

# The Importance of Creativity and Innovative Technology in Learning

**Presentation by**

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# How do we define creativity?

*'the ability to transcend traditional ideas'*

*'create meaningful new ideas'*

*'the use of imagination or original ideas to create something new'*

*Creativity is characterised by the ability to perceive the world in new ways, to find hidden patterns, to make connections between seemingly unrelated phenomena, and to generate solutions. Creativity involves two processes: **thinking**, then **producing**.*

**[www.creativityatwork.com](http://www.creativityatwork.com)**

# **Creativity leads to innovation and in today's society innovation usually involves technology**

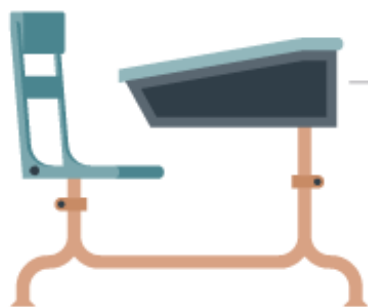




# Creativity leads to innovation and in today's society innovation usually involves technology







**1900 - 1920**

*The one-room schoolhouse*



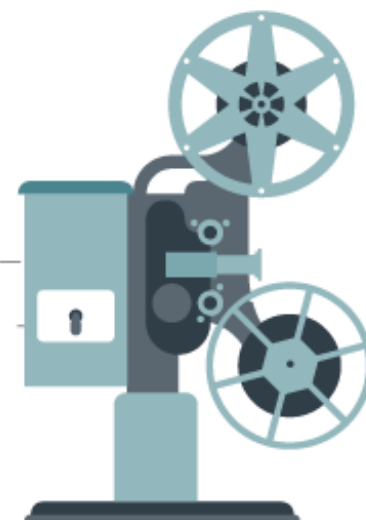
**1930s**

*Overhead projectors, initially used for US military training, quickly spreads to schools*



**1923**

*Classrooms begin incorporating radios into penmanship, accounting, history and arithmetic lessons*



**1933**

*52% of schools are using silent films and 3% are using films with sound*



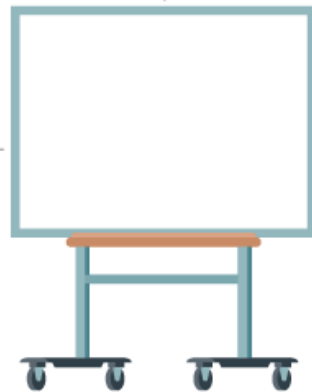
**1939**

*The first TV appears  
in a classroom in LA*



**1950**

*Headphones become popular  
in school language labs*



**1960s**

*Whiteboards are invented to  
replace the Chalkboard*



**1964**

*BASIC is developed at Dartmouth  
College with the intent of giving  
students a simple programming  
language that is easy-to-learn*



**1967**

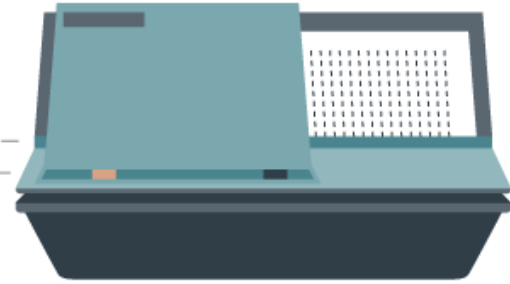
*Texas Instruments develops  
the handheld calculator*





**1973**

*The Minnesota Educational Computing Consortium is founded. The organization popularizes school software such as Oregon Trail ('74) and Lemonade Stand ('73)*



**1972**

*Scantrons are used to automatically grade multiple choice tests*



**1985**

*Touch typing software Mavis Beacon Teaches Typing is developed and popularized in schools*



**1984**

*Apple Macintosh computer is introduced. The ratio of computers to students in US schools is 1-92*



**1988**

*Laptops are introduced and are eventually utilized as teaching tools*



**1990**

*CD-ROMs become a predominant form of storage*



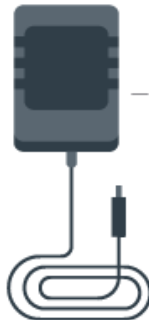
**1991**

*SMART boards are introduced in schools*



**2002**

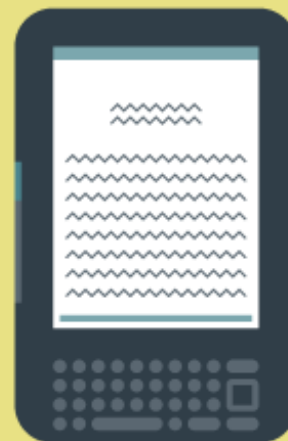
*According to the National Center for Education Statistics (NCES), about 99% of American public schools have Internet access. About 35% had Internet access in 1994*





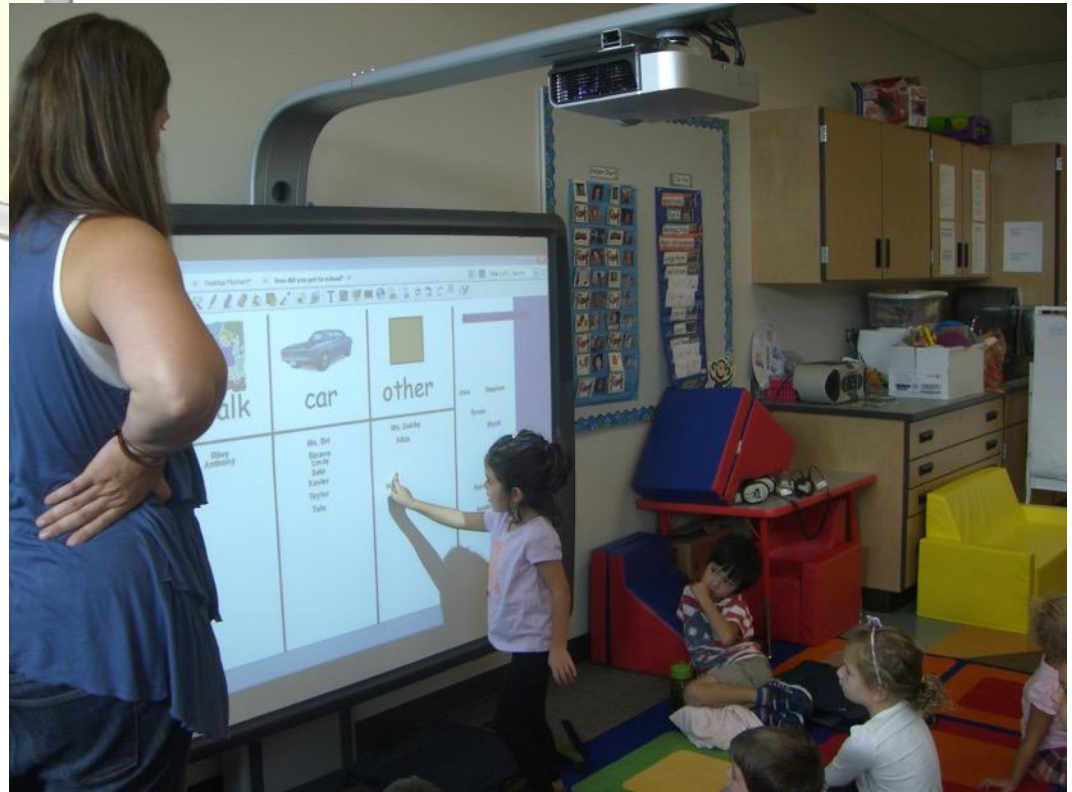
**2012**

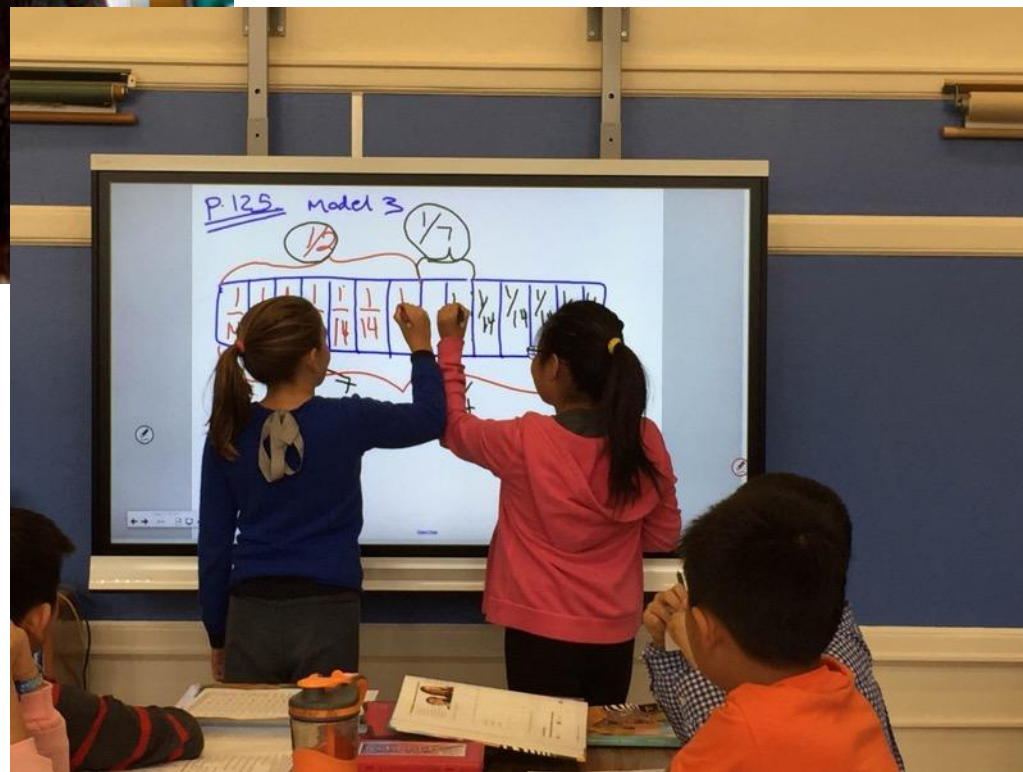
*1.5 million iPads are  
used in US schools*



**2013**

*90% of students under  
the age of 18 have access  
to mobile technology*











Create Video,  
animation,  
time lapse  
and Green  
screen



Record and edit  
audio



Develop reading  
strategies and  
skills



Learn to code



Create digital  
books



Use  
interactive  
voting



Improve  
spellings,  
punctuation  
and grammar



Create persuasive  
presentations



Explain,  
annotate and  
evaluate



Improve  
phonics



Collaborate  
with other  
users



Improve  
maths  
strategies



Make their own  
games



Brainstorm and  
share ideas



Write, create  
posters and  
comics



Improve  
speaking  
skills

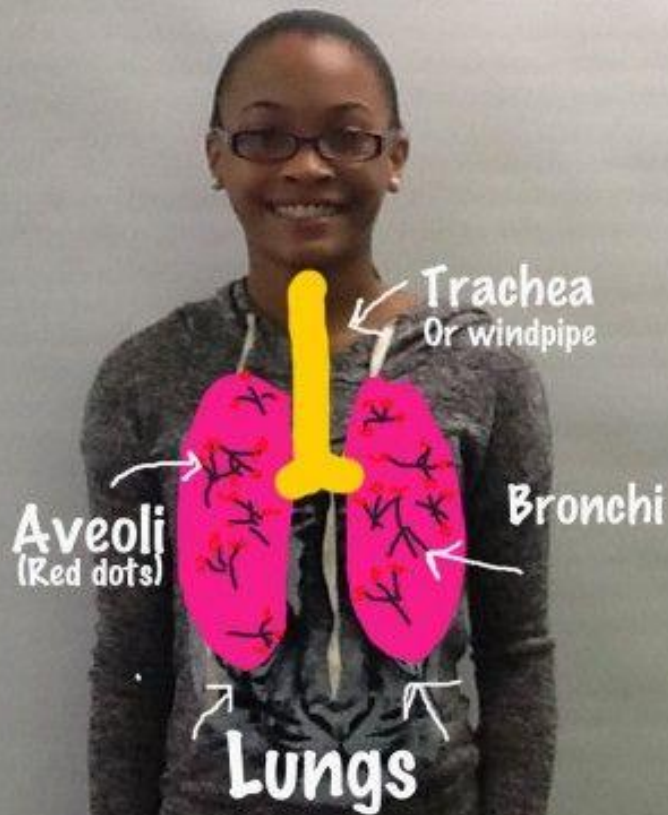


Create and  
edit photos,  
collages and  
paintings



Early Years  
and  
Foundation  
Stage





# components of a healthy diet

@mrknightpe

**Protein:** This is found in meat products. This is essential for muscle growth and repair.



EXAMPLES INCLUDE NUTS, FISH, EGGS, CHICKEN

**Water:** This is essential for keeping body fluid levels up



**Fat:** Found in many foods. They need to be controlled as they are high in calories. These provide the body with energy, insulation and protection.



EXAMPLES INCLUDE OIL, NUTS, BUTTER,

**Simple carbohydrates:** These are found in sugary substances. This provides the body with a short burst of energy.

EXAMPLES INCLUDE FRUIT, SWEETS, CAKE.



EXAMPLES INCLUDE BREAD, RICE, PASTA AND POTATOES

**Complex carbohydrates:** These are found in starch substances. This provides the body with slow releasing



**Fibre:** Only found in foods that come from plants. This bulks up food and aids digestion.



THIS INCLUDES BRAN, WHOLE MEAL BREAD AND PASTA

**Vitamins and minerals:** These are found in fruit and vegetables and help the healthy functioning of the body e.g. eyes, skin and bone.







# Changing the way we teach





# Changing the way we teach- Pedagogies



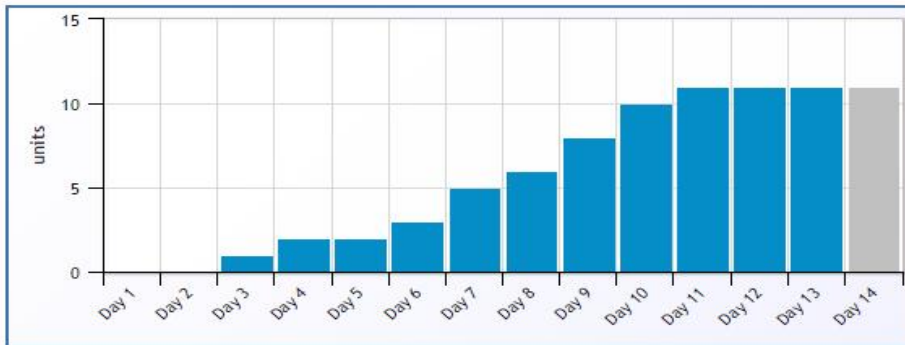
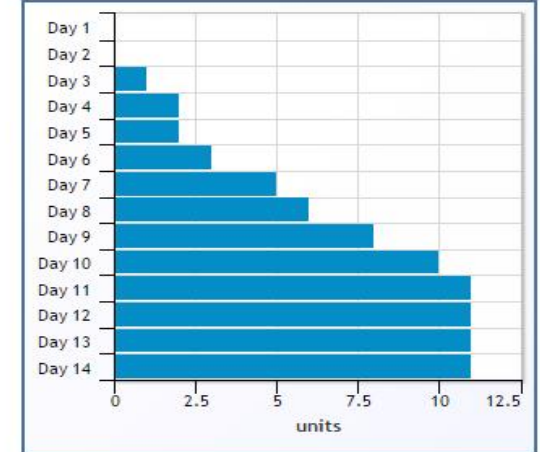
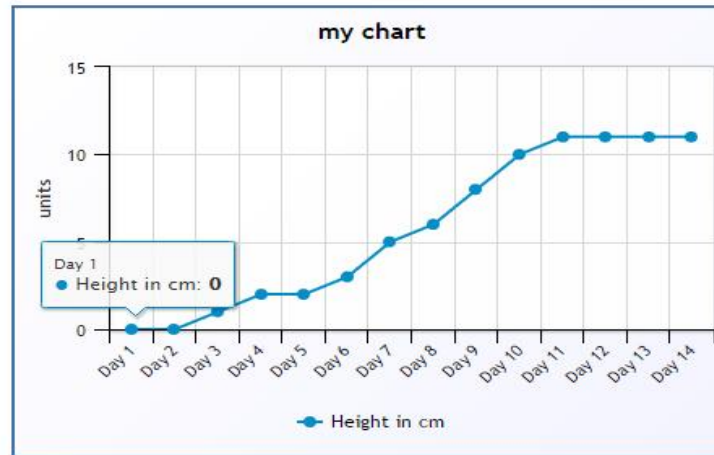
# Changing the way children demonstrate their learning





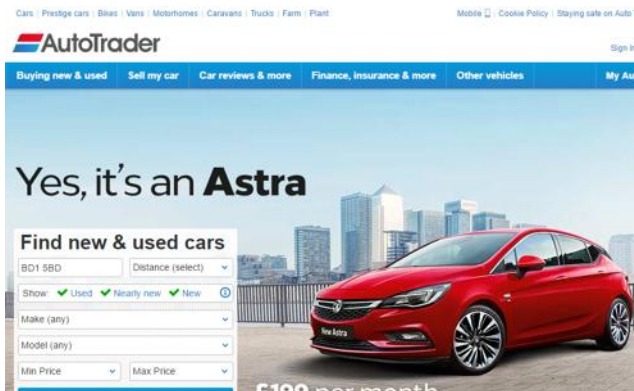
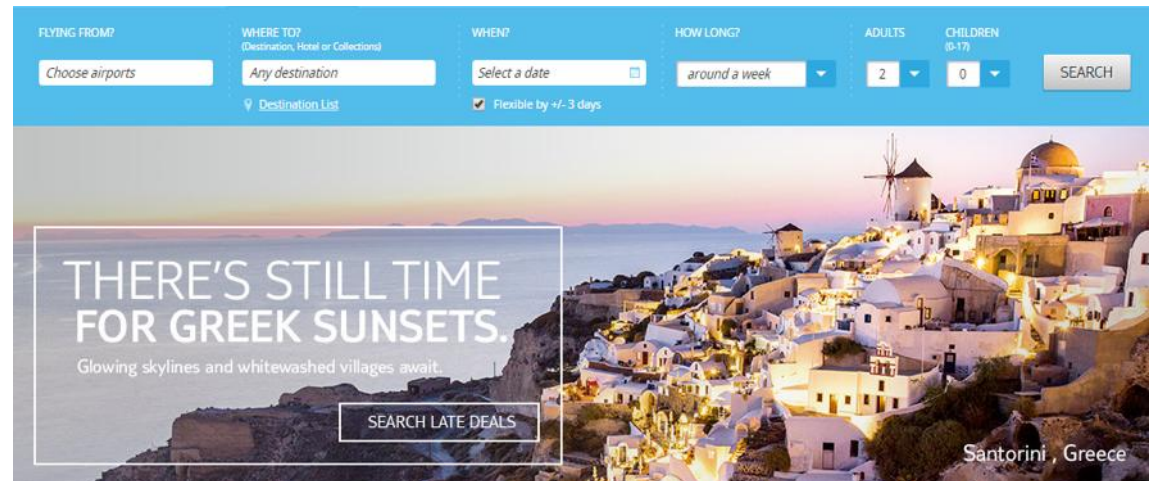
# Changing the way children demonstrate their learning

	Height in cm
Day 1	0
Day 2	0
Day 3	1
Day 4	2
Day 5	2
Day 6	3
Day 7	5
Day 8	6
Day 9	8
Day 10	10
Day 11	11
Day 12	11
Day 13	11
Day 14	11



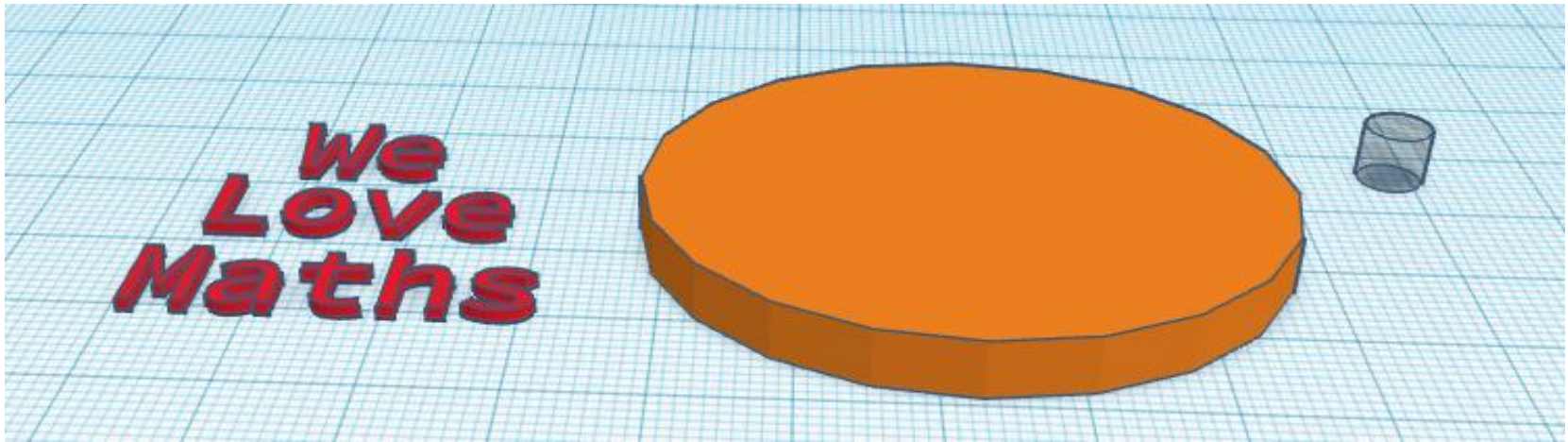
# Changing the way children demonstrate their learning

The screenshot shows the trainline website's search interface. It includes fields for 'From' (Enter origin station...), 'To' (Enter destination station...), and a 'Via / Avoid' section. There are tabs for 'OUT' and 'RETURN' with sub-tabs for 'Today', 'Tomorrow', 'Same day', and 'Next day'. The 'OUT' section shows a date of '02-Jun-16' and a time of '08:15'. The 'RETURN' section shows a date of '15' and a time of '15'. There are also fields for 'Adults (16+)' (1) and 'Child (5-15)' (0). A 'Find trains' button is at the bottom.

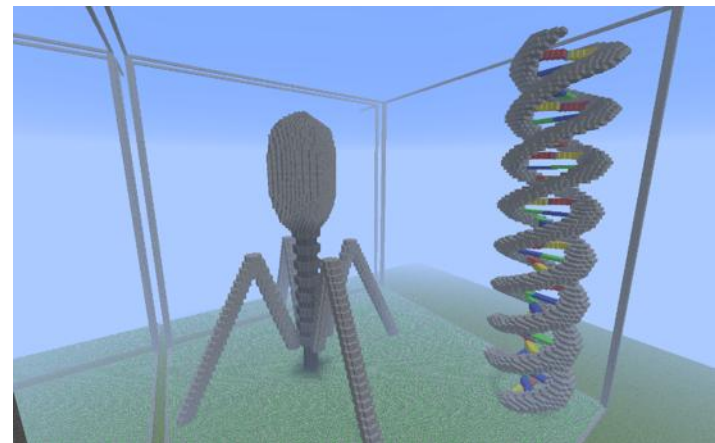




# Changing the way children demonstrate their learning







Introducing . . .

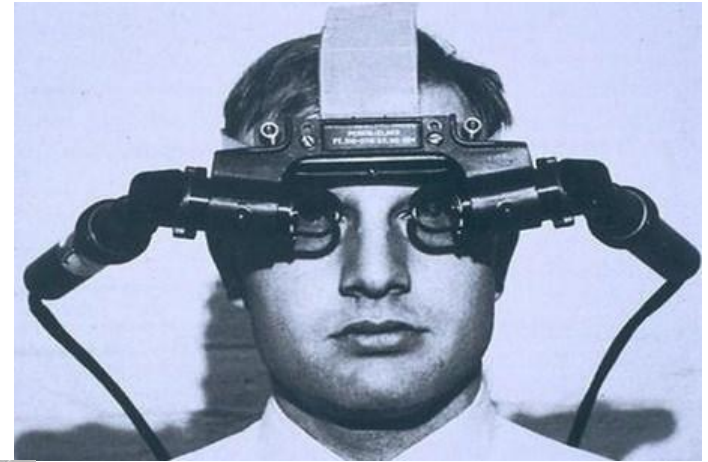
# sensorama

The Revolutionary Motion Picture System  
that takes you into another world  
with

- 3-D
- WIDE VISION
- MOTION
- COLOR
- STEREO-SOUND
- AROMAS
- WIND
- VIBRATIONS



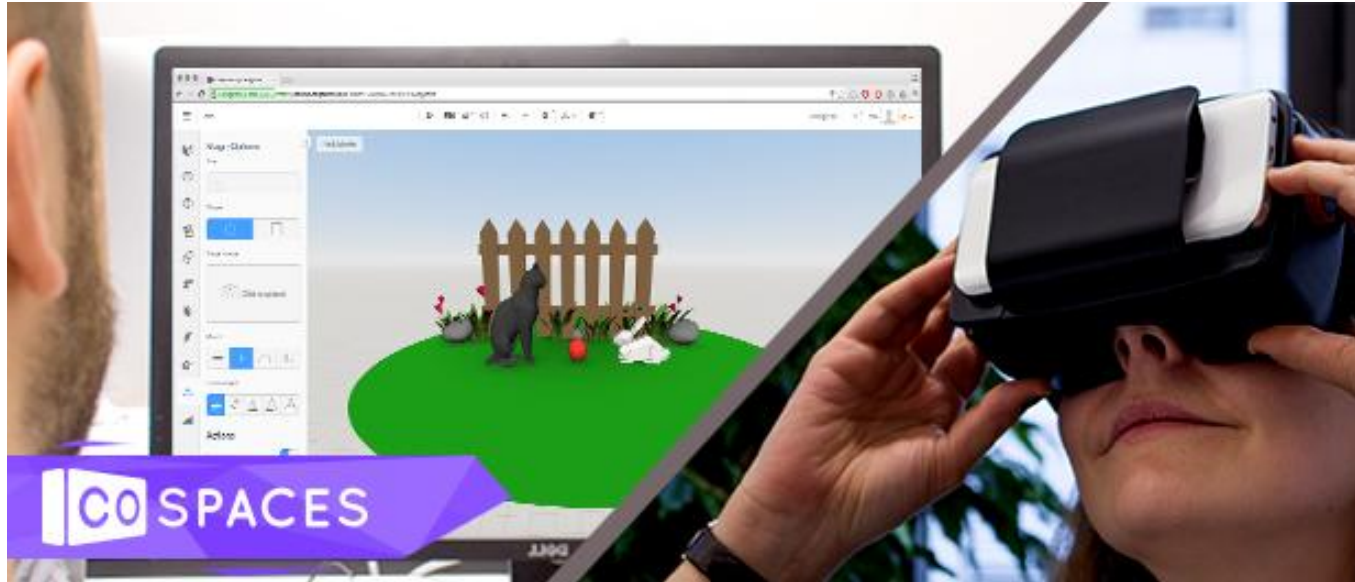
SENSORAMA, INC., 855 GALLOWAY ST., PACIFIC PALISADES, CALIF. 90272  
TEL. (213) 459-2162











**TALEBLAZER** editor

Save New Game **Parasite Race**

World Map Agents Player

Download Summary Error Check

drag to scroll Copy Cut Paste

Trash

**Agent Dashboard**

**Copepod**

Description: Copepod is the intermediate host for tapeworm.

Settings

Location: Main X: 63 Y: 139

Accessibility: ☒ Agent is included at start ☐ Agent is NOT included at start ☐ Password protect actions

Inventory Settings: ☐ Can be picked up ☐ Can be dropped [Bump Settings](#)

**Scripts for Copepod**

```
when player bumps Copepod
  if player is a Tapeworm and used of me (Copepod) < 100
  then
    Eggs of player < 100
    then
      say "You have to lay eggs before you can infect this host!"
    else
      if Probability of player > pick random 0 to 100
      then
        change used of me (Copepod) by 100
        say "Congratulations - perch is your next intermediate host. Your infection probability has decreased so you need to raise them again to be able to infect."
        include Form cysts in world
        set Probability of player to 0
        set Eggs of player to 0
      else
        change Probability of player by 10
        say "You didn't succeed in infecting. Due to the unsuccessful try, your probability has gone down."
    else
      say "This host isn't useful to you now."
```



## Comparing Traditional Education with using 3D Virtual Learning




100%

Attention levels **doubled** (92% vs 46%)

Ref: <http://www.bbc.co.uk/news/technology-15115059>

## Comparing Traditional Education with using 3D Virtual Learning



Test scores increased by **35%**

Ref: <http://www.dlp.com/downloads/DLP-CaseStudy-Classroom3.pdf>

## Comparing Traditional Education with using 3D Virtual Learning



86%

of students *improved test results*

Ref: <http://www.bbc.co.uk/news/technology-15115059>





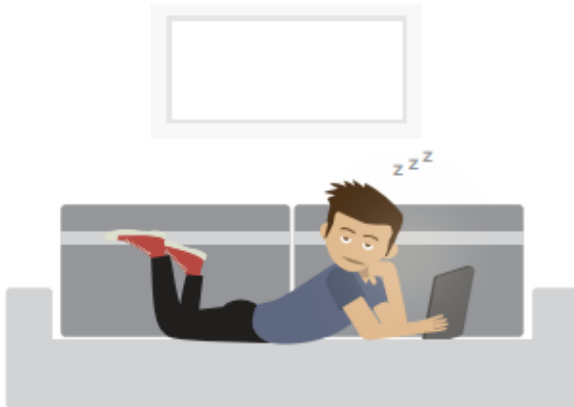
# Children learning outside school



# Passive Consumer to Active Creator



Simply consuming media or completing digitized worksheets falls short.



PASSIVE USE



ACTIVE USE



# Challenges



# Questions? Observations? Reflections?

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