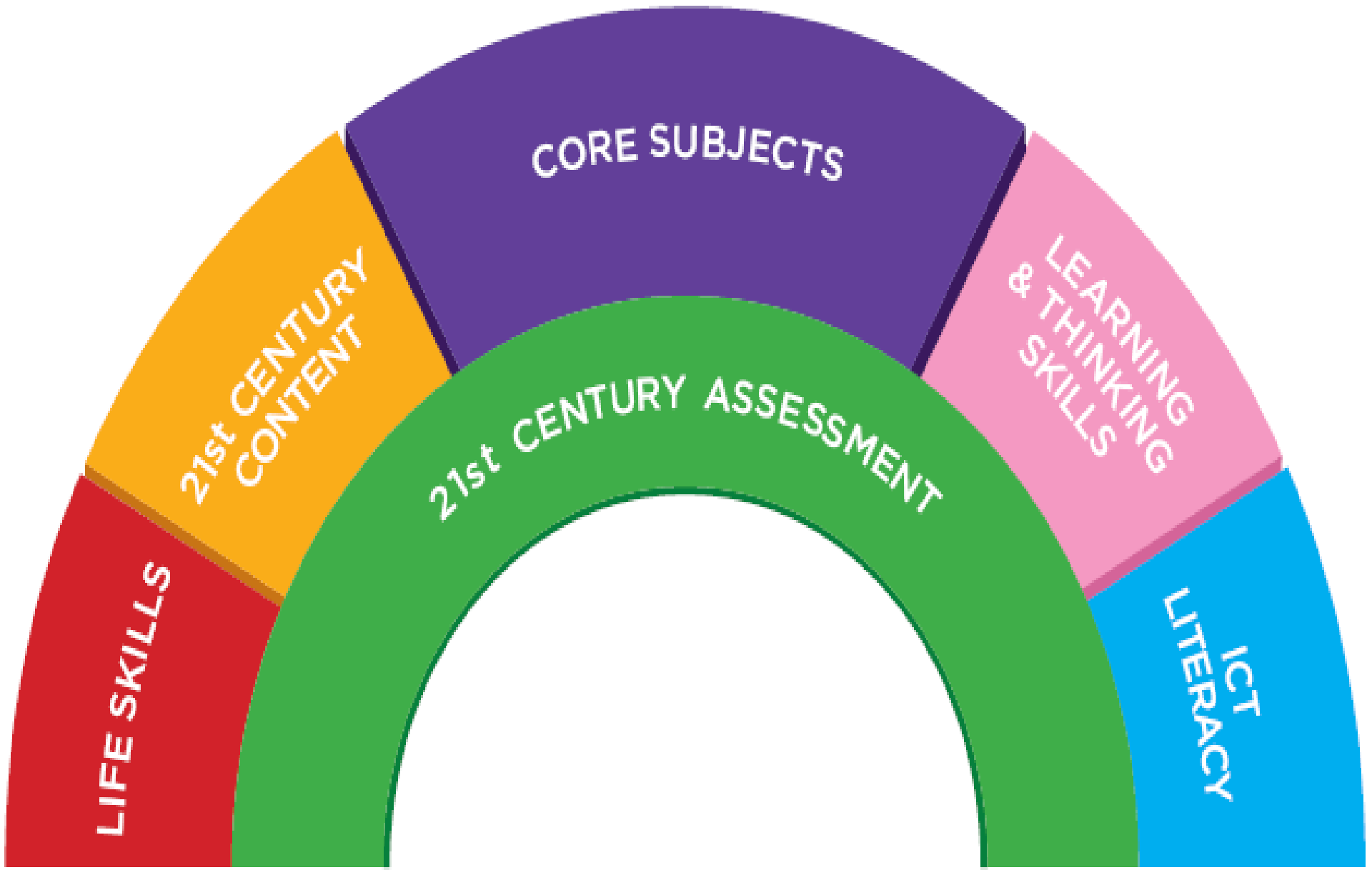
ASSESSMENT



Why 21st Century Skills?

	<u>20th Century</u>	<u>21st Century</u>
Number of Jobs:	1 – 2 Jobs	10 – 15 Jobs
Job Requirement:	Mastery of One Field	Cross-Cutting Skills
Teaching Model:	Subject Matter Mastery	Integration of 21 st Century Skills into Subject Matter Mastery
Assessment Model:	Subject Matter Mastery	Integration of 21 st Century Skills into Subject Matter Mastery

21st Century Learning





6 Essential Elements of 21st Century Learning

- 1. Emphasize Core Subjects**
- 2. Emphasize Learning Skills**
- 3. Use 21st Century Tools to develop leaning skills**
- 4. Teach & Learn in a 21st Century Context**
- 5. Teach & Learn 21st Century Content**
- 6. Use 21st Century Assessments that measure 21st Century Skills**



Teaching Core Subjects

English

Reading / Lang.

Arts

Mathematics

Science

Foreign Language

Civics

Government

Economics

Arts

History

Geography



Emphasize Learning Skills

- ▶ **Information & Communication Skills**
- ▶ **Thinking & Problem Solving Skills**
- ▶ **Interpersonal & Self-Directional Skills**



In a Digital World

Youth need to learn to use the tools to master the learning skills that are essential to everyday life and workplace productivity. This proficiency is known as ICT (Information Communications Technology).



Use 21st Century Tools to Develop Learning Skills

ICT literacy – “the interest, attitude, and ability . . . To appropriately use digital technology and communication tools to access, manage, integrate and evaluate information, construct new knowledge, and communicate with others in order to participate effectively in society”

Programme for International Student Assessment (PISA)



ICT Literacy

Tech. Literacy
Competency
In
Technology

ICT Literacy
Competency in
Learning Skills
Through the Use
of Technology



Relevant

Meaningful

**Community
Connection**

**21st Century
Context**

**Beyond
Classroom**

Real World



Teaching 21st Century Content

**Global
Awareness**



**Financial, Economic
&
Business Literacy**

Civic Literacy



Using 21st Century Assessment

- ▶ A balance of assessments
- ▶ High quality standardized tests for accountability purposes
- ▶ Classroom / Program assessments for improving teaching and learning
- ▶ Use new information technologies to increase efficiency & timelines

