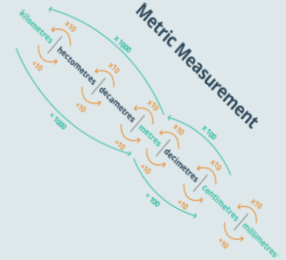
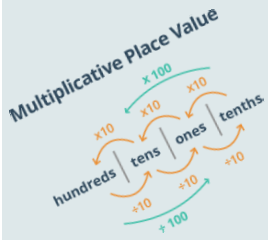


PRIMARY MATHS

21st CENTURY LEARNING. HOW IS IT DIFFERENT TO 20th CENTURY LEARNING?



The term '21st century learning' is the label to describe what needs to be implemented differently in schools to prepare students for successful life in the knowledge age.

21st century skills and competencies are the focus on researches, academics and education systems world-wide, including:

AUSTRALIAN CURRICULUM

- Literacy
- Numeracy
- ICT capability
- Critical and creative thinking
- Personal and social capability
- Intercultural understanding
- Ethical understanding

ASIA SOCIETY AND RAND CORPORATION

Cognitive Competencies

- Academic mastery
- Critical thinking
- Creativity

Interpersonal Competencies

- Communication and collaboration
- Leadership
- Global awareness

Intrapersonal Competencies

- Growth mindset
- Learning how to learn
- Intrinsic motivation
- Grit

So what is the difference between 20th century and 21st century learning?

Education history can be broken up into 3 ages:

- Agrarian or pre-industrial age – people needed to know how to do things and learned how largely by participation in everyday life with little or no formal education.
- Industrial or 20th century age – people needed knowledge and schools were set up to deliver knowledge in a sequential, logical, controlled way with students organised by ‘date of manufacture’. The focus was on standardising students to create worker citizens.
- Post-Industrial or knowledge age or 21st century - people need to know some knowledge, but also how to locate more knowledge, assess and adapt to new knowledge, communicate knowledge, and to use knowledge to create more knowledge – including at ‘systems’ or ‘big picture’ level – often without the help of others. To do this, people need unprecedented skills and competencies.

Why this shift in focus from knowledge transmission to competency building?

In the past, the life of knowledge was measured in centuries then decades. Today, knowledge changes constantly. What we ‘know’ today, could be overturned tomorrow. ([Samuel Arbesman](#) - The Half-Life of Facts: Why Everything We Know Has an Expiration Date Today)

Half of what is known today was not known 10 years ago. The amount of knowledge in the world has doubled in the past 10 years and is doubling every 18 months according to the American Society of Training and Documentation (ASTD).

Because knowledge is so short-lived, it is no longer feasible for schools to provide students with all the knowledge they will need, nor to teach students ‘one way’ of knowing – or doing – things.

More than ever before, we are educating children for a world that largely does not exist today.

Over the last twenty years, technology has reorganized how we live, how we communicate, and how we learn. Knowledge is no longer acquired in a linear manner. Constructivism describes learning by constructing meaning to experience. Experience has long been considered the best teacher of knowledge. Today we have great access to others’ experiences and so knowledge is gained without direct experience. Connectivism describes learning through connected experience. ([George Siemens - Connectivism: A Learning Theory for the Digital Age](#))

Children need to develop their capacity to be self-directed learners – as well as life-long learners. School can no longer be seen as the only place that learning occurs, and that we stop learning when we leave school.

21st century learning requires new ways of teaching, learning, and assessing involving

- questioning,
- investigating and
- problem solving

Every Video, Investigation and Reflection at www.primarymaths.com.au involve questioning, investigating and explaining to allow children connect, self-direct their learning through intrinsic motivation, resilience and initiative, think critically and creatively, communicate and collaborate.