

ASTRONOMY EDUCATION ADVENTURE IN THE CANARY ISLANDS

Astro-Journeys: a voyage through the Universe

AEACI 2026

XI INTERNATIONAL SUMMER SCHOOL

20-24 JULY



NUCLIO



ELLINOGERMANIKI
AGOGI



ESIA
European School Initiative Academy

FAULKES
TELESCOPE
PROJECT



esa



- L'AEACI (Astronomy Education Adventure in the Canary Islands) è una SCUOLA ESTIVA INTERNAZIONALE dedicata alla formazione dei docenti.
E' organizzata dallo IAC-Instituto de Astrofísica de Canarias ed è tenuto a San Cristóbal de La Laguna, sull'isola di Tenerife.
(Sito internet dello IAC: <https://www.iac.es/en>)
- Collaboratori principali
<https://nuclio.org/> Ente di formazione
<https://www.cyu.fr/> Università Cergy di Parigi
<https://france.handsonuniverse.org/> Associazione francese
<https://www.schoolsobservatory.org/> Piattaforma educativa gratuita di astrofisica
<https://cesar.esa.int/> Programma educativo sviluppato dall'Agenzia Spaziale Europea
<https://outreach.iac.es/peter/> PETeR: Proyecto Educativo Telescopios Robóticos è un Laboratorio online



WALK TO WARM UP

STEP 1: Random walk

Start moving randomly in the room.
Feel your feet, feel the pressure you're exerting on the ground and the pressure coming from the ground
Walk faster....
Walk slower
Stop... and feel...
Start again... and feel...
Stop...

PASSO 1: Camminata casuale

Camminate sparsi nello spazio assegnato
Immaginatevi un filo che parte dalla nuca e va perpendicolare al cielo, abbassate bene le spalle.
Percepите i vostri piedi, la pressione che esercitano sul terreno, concentratevi bene sul movimento della suola dei vostri piedi
Camminate veloci, poi lentamente
Fermatevi... Cosa avete percepito...
Ripartite... ascoltate bene tutte le sensazioni
Poi rifermatevi

STEP 2: Guided walk

Make two lines along the largest size of the room

At the start half of the participants in row A will move more quickly toward row B, while the other half will walk more slowly toward row B

The participants in row B observe. Then swap roles.

STEP 3: Clap walk

Take the next step when you hear a clap.

Half of the participants in row A will walk fast to the beat while the other half will walk slowly.

Row B observes, then switch roles.

Finally lead a reflection on the exercise.

PASSO 2: Camminata guidata

Disponetevi in due file, una di fronte all'altra
Al via la metà dei partecipanti della fila A si muoverà più velocemente verso la fila B, mentre l'altra metà camminerà più lentamente verso la fila B;

I partecipanti della fila B osservano. Poi scambiarsi di ruolo.

PASSO 3: Camminata con battito di mani

Ora camminerete rispettando il battito delle mani.

Metà dei partecipanti della fila A cammineranno veloci al battito, mentre l'altra metà camminerà lentamente. La fila B osserva, poi invertite i ruoli.

Infine fate riflettere sull'esercizio

CONCLUSIONI

STEP 1: To change velocity, our feet need to interact with the ground..

STEP 2: Different speeds with a constant distance covered at each step, result in different durations for each step

STEP 3: Different speeds with a constant time interval result in different distances travelled

SO: Speed depends on distance and duration

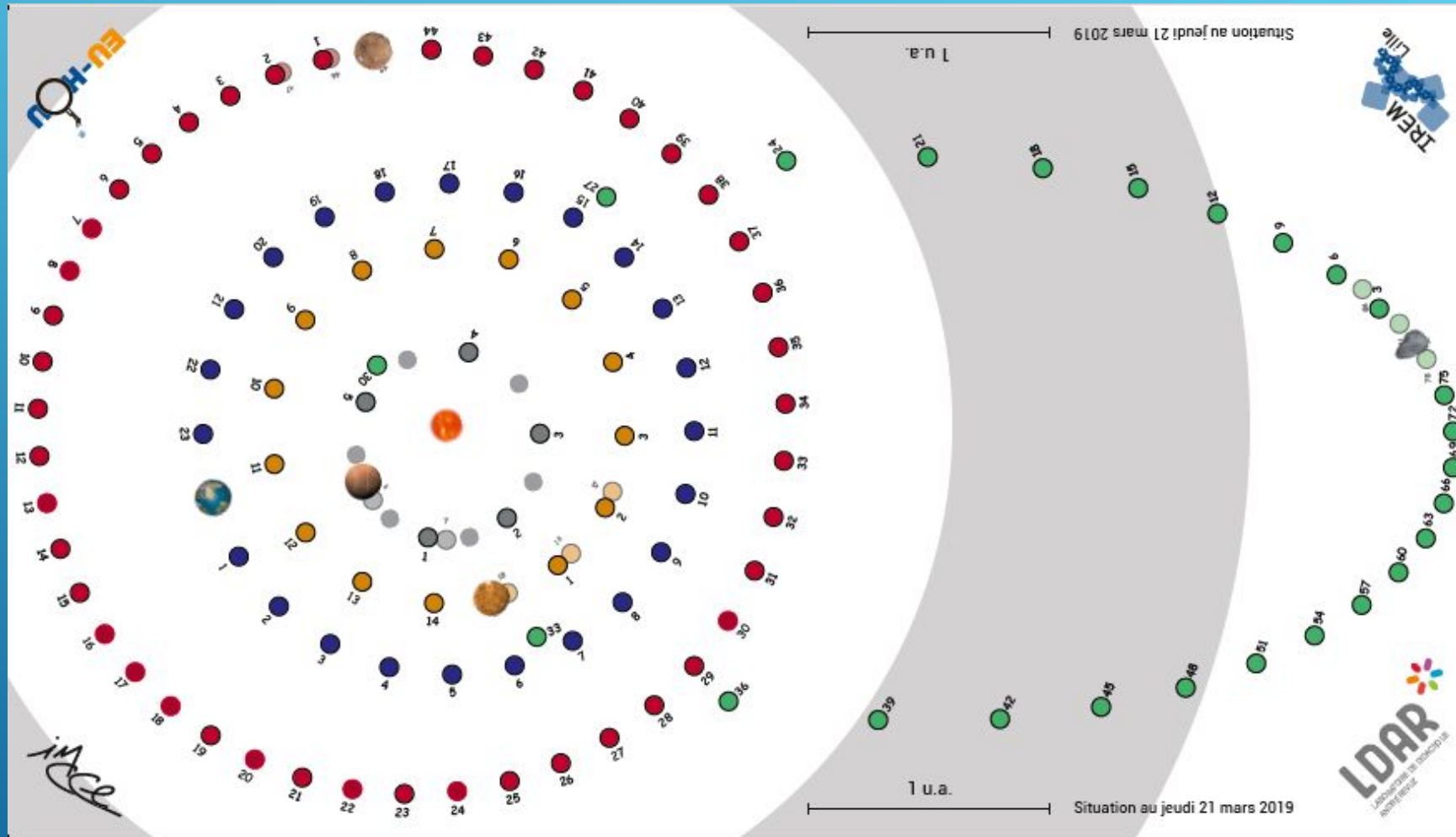
PASSO 1: Per cambiare velocità i nostri piedi devono interagire con il terreno...

PASSO 2: Velocità diverse con una distanza costante percorsa ad ogni passo, si traducono in durate diverse per ogni passo

PASSO 3: Velocità diverse con un intervallo di tempo costante si traducono in distanze diverse percorse

QUINDI: La velocità dipende dalla distanza e dalla durata

FROM WALK TO WARM UP TO HUMAN ORRERY



Esempio di PLANETARIO UMANO:

<https://www.youtube.com/watch?v=Kx-bhIYUiPw&t=45s>

TEACHERS SHARING JOURNEYS



Among the Stars with the Little Prince

Etwinning Project 2025-26

Discovery Kids School(Rm. Vâlcea), **Școala Gimnazială „Nicolae Bălcescu”**(com. Nicolae Bălcescu), and **Seminarul Teologic „Sf. Nicolae”** (Rm. Valcea, Romania);
Avgouleia Linardatou Kindergarten (Greece);
Yucel Celikbilek Imam Hatip Secondary School (Turkey);
IC2 SASSUOLO NORD Vittorino da Feltre (Italy),
Escola Antoni Brusi (Spain).

CREATION OF LEARNING SCENARIOS

What are the Big Ideas...

11 big Ideas

1 *Astronomy is one of the oldest sciences in human history*

2 *Astronomical phenomena can be experienced in our daily lives*

3 *The night sky is rich and dynamic*

4 *Astronomy is a science that studies celestial objects and phenomena in the Universe*

5 *Astronomy benefits from and stimulates technology development*

6 *Cosmology is the science of exploring the Universe as a whole*

7 *We all live on a small planet within the Solar System*

8 *We are all made of stardust*

9 *There are hundreds of billions of galaxies in the Universe*

10 *We may not be alone in the Universe*

11 *We must preserve Earth, our only home in the Universe*

ASTRO JOURNEYS SUMMER SCHOOL INCLUSION CARDS
Design missions where everyone explores, participates and achieves.

CARD CATEGORIES

- LEARNING & COGNITIVE VARIABILITY
- COMMUNICATION VARIABILITY
- PHYSICAL & SENSORY VARIABILITY
- MOTIVATION & ENGAGEMENT
- INCLUSION & EQUITY CHALLENGES
- MISSION REALITY CHALLENGES (TEAM)

LEARNING & COGNITIVE VARIABILITY

- A Dyslexia**
 - Thinks in big ideas
 - Benefits from visuals
 - Needs extra reading time
- B ADHD**
 - Creative and energetic
 - Easily distracted
 - Benefits from movement and short tasks
- C Autistic learner**
 - Strong attention to detail
 - Prefers routines
 - Needs clear structure
- D Processing speed challenges**
 - Needs more time
 - Processes information at own pace
 - Benefits from chunking
- E Working memory difficulties**
 - Forgets steps easily
 - Benefits from reminders
 - Needs repetition
- F Dyscalculia**
 - Struggles with numbers
 - Understands concepts
 - Benefits from visual supports

COMMUNICATION VARIABILITY

- G Newly arrived student**
 - Learning a new language
 - Needs simple language
 - Benefits from visuals and gestures
- H Shy communicator**
 - Quiet in groups
 - Needs wait time
 - Benefits from small group work
- I Hearing impairment**
 - Benefits from visual supports
 - Prefers written instructions
- J Speech difficulties**
 - Strong ideas
 - Needs alternative ways to express
- K Uses AAC tools**
 - Communicates using AAC
 - Give time to respond
 - Supports inclusion

PHYSICAL & SENSORY VARIABILITY

- L Wheelchair user**
 - Full of ideas
 - Needs accessible spaces
 - Values independence
- M Low vision**
 - Benefits from large print
 - Needs high contrast
 - Prefers clear layouts
- N Colour blindness**
 - Sees the world differently
 - Needs info not coded by colour
- O Sensitive to noise**
 - Easily overwhelmed by noise
 - Needs quiet breaks
 - Benefits from choice
- P Fine motor difficulties**
 - Struggles with small movements
 - Needs alternative tools and options

MOTIVATION & ENGAGEMENT

- Q Passionate about astronomy**
 - Highly motivated
 - Connect to real topics
 - Enjoys sharing knowledge
- R Not interested in astronomy**
 - Needs relevance
 - Connect to real life
 - Offer meaningful choices
- S Anxious about mistakes**
 - Fears judgement
 - Needs reassurance
 - Benefits from safe practice
- T Needs frequent movement**
 - Learns best with movement
 - Needs active breaks
 - Benefits from hands-on tasks
- U Seeks challenge**
 - Enjoys complex tasks
 - Needs extension
 - Thrives with open problems

INCLUSION & EQUITY CHALLENGES

- AA Cannot participate after school**
 - Has transport or schedule limits
 - Needs in-school opportunities
- AB Limited access to technology**
 - No device at home
 - Needs offline options
 - Needs flexible deadlines
- AC Caregiver responsibilities**
 - Has responsibilities at home
 - Needs support
 - May be tired
- AD Recent life change**
 - Adjusting to change
 - Needs patience
 - Benefits from support
- AE Misses school for appointments**
 - Misses learning time
 - Needs catch-up support
 - Benefits from recordings

MISSION REALITY CHALLENGES (TEAM)

- 1 Cloudy night - observations cancelled**
- 2 Telescope unavailable**
- 3 Internet connection lost**
- 4 Telescope queue delayed**
- 5 Remote participant joins online**
- 6 Team has only one laptop**
- 7 Observation window shortened**
- 8 Data set contains missing values**
- 9 New student joins on Day 3**
- 10 Equipment failure**

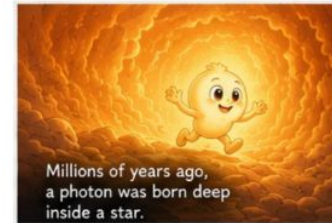
DESIGN INCLUSIVE ASTRONOMY LEARNING EXPERIENCES WHERE EVERY LEARNER CAN EXPLORE, INVESTIGATE AND DISCOVER.

Use these cards with UDL 3.0 considerations to design better learning experiences for all.

WE ARE ALL MADE OF STURDUST

SIAMO FATTI DI POLVERE DI STELLE

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Milioni di anni fa, un fotone nasce nel profondo di una stella.



Rimbalzava e rimbalzava, attraverso gas caldo e affollato



Dopo molto tempo trovò finalmente la via d'uscita.



Irruppe nello spazio: la sua grande avventura ebbe inizio.



Attraversò il vasto vuoto dello spazio...



...attraversò campi stellari e nebulose colorate...

https://padlet.com/bia_boros/stardust-element-matching-body-mapping-gx00d7mkmxhvwvvh