

# Recursos educativos de la NASA



para maestros, padres y alumnos

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# Sobre mi

## Javier Montiel Garcia



- Cuernavaca Morelos
- 13 años en educación pública en BISD
- 2007 en proyectos educativos relacionados con NASA
- 2011 outreach en México



# Recursos educativos

## Objetivo



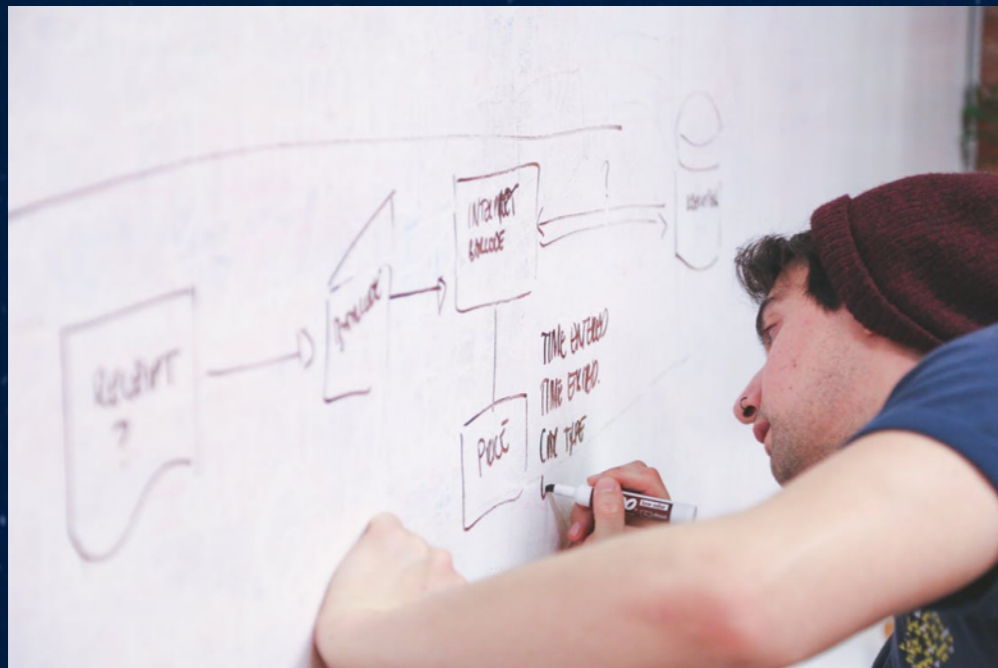
Dar a conocer recursos y materiales en línea de la NASA para estimular y desarrollar competencias educativas en maestros, padres y alumnos.

Identificar el tipo de recursos que hay dentro de los servidores de la NASA y sus asociados.



# Competencias Educativas

¿Qué son las competencias educativas?

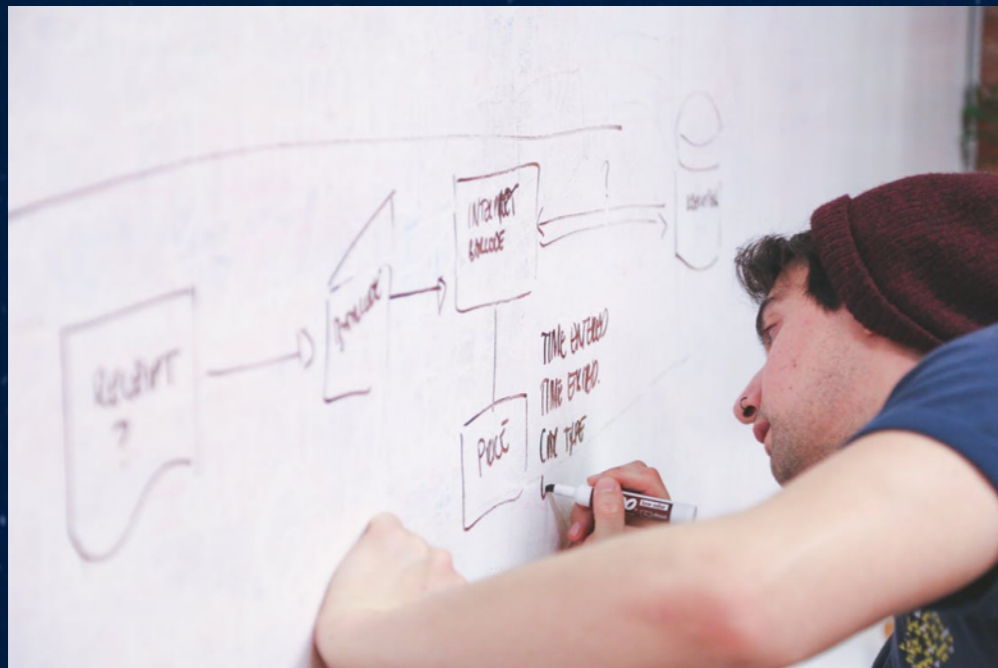


Modelo basado en competencias laborales desarrollado en los 70's en los 80's se adquiere en la academia y en los 90's se elaboran marcos educativos.



# Competencias Educativas

## ¿Qué son las competencias educativas?



*“Una competencia es la integración de conocimientos, habilidades, actitudes y valores que permite a una persona desenvolverse de manera eficaz en diversos contextos y desempeñar adecuadamente una función, actividad o tarea.”*



# Competencias Educativas

¿Qué son las competencias educativas?



*"Online competency-based education stands out as the innovation most likely to disrupt higher education."*

Dr. Clayton Christensen, Harvard Business School, Innosight



# Competencias Educativas

## Las competencias son integrales



saber

saber hacer

saber ser y estar



# Competencias Educativas

## Experiencias educativas por medio del video juegos.



### American Psychological Association

- Beneficio cognitivo: Se ha demostrado que los juegos mejoran la atención, el enfoque y el tiempo de reacción.
- Beneficio motivacional: Los juegos fomentan una teoría incremental, en lugar de una entidad, de la inteligencia.
- Beneficio emocional: los juegos inducen estados de ánimo positivos; Y hay pruebas especulativas de que los juegos pueden ayudar a los niños a desarrollar la regulación emocional adaptativa.
- Beneficio social: Los jugadores son capaces de traducir las habilidades prosociales que aprenden de co-playing o multijugador a "par y relaciones familiares fuera del entorno de juego".



# Competencias Educativas

## Desarrollando competencias en la infancia



Experiencias educativas por medio del juego.



# Recursos educativos de la nasa

## Promoviendo competencias



- Competencias Genéricas (ayudan a comprender el mundo)
- Competencias Disciplinarias (habilidades académicas)
- Competencias Laborales y Profesionales (procesos de orden superior)



# Competencias genéricas y Disciplinarias

## education física

### **Train Like An Astronaut**

Out-of-this-world activities for a healthier generation of kids



<https://www.nasa.gov/audience/foreducators/trainlikeanastronaut/home/index.html>



<https://trainlikeanastronaut.org>



# Competencias genéricas y Disciplinarias

## Vocabulario



<https://www.txstate-epdc.net/epdc-post/space-loteria/>

### Vocabulary Gap

Professional educators know that the amount of background knowledge our students have may rely a great deal on their cultural differences and their economic status (Tileston & Darling, 2008)

<https://goo.gl/D7zAKz>



# Competencias genéricas y Disciplinarias

## lecciones escolares



<https://www.jpl.nasa.gov/edu/teach/>



<https://goo.gl/FYsNYt>



[http://www.esa.int/Education/Teach\\_with\\_Rosetta](http://www.esa.int/Education/Teach_with_Rosetta)



<https://www.nasa.gov/audience/foreducators/stem-on-station/lessons>



# Competencias genéricas y Disciplinarias

## lecciones escolares



<https://education.jsc.nasa.gov/explorers/>



<http://www.spacestationexplorers.org/programs/>





# Competencias genéricas y Disciplinarias

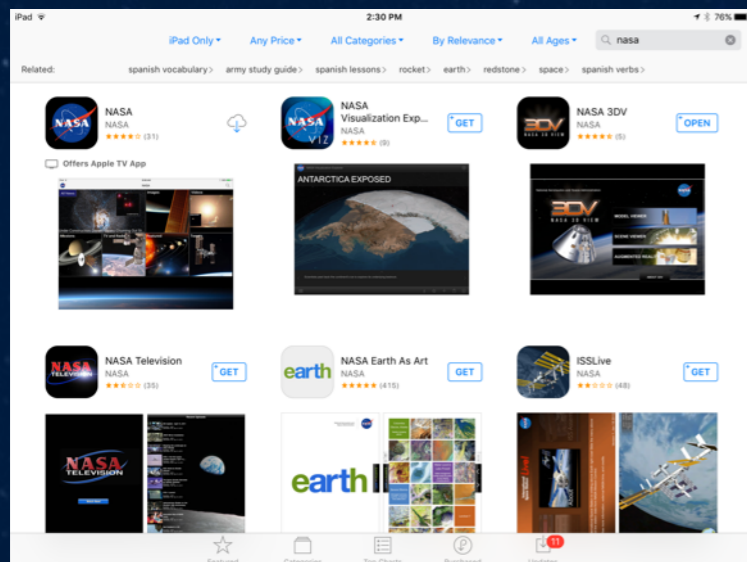
## Juegos educativos

**NASA Space Place**  
Explore Earth and Space!

<https://spaceplace.nasa.gov/menu/play/>

**NASA Kids' Club**

<https://www.nasa.gov/kidsclub/index.html>



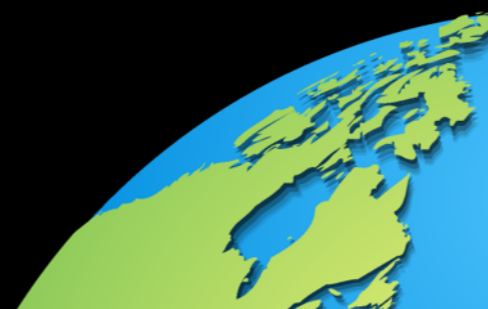
<https://www.nasa.gov/connect/apps.html>

<https://www.jpl.nasa.gov/apps/>



# Competencias genéricas y Disciplinarias

## Technology transfer program



**\$1 = \$7 - \$14**

<https://spinoff.nasa.gov>

<https://technology.nasa.gov>



# Competencias genéricas y Disciplinarias

## Imágenes, audio y video

NASA Image and  
Video Library



<https://images.nasa.gov>

Copyright

<https://www.nasa.gov/multimedia/guidelines/index.html>



# Competencias genéricas y Disciplinarias

## tecnologías emergentes



Realidad aumentada



Realidad virtual

Google Expeditions



# Competencias genéricas y Disciplinarias

## tecnologías emergentes



### Tours virtuales del ISS

<http://www.spacestationexplorers.org/explore/iss/>

<http://esamultimedia.esa.int/multimedia/virtual-tour-iss/>

<https://nasa3d.arc.nasa.gov/visualizations/ssg>



### Recursos 3D para imprimir o visualizar

<https://nasa3d.arc.nasa.gov/>



# Competencias genéricas y Disciplinarias

## simuladores



<https://eyes.nasa.gov/curiosity/>

## Spacesuits and Spacewalks



<https://www.nasa.gov/audience/foreducators/spacesuits/simulation/>



# Competencias genéricas y Disciplinarias

## Legos in Space



<https://www.lego.com/en-US/campaigns/mission-to-space-with-nasa/earth>



# Competencias genéricas y Disciplinarias

## International Space Station



<https://spotthestation.nasa.gov>



<http://www.issabove.com/>



# Competencias genéricas y Disciplinarias

## WGBH and NASA

<http://stemforall2017.videohall.com/presentations/1045>

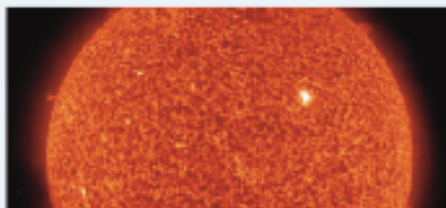


New Digital Resources for Earth and Space Sciences, produced by WGBH and **AVAILABLE NOW** on PBS LearningMedia!

Developed through WGBH's Bringing the Universe to America's Classrooms project, in collaboration with NASA\*, these new resources feature innovative media formats including satellite images and data visualizations. They are also fully supported with materials such as background essays, teaching tips, and student handouts.

Here are just some examples from the resource collection...

**K-2**



**3-5**



**North American Rivers  
and Their Widths**

<http://bit.ly/RiverWidths>

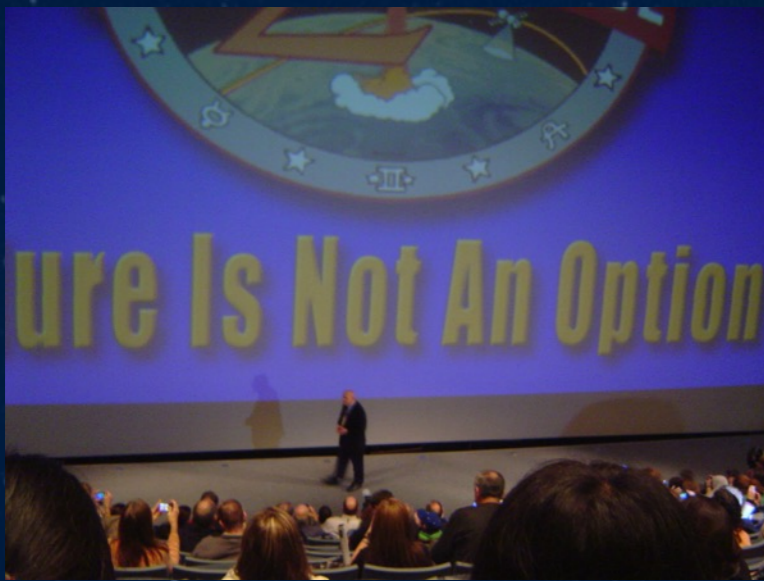
The size of a river is traditionally



# Competencias laborales y profesionales

## Oportunidades para maestros

SEEC Space Exploration Educators Conference



<https://spacecenter.org/teacher-programs/teachers-seec/>



# Competencias laborales y profesionales

## Competencias para alumnos



**International MATE Competition**

<https://www.marinetech.org/>



**Rover Challenge**

<https://www.nasa.gov/roverchallenge/>

[https://www.nasa.gov/directorates/spacetech/centennial\\_challenges/index.html](https://www.nasa.gov/directorates/spacetech/centennial_challenges/index.html)



# Competencias laborales y profesionales

## Oportunidades para maestros

2018 application portal  
opens in September 2017



**Honeywell  
Educators at  
Space Academy**

<https://educators.honeywell.com>



<https://www.txstate-epdc.net/k-12-educator/>



# Competencias laborales y profesionales

## Oportunidades para maestros



<http://neon.intronetworks.com>

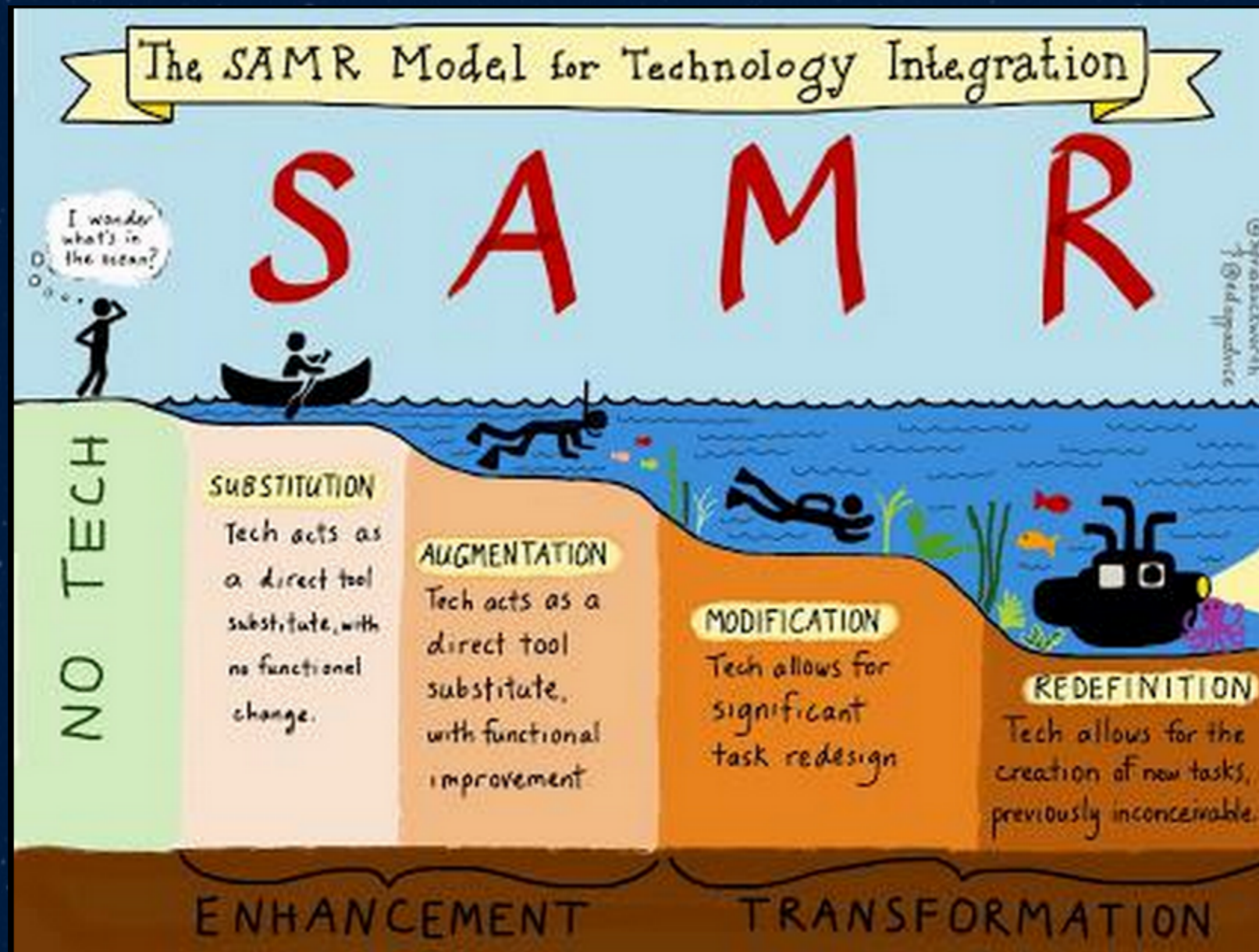
Full Calendar							July 2017 < >				
Sun	Mon	Tue	Wed	Thu	Fri	Sat					
Grant Competition -- USAID Development Innovation Ventures	25 3 events	26	Free Webinar -- Journey to Mars: Rockets	27 2 events	28 2 events	29	NASA Space Technology Mission Directorate -- Research Grant Opportunity for Early Stage Innovations	30 1	'CineSpace' Short Film Competition		
Infiniscope Launches First Digital Learning Experience -- Where are the small worlds?	2 2 events	3		4	Free Webinar -- Assessing Student Work During an Engineering Design Challenge	5	Free Webinar -- NASA Engineering Design Process 101: An Introduction to Classroom Application	6	7 2 events	8	
2 events	9	Teacher Professional Development Programs at the NASTAR Center	10	Free Webinar -- Lunar Phases and Student Misconceptions	11	12 2 events	13	Free Lecture -- Five Years of Exploring Gale Crater With the Curiosity Mars Rover	14	Smithsonian's National Air and Space Museum Family Day -- Your Eclipse	15
2 events	16	NASA's Digital Learning Network Virtual Visit -- LEGO and NASA Engineering	17	Lecture From Smithsonian's National Air and Space Museum - Remembering John Glenn: The Man and the	18	19	20	Mars Day! 2017 at the Smithsonian's National Air and Space Museum	21	22	
Help NASA Search the Realm Beyond Neptune at Backyard Worlds: Planet 9	23	24	25 2 events	26	27	28	29	30	31		
30 2 events	31	Be a Citizen Scientist With the 'Aurorasaurus' Project	1	2	3	4	Free Tour at NASA's Glenn Research Center -- Photovoltaic Lab	5			

<https://www.nasa.gov/offices/education/calendar/>



# Competencias laborales y profesionales

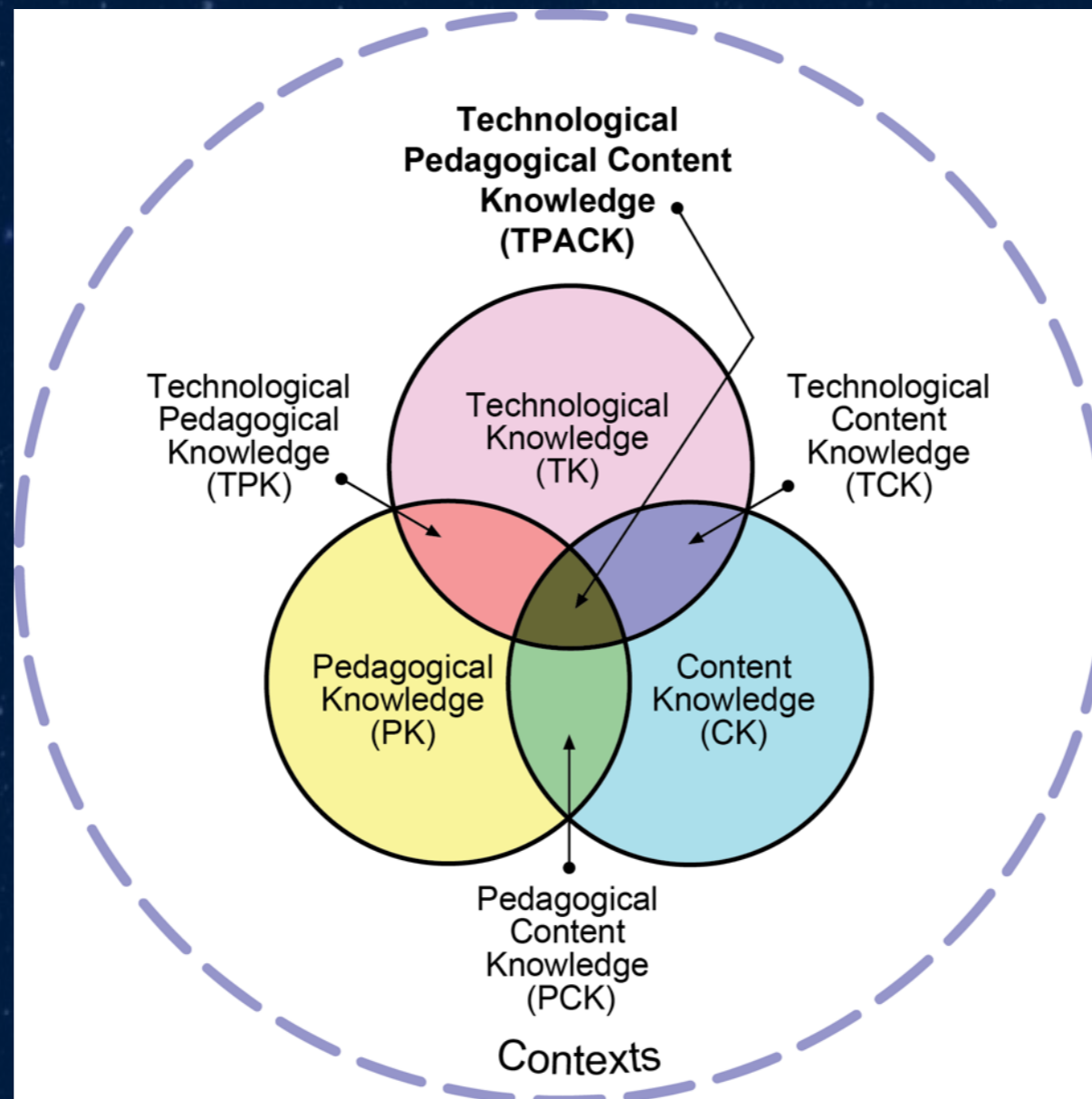
## Evaluation de Tecnologias educativas





# Competencias laborales y profesionales

## Evaluation de Tecnologias educativas



<http://www.tpack.org>

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# Competencias laborales y profesionales

## Evaluation de Tecnologias educativas

Office of Educational Technology at the U.S. Department of Education

<https://edtechrce.org/>



ED TECH RCE COACH Javier Montiel

[BACK TO DASHBOARD](#)

EVALUATING START DATE  
7/7/2017

**NASA apps** [Edit](#) STATUS  
0% Completed

<a href="#">GETTING STARTED</a>	<a href="#">PLANNING YOUR RESEARCH</a>	<a href="#">PREPARING YOUR DATA</a>	<a href="#">ANALYZING YOUR DATA</a>	<a href="#">SUMMARIZING YOUR FINDINGS</a>
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# Gracias

“

Technology alone does not transform learning; rather, technology helps enable transformative learning.

[TECH.ED.GOV/NETP](https://tech.ed.gov/netp)



# credits

## **Print marker and logo NASA**

K-12 Educator I NASA EPDC. (n.d.). Retrieved July 07, 2017, from <https://www.txstate-epdc.net/k-12-educator/>

CBEinfo.org. (n.d.). Retrieved July 07, 2017, from <http://www.cbeinfo.org/>

CBEinfo.org. (n.d.). Retrieved July 07, 2017, from <http://www.cbeinfo.org/>