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GHID DE ABORDĂRI PRACTICE ȘI INSTRUMENTE DE PREDARE PENTRU DEZVOLTAREA ABILITĂȚILOR DIGITALE ȘI SOCIALE PRIN ACTIVITĂȚI SUSTENABILE



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I. Descrierea proiectului

„**A daring teacher in a daring environment** ”creează o atmosferă dinamică de învățare în care creativitatea și gândirea critică prosperă. Acest profesor nu se teme să conteste metodele convenționale, încurajând elevii să exploreze idei noi și să își asume riscuri intelectuale. Aceștia ar putea implementa proiecte neconvenționale, pot promova discuții deschise despre subiecte controversate sau pot integra rezolvarea problemelor din lumea reală în curriculum.

Într-un astfel de mediu, elevii se simt împuterniciți să-și exprime gândurile și să depășească limitele. Abordarea profesorului ar putea include:

1. **Învățare bazată pe proiecte**: Atribuirea proiectelor care necesită colaborare și inovare, împingând elevii să gândească în afara cutiei.

2. **Metode interdisciplinare**: Îmbinarea subiectelor pentru a evidenția conexiunile și a încuraja înțelegerea holistică.

3. **Dialog deschis**: Crearea unei culturi în clasă în care toate opiniile sunt apreciate, promovând dezbaterea și discuția respectuoasă.

4. **Experiențe pe teren**: Învățarea dincolo de sala de clasă prin excursii pe teren, vorbitori invitați sau implicarea comunității.

5. **Asumarea riscurilor**: Încurajarea elevilor să accepte eșecul ca pe o oportunitate de învățare, încurajând reziliența și adaptabilitatea.

În cele din urmă, un profesor care își depășește zona de confort, într-un astfel de mediu îi inspiră pe elevi să fie creativi și pragmatici și participanți activi la propria lor călătorie de învățare.

Deschiderea europeană a școlii prin proiecte și parteneriate europene este o abordare esențială pentru dezvoltarea competențelor elevilor și pentru integrarea valorilor europene în educație. Iată câteva modalități prin care se poate realiza această deschidere:

De ce am aplicat acest proiect?

1. **Pentru o deschidere europeană a școlii prin proiecte, parteneriate europene**

Deschiderea europeană a școlii prin proiecte și parteneriate europene este o abordare esențială pentru dezvoltarea competențelor elevilor și pentru integrarea valorilor europene în educație. Iată câteva modalități prin care se poate realiza această deschidere:

1. **Proiecte Erasmus+**: Participarea la programele Erasmus+ permite elevilor și cadrelor didactice să colaboreze cu școli din alte țări europene, promovând schimbul de experiențe și bune practici.

2. **Parteneriate cu instituții educaționale**: Stabilirea de parteneriate cu școli sau universități din Europa pentru organizarea de proiecte comune, schimburi de elevi sau stagii de practică.

3. **Activități interculturale**: Organizarea de evenimente și activități care să celebreze diversitatea culturală, cum ar fi zilele culturale europene sau ateliere de artă și gastronomie din diferite țări.

4. **Curriculum interdisciplinar**: Integrarea temelor europene în curriculumul școlar, abordând subiecte precum istoria, cultura, politica și economia Uniunii Europene.

5. **Proiecte de cercetare și inovare**: Implicarea elevilor în proiecte de cercetare care vizează probleme europene contemporane, cum ar fi schimbările climatice, migrarea sau dezvoltarea durabilă.

6. **Utilizarea tehnologiei**: Folosirea platformelor digitale pentru colaborarea la distanță cu colegi din alte țări, facilitând astfel învățarea prin intermediul tehnologiei.

Aceste inițiative nu doar că îmbogățesc experiența educațională, dar contribuie și la formarea unor cetățeni europeni activi și conștienți de valorile și diversitatea continentului.

2. Abordarea sustenabilității in întreaga școala

Abordarea sustenabilității în întreaga școală implică integrarea principiilor de dezvoltare durabilă în toate aspectele educației, de la curriculum la gestionarea resurselor. Iată câteva modalități prin care o școală poate promova sustenabilitatea:

1. **Curriculum educațional**: Introducerea tematicilor legate de mediu, ecologie și sustenabilitate în orele de predare, prin proiecte interdisciplinare care să implice elevii în soluționarea problemelor de mediu.

2. **Activități practice**: Organizarea de ateliere, excursii sau proiecte comunitare care să încurajeze elevii să participe activ în inițiative ecologice, cum ar fi plantarea de copaci, reciclarea sau curățarea zonelor afectate de poluare.

3. **Managementul resurselor**: Implementarea unor politici de economisire a energiei și apei, reducerea consumului de plastic și utilizarea de materiale reciclabile în activitățile școlare.

4. **Grădini școlare**: Crearea unei grădini școlare sau a unui spațiu verde care să servească ca un loc de învățare practică despre agricultură sustenabilă, biodiversitate și ciclul natural.

5. **Parteneriate cu organizații ecologice**: Colaborarea cu ONG-uri sau instituții specializate în protecția mediului pentru a organiza sesiuni de formare și campanii de conștientizare.

6. **Promovarea unui stil de viață sustenabil**: Încurajarea elevilor și a personalului să adopte obiceiuri mai sustenabile, cum ar fi utilizarea transportului în comun, mersul pe jos sau utilizarea bicicletelor pentru a reduce amprenta de carbon.

7. **Evaluarea impactului**: Monitorizarea și evaluarea constantă a inițiativelor de sustenabilitate pentru a adapta și îmbunătăți abordările existente.

Prin integrarea acestor principii, școlile nu doar că contribuie la formarea unei generații mai conștiente de provocările ecologice, dar și creează un mediu educațional care promovează responsabilitatea față de planetă.

3. Îmbunătățirea cunoștințelor despre cum sa dezvoltăm competențele verzi la elevi

Îmbunătățirea cunoștințelor despre dezvoltarea competențelor verzi la elevi este esențială pentru formarea unei generații responsabile și conștiente de mediul înconjurător. Iată câteva strategii care au fost implementate în școală:

1. **Formare profesională pentru cadrele didactice**: Organizarea de cursuri și ateliere pentru profesori, axate pe educația ecologică și metodele de predare care integrează competențele verzi.

2. **Curriculum bazat pe competențe**: Integrarea tematicilor de sustenabilitate în toate disciplinele, subliniind importanța economiei circulare, energiei regenerabile și protecției mediului.

3. **Proiecte practice**: Implicarea elevilor în proiecte hands-on, cum ar fi grădini comunitare sau campanii de reciclare, pentru a dezvolta abilități practice legate de sustenabilitate.

4. **Colaborări externe**: Stabilirea de parteneriate cu organizații ecologice, universități sau companii care promovează inițiative de mediu, oferind elevilor oportunități de învățare în contexte diverse.

5. **Activități extracurriculare**: Crearea de cluburi ecologice sau grupuri de voluntariat care să se concentreze pe probleme de mediu, încurajând elevii să participe activ la inițiative sustenabile.

6. **Tehnologie și educație digitală**: Utilizarea platformelor online și a resurselor digitale pentru a oferi informații și instrumente legate de sustenabilitate, facilitând astfel accesul la cunoștințe actualizate.

7. **Evaluarea impactului**: Încurajarea elevilor să analizeze și să reflecteze asupra impactului acțiunilor lor asupra mediului, dezvoltând astfel o mentalitate critică și responsabilă.

8. **Conferințe și evenimente**: Organizarea de conferințe sau evenimente în care elevii pot prezenta proiecte legate de sustenabilitate, promovând astfel schimbul de idei și bune practici.

Prin aceste strategii, se poate crea un mediu educațional care nu doar că dezvoltă competențe verzi, dar și cultivă o cultură a responsabilității ecologice în rândul elevilor.

4. Atitudine responsabilă față de mediu

O atitudine responsabilă față de mediu implică conștientizarea impactului acțiunilor noastre asupra naturii și asumarea responsabilității pentru a proteja și conserva mediul înconjurător. Iată câteva aspecte esențiale ale acestei atitudini:

1. **Conștientizarea**: Informarea despre problemele de mediu, cum ar fi schimbările climatice, poluarea, pierderea biodiversității și resursele epuizabile.

2. **Reducerea consumului**: Adoptarea unui stil de viață mai sustenabil prin reducerea consumului de resurse, evitarea produselor de unică folosință și promovarea reutilizării.

3. **Reciclarea**: Implicarea activă în reciclare și separarea deșeurilor pentru a reduce cantitatea de gunoi și a valorifica materialele.

4. **Utilizarea resurselor regenerabile**: Promovarea utilizării energiei din surse regenerabile (soare, vânt, biomasă) și reducerea dependenței de combustibilii fosili.

5. **Mobilitate sustenabilă**: Alegerea mijloacelor de transport prietenoase cu mediul, cum ar fi mersul pe jos, bicicleta, transportul în comun sau mașinile electrice.

6. **Grijă față de natură**: Implicarea în activități de conservare, cum ar fi plantarea de copaci, curățarea spațiilor verzi sau protejarea habitatelor naturale.

7. **Educația ecologică**: Împărtășirea cunoștințelor despre mediu cu alții și încurajarea discuțiilor despre sustenabilitate în comunitate.

8. **Suport pentru politici ecologice**: Implicarea în inițiative și campanii care promovează politici de mediu durabile la nivel local, național sau internațional.

Adoptarea unei atitudini responsabile față de mediu nu doar că contribuie la protejarea planetei, dar și îmbunătățește calitatea vieții și creează un viitor mai bun pentru generațiile următoare.

5. Cum să depășim provocările efectelor climatice

Depășirea provocărilor generate de efectele climatice necesită o abordare integrată și colaborativă. Iată câteva strategii cheie implementate în școală:

1. **Educația și conștientizarea**: Crearea de programe educaționale care să informeze comunitățile despre schimbările climatice și efectele lor, promovând o cultură a responsabilității ecologice.

2. **Adaptarea infrastructurii**: Modernizarea și adaptarea infrastructurii pentru a rezista la extremele climatice, cum ar fi inundațiile, caniculele și furtunile. Aceasta include construirea de sisteme de drenaj eficiente și îmbunătățirea construcțiilor.

3. **Practici agricole sustenabile**: Promovarea agriculturii durabile, care să reducă emisiile de carbon și să conserve resursele de apă. Tehnici precum rotația culturilor și utilizarea de plante rezistente la secetă pot fi esențiale.

4. **Energie regenerabilă**: Investiții în surse de energie regenerabilă, cum ar fi solară, eoliană sau hidroenergetică, pentru a reduce dependența de combustibilii fosili și a diminua emisiile de gaze cu efect de seră.

5. **Planificarea urbană sustenabilă**: Crearea de orașe și comunități mai reziliente prin planificarea spațiilor verzi, reducerea poluării și promovarea mobilității durabile, cum ar fi transportul în comun și bicicletele.

6. **Gestionarea resurselor de apă**: Implementarea unor strategii eficiente de gestionare a apei, inclusiv sisteme de colectare a apei de ploaie și tehnici de irigare eficiente.

7. **Colaborarea internațională**: Participarea la inițiative și acorduri internaționale, cum ar fi Acordul de la Paris, pentru a coordona eforturile globale în combaterea schimbărilor climatice.

8. **Implicarea comunității**: Mobilizarea comunităților pentru a participa activ la soluționarea problemelor legate de climă prin campanii de plantare de copaci, curățenie și alte inițiative locale.

Prin adoptarea acestor strategii, putem construi comunități mai reziliente și mai capabile să facă față provocărilor provocate de schimbările climatice, contribuind în același timp la un viitor mai sustenabil.

6. Utilizarea tehnologiilor moderne și a uneltelor digitale, integrarea lor în lecții pentru predarea tematicilor legate de viitor sustenabil, economie circulară, schimbări climatice pentru a educa elevii să facă față provocarilor viitoare de orice fel.

Utilizarea tehnologiilor moderne și a uneltelor digitale în predarea tematicilor legate de viitorul sustenabil, economia circulară și schimbările climatice poate transforma experiența educațională și poate pregăti elevii să facă față provocărilor viitoare. Iată câteva metode eficiente de integrare:

1. **Platforme educaționale online**: Folosirea platformelor de învățare (precum Moodle sau Google Classroom) pentru a distribui materiale didactice, resurse multimedia și studii de caz relevante despre sustenabilitate.

2. **Proiecte colaborative**: Utilizarea instrumentelor digitale (ca Trello sau Slack) pentru a coordona proiecte în grup, în care elevii pot colabora pe teme de mediu, dezvoltând competențe de muncă în echipă.

3. **Simulări și jocuri educaționale**: Implementarea de simulări și jocuri interactive care să ilustreze principiile economiei circulare sau impactul schimbărilor climatice, ajutând elevii să înțeleagă conceptele într-un mod practic și atractiv.

4. **Resurse multimedia**: Utilizarea videoclipurilor, infograficelor și documentarelor pentru a ilustra problemele de mediu și soluțiile inovatoare, facilitând discuții interactive în clasă.

5. **Aplicații mobile**: Integrarea aplicațiilor mobile(iNaturalist) care oferă informații despre sustenabilitate, precum calculatoare de amprentă de carbon sau ghiduri de reciclare, pentru a încuraja un comportament responsabil.

6. **Proiecte de cercetare digitale**: Încurajarea elevilor să folosească instrumente de cercetare online pentru a explora problemele de mediu și soluțiile lor, dezvoltând abilități de analiză critică.

7. **Social media și campanii de conștientizare**: Utilizarea platformelor sociale pentru a crea campanii de conștientizare despre sustenabilitate, implicând elevii în activități care să promoveze schimbarea în comunitate.

8. **Webinarii și sesiuni online**: Organizarea de întâlniri virtuale cu experți în domeniul mediului pentru a discuta despre provocările actuale și soluțiile inovatoare, oferind elevilor perspective diverse.

Prin integrarea acestor tehnologii și unelte digitale în lecții, elevii nu doar că dobândesc cunoștințe teoretice, dar și abilități practice și competențe necesare pentru a aborda provocările viitoare în mod eficient și responsabil.

7. **Formarea elevilor pe teme de viitor durabil, green skills și exemple de bune practici pentru a deveni cetateni europeni informați corect și care să aibă soluții pentru provocările de mediu viitoare și cele tehnologice, parteneriate și proiecte școală-comunitate locală,campanii pe teme de mediu, viitor durabil și siguranță în mediul online/utilizarea responsabilă a instrumentelor digitale.Proiectul va forma profesori-elevi-parinți pentru dezvoltarea durabilă, europeană**.

Formarea elevilor pe teme de viitor durabil și competențe verzi este esențială pentru dezvoltarea unor cetățeni europeni informați și responsabili. Iată câteva strategii și exemple de bune practici pentru a realiza acest lucru, inclusiv parteneriate și proiecte între școală și comunitatea locală:

1. **Curriculum integrat**
   - **Teme de sustenabilitate**: Integrarea subiectelor precum schimbările climatice, economia circulară și utilizarea responsabilă a resurselor în curriculumul școlar.
   - **Proiecte interdisciplinare**: Promovarea proiectelor care combină științele sociale, științele naturale și tehnologia pentru a aborda provocările de mediu.

2. **Parteneriate comunitare**
   - **Colaborări cu ONG-uri**: Implicarea organizațiilor de mediu locale în proiecte educaționale și activități de voluntariat, cum ar fi curățarea parcurilor sau plantarea de copaci.

- **Evenimente comunitare**: Organizarea de târguri ecologice, ateliere de reciclare și conferințe despre sustenabilitate în colaborare cu autoritățile locale.

3. **Campanii de conștientizare**
- **Campanii școlare**: Elevii pot crea campanii pe teme de mediu, cum ar fi reducerea plasticului sau promovarea reciclării, utilizând postere, prezentări sau rețele sociale.
- **Participarea la zilele mondiale**: Implicarea elevilor în evenimente internaționale, precum Ziua Pământului sau Ziua Mediului, pentru a promova conștientizarea globală.

4. **Utilizarea responsabilă a instrumentelor digitale**
- **Educație digitală**: Formarea elevilor în utilizarea responsabilă a internetului, inclusiv securitate online, combaterea dezinformării și gestionarea identității digitale.
- **Platforme online**: Utilizarea platformelor digitale pentru colaborări între școli din diferite țări, facilitând schimbul de idei și bune practici.

5. **Formarea continuă a profesorilor și părinților**
- **Workshop-uri și seminarii**: Organizarea de sesiuni de formare pentru profesori și părinți pe teme de dezvoltare durabilă, educație ecologică și utilizarea tehnologiilor digitale în mod responsabil.
- **Resurse educaționale**: Crearea unui ghid de resurse și bune practici care să fie accesibil profesorilor și părinților.

6. **Proiecte de cercetare și inovare**
- **Proiecte de cercetare**: Incurajarea elevilor să participe la proiecte de cercetare care abordează problemele de mediu și soluții inovatoare, precum energia regenerabilă sau gestionarea deșeurilor.
- **Inovație socială**: Promovarea ideilor de afaceri verzi și inițiativele antreprenoriale care să contribuie la economia circulară.

7. **Evaluarea impactului și feedback-ul**
- **Evaluări regulate**: Monitorizarea și evaluarea impactului activităților educaționale și comunitare pentru a îmbunătăți continuu programul de formare.
- **Feedback de la comunitate**: Implicarea elevilor, profesorilor și părinților în procesul de evaluare, pentru a ajusta inițiativele și a răspunde nevoilor reale ale comunității.

Prin implementarea acestor strategii, proiectul va forma o comunitate educațională integrată, în care profesori, elevi și părinți colaborează pentru a promova dezvoltarea durabilă și cetățenia activă, contribuind astfel la un viitor mai sigur și mai responsabil.

Obiective:
1 : Dezvoltarea competențelor ce vizează formarea la elevi a abilităților verzi pentru cel puțin 12 profesori până la sfârșitul proiectului.
2 : Dezvoltarea competențelor digitale pentru 70% din profesorii școlii în vederea implementarii activităților despre durabilitate și efectele schimbărilor climatice pe perioada implementarii proiectului.

3 : Formarea și dezvoltarea de competente verzi pentru 70% din elevii scolii pe perioada derularii proiectului
4 : Creșterea motivației profesorilor pentru implementare de activități, tehnici și metode ce vizează educarea elevilor pentru viitor durabil, economie circulară și in domeniul digital.

Implementare

1. Sesiuni de formare pentru cate 4 profesori per curs:**"Green Skills for Education:environmental awareness and sustainability in the classroom**"Spania,"Sustainability-Teaching Eco Skills"Finlanda,"Agenda 2030:ICT Tools for Sustainable Development"Italia.
2. Activitati de **job-shadowing** pentru 4 profesori in Istanbul Turcia la Istanbul Ticaret Odasi Bilim ve Sanat Merkezi
3. **Mobilitati de grup pentru 10 elevi si 3 profesori** insotitori din învățământul gimnazial cu scopul de a învăța elevii despre educația pentru sustenabilitate. Obiectivul este de a dezvolta înțelegerea elevilor despre responsabilitatea lor față de mediul înconjurător și importanța vieții sustenabile.

Rezultate

1.Asupra copiilor: motivarea si interesul fata de activitatile desfasurate pe teme de mediu si durabilitate,sa isi dezvolte personalitatea,sa creasca stima de sine, rezultate mai bune la evaluari/testari/competitii,dezvoltarea competentelor digitale, lingvistice, sociale

2. Asupra cadrelor didactice: dezvoltarea personala, profesionala prin imbunatatirea competentelor necesare implementarii activitatilor verzi, pe durabilitate, ICT, crearea de materiale didactice pentru imbunatatirea activitatilor cu elevi(ghiduri, auxiliare, workshopuri, materiale didactice, filme).

3. Asupra parintilor: implicarea activa a parintilor in viata scolii prin activitati centrate pe nevoile copilului; prin abordarea stilului de viata sanatos promotor al viitorului durabil in vederea educarii viitorilor cetateni.

4.Asupra comunitatii: promovarea zonei culturale a partenerilor, bune practici; scoala-comunitate parteneriate pentru consolidarea relatiei dintre scoala si comunitatea locala repezentata prin ONG, institutii publice.

II. Ghid didactic pentru utilizarea tehnologiilor moderne în predarea tematicilor de viitor sustenabil

Introducere

Acest ghid oferă cadrelor didactice strategii și resurse pentru a integra tehnologiile moderne și uneltele digitale în lecțiile despre viitorul sustenabil, economia circulară și schimbările climatice. Scopul este de a educa elevii să facă față provocărilor de mediu și tehnologice.

1. **Planificarea lecțiilor**

a. Identificarea Obiectivelor
- Să înțeleagă principiile economiei circulare.
- Să analizeze impactul schimbărilor climatice asupra mediului.
- Să dezvolte soluții inovatoare pentru problemele de mediu.

b. Selectarea Tehnologiilor
- **Platforme de învățare online**: Google Classroom, Moodle.
- **Instrumente de colaborare**: Trello, Padlet, Suno
- **Resurse multimedia**: YouTube, Khan Academy.

2. **Activități Didactice**

a. Lecții Interactive
- **Utilizarea videoconferințelor**: Invitarea experților în mediu prin Zoom pentru a discuta despre sustenabilitate.
- **Simulări online**: Folosirea platformelor precum SimCity sau Minecraft pentru a construi orașe sustenabile.

b. Proiecte Colaborative
- **Proiecte de grup**: Elevii pot folosi Google Docs pentru a colabora la proiecte legate de soluții ecologice.
- **Crearea de campanii de conștientizare**: Utilizarea Canva pentru a crea materiale vizuale și postere pe teme ecologice.

3. **Resurse Didactice**

a. Site-uri Web și Platforme Educaționale
- **Economie circulară**: Ellen MacArthur Foundation (informații și resurse).
- **Schimbări climatice**: NASA Climate Change (date și studii de caz).

b. Aplicatii Mobile

Aplicații care ajută utilizatorii să adopte obiceiuri mai sustenabile și care promovează reducerea risipei alimentare.

4. **Evaluarea Cunoștințelor**

a. Evaluări Formative
- **Chestionare online**: Folosirea Kahoot! sau Google Forms pentru a evalua cunoștințele elevilor.
- **Proiecte de cercetare**: Evaluarea prin prezentări sau rapoarte scrise despre soluții pentru provocările de mediu.

b. Feedback și Reflecție
- **Discuții de grup**: Sesiuni de reflecție în care elevii discută despre ce au învățat și cum pot aplica cunoștințele în viața de zi cu zi.
- **Jurnale de învățare**: Elevii pot ține un jurnal digital în care să-și noteze gândurile și ideile despre sustenabilitate.

5. **Implicarea Comunității**

a. Parteneriate
- **Colaborări cu ONG-uri**: Implicarea organizațiilor locale pentru a organiza evenimente sau proiecte comune.
- **Campanii de mediu**: Elevii pot utiliza social media pentru a promova inițiative de protecție a mediului.

6. **Concluzie**

Acest ghid este un instrument util pentru cadrele didactice care doresc să integreze tehnologiile moderne în predarea tematicilor legate de viitorul sustenabil. Prin utilizarea acestor resurse și metode, elevii vor deveni cetățeni activi și responsabili, capabili să abordeze provocările de mediu și tehnologice ale viitorului.

III. Exemple de bună practică

Planificarea Lecțiilor

a. Identificarea Obiectivelor

1. **Înțelegerea principiilor economiei circulare**
   - Elevii vor învăța despre conceptul de economie circulară, diferențele față de economia liniară și importanța reutilizării și reciclării resurselor.
   - Activitate sugerată: Organizarea unei discuții de grup despre produse de zi cu zi care pot fi reutilizate sau reciclate.

2. **Analiza impactului schimbărilor climatice asupra mediului**
   - Elevii vor explora efectele schimbărilor climatice, inclusiv fenomenele extreme, pierderea biodiversității și impactul asupra ecosistemelor.
   - Activitate sugerată: Crearea unei prezentări multimedia care să ilustreze efectele schimbărilor climatice în diferite regiuni ale lumii.

3. **Dezvoltarea soluțiilor inovatoare pentru problemele de mediu**
- Elevii vor încuraja gândirea creativă și soluțiile inovatoare pentru a aborda provocările de mediu, cum ar fi poluarea, gestionarea deșeurilor și conservarea resurselor.
- Activitate sugerată: Realizarea unui proiect de grup în care elevii să propună un produs sau o soluție ecologică, pe care să o prezinte colegilor.

Exemplu de lecție

Profesor: Cristian Iulia
Disciplina: Consiliere și orientare
Clasa: a VI-a B
Tema: Economia Circulară
Obiectivele lecției:
- Să înțeleagă principiile economiei circulare.
- Să identifice exemple de economie circulară în viața cotidiană.
Activități:
1. Introducere (10 min)
- Prezentare generală a economiei circulare printr-un videoclip scurt și turul școlii pentru a observa cum se aplică economia circulară și ce sisteme se folosesc pentru a aplica acest concept în școală.
Prezentare Generală a Economiei Circulare

1. **Videoclip Scurt**
- **Obiectiv**: Să ofere o înțelegere clară a conceptului de economie circulară.
- **Conținut sugerat**:
  - **Definiția economiei circulare**: Explicarea diferenței dintre economia liniară („extrage, produce, aruncă”) și economia circulară („reduce, reutilizează, reciclează”).
  - **Principii cheie**: Sustenabilitate, reutilizare, reciclare, eficiența resurselor.
  - **Exemple**: Companii care aplică economiei circulare (de exemplu, Unilever, IKEA) și inițiative comunitare.

- **Durata**: Aproximativ 3-5 minute.

2. **Turul Școlii**

Obiectiv: Să observe cum se aplică principiile economiei circulare în școală și ce sisteme sunt implementate.

a. **Planificarea Turului**
- **Locații de observat**:
  - **Zone de reciclare**: Punctele de colectare a reciclabilor (plastic, hârtie, sticlă).
  - **Grădina școlii**: Pentru a observa practicile de grădinărit sustenabil (compostare, utilizarea deșeurilor organice).
  - **Laboratoare**: Utilizarea echipamentelor eficiente energetic.

b. **Activități în Timpul Turului**
- **Observare**: Elevii notează ce practici de economie circulară observă (reciclare, reducerea deșeurilor, reutilizarea materialelor).

- **Discuții**: La fiecare locație, elevii pot discuta despre ce practici ar putea fi îmbunătățite sau adăugate.

c. **Concluzionarea Turului**
- **Întrebări de reflecție**:
  - Ce metode de economie circulară sunt deja implementate în școală?
  - Ce alte idei sau inițiative ar putea fi implementate pentru a îmbunătăți sustenabilitatea?

3. **Activitate de Follow-Up**
- **Proiect de grup**: Elevii pot propune un proiect pentru a implementa o nouă inițiativă de economie circulară în școală, cum ar fi un program de compostare sau o campanie de conștientizare a reciclării.

Această abordare nu doar că educă elevii despre economia circulară, dar le oferă și oportunitatea de a observa și de a contribui activ la un mediu mai sustenabil în propria lor comunitate școlară.

2. Discuție în grup(15 min)
- Împărțirea elevilor în grupuri mici pentru a discuta produse care pot fi reciclate sau reutilizate. Fiecare grup va prezenta un exemplu.

Activitate: Discuție în Grupuri pe Tema Reciclării și Reutilizării

Obiectiv
Elevii vor explora produse din viața de zi cu zi care pot fi reciclate sau reutilizate, promovând gândirea critică și colaborarea.

Structura Activității

1. **Împărțirea în Grupuri**
   - Împărțiți clasa în grupuri mici (3-5 elevi fiecare).
   - Fiecare grup va primi un set de întrebări pentru a ghida discuția.

2. **Întrebări pentru Discuție**
   - Ce produse din jurul nostru considerați că pot fi reciclate sau reutilizate?
   - Cum putem transforma produsele uzate în ceva nou sau util?
   - Ce metode de reciclare sunt disponibile în comunitatea noastră?
   - Ce obstacole întâmpinăm în reciclarea și reutilizarea produselor?

3. **Timp pentru Discuție**
   - Oferiți elevilor 10-15 minute pentru a discuta și a se pregăti pentru prezentare.
   - Încurajați-i să ia notițe despre ideile discutate.

4. **Prezentarea Exemplelor**
   - Fiecare grup va prezenta un produs pe care l-au discutat și modul în care acesta poate fi reciclat sau reutilizat.
   - Exemple de prezentări:
     - **Sticlele de plastic**: Pot fi reciclate în noi produse sau reutilizate ca vase de grădină.

- **Hârtia**: Poate fi reciclată pentru a face nouă hârtie sau folosită pentru artizanat.
- **Bicicletele vechi**: Pot fi reparate și reutilizate sau donate.
- **Cărțile**: Pot fi donate sau reutilizate în proiecte artistice.

5. **Feedback și Discuție Finală**
- După prezentări, încurajați discuții despre ideile prezentate.
- Întrebați elevii ce soluții au fost cele mai interesante sau ce metode ar putea implementa în viața lor de zi cu zi pentru a contribui la reciclare.

Concluzie
Această activitate nu doar că le dezvoltă elevilor abilități de colaborare și comunicare, dar le și cultivă o înțelegere mai profundă a importanței reciclării și reutilizării în contextul economiei circulare.

3. Studiu de caz(20 min)
- Analiza unui studiu de caz despre o companie care aplică principiile economiei circulare într-un oraș în comparație cu un oraș în care nu se aplică aceste principii. Elevii vor discuta despre metodele utilizate și impactul asupra mediului.

Studiu de Caz: **Unilever și Economia Circulară**

Contextul Companiei
Unilever este o companie multinațională care produce bunuri de consum, inclusiv produse alimentare, produse de îngrijire personală și produse de curățenie. Compania s-a angajat să își transforme modelul de afaceri pentru a integra principiile economiei circulare, având ca obiectiv reducerea impactului asupra mediului și promovarea sustenabilității.

Metodele Utilizate

1. **Ambalaje Sustenabile**
- Unilever a început să utilizeze ambalaje din materiale reciclate și reciclabile. De exemplu, produsele lor de îngrijire personală sunt ambalate în sticle realizate din plastic reciclat.
- **Impact**: Reducerea deșeurilor de plastic și promovarea reciclării.

2. **Programe de Reciclare**
- Compania a lansat inițiative pentru a încuraja consumatorii să recicleze ambalajele. Unilever colaborează cu organizații pentru a dezvolta infrastructura de reciclare.
- **Impact**: Creșterea ratei de reciclare și reducerea poluării.

3. **Produse Refabricate**
- Unilever investește în refabricarea produselor, asigurându-se că resursele sunt reutilizate cât mai eficient posibil. De exemplu, produsele neutilizate din fabrici sunt reciclate și transformate în noi produse.
- **Impact**: Minimiza resursele consumate și reducerea deșeurilor.

4. **Reducerea Emisiilor de Carbon**
   - Compania își propune să devină neutră din punct de vedere al emisiilor de carbon în toată lanțul de aprovizionare până în 2039. Acest lucru include tranziția către surse de energie regenerabilă și optimizarea proceselor de producție.
   - **Impact**: Reducerea amprentei de carbon și contribuția la combaterea schimbărilor climatice.

Discuția în Grup

1. **Întrebări pentru discuție**:
   - Ce metode utilizate de Unilever considerați că sunt cele mai eficiente pentru implementarea economiei circulare?
   - Cum influențează aceste inițiative comportamentul consumatorilor?
   - Ce alte companii cunoașteți care aplică principii similare? Cum se compară cu Unilever?

2. **Analiza impactului asupra mediului**:
   - Cum contribuie aceste măsuri la reducerea deșeurilor și la protejarea mediului?
   - Ce provocări credeți că întâmpină companiile în implementarea economiei circulare?

Concluzie
Elevii pot trasa concluzii despre importanța economiei circulare în afaceri și impactul pozitiv asupra mediului. Aceasta le oferă o înțelegere practică a modului în care companiile pot contribui la un viitor durabil.

Activitate finală
- Elevii pot realiza un mini-proiect în care să propună propriile soluții pentru implementarea principiilor economiei circulare în comunitatea lor, inspirându-se din inițiativele Unilever.

4. Activitate practică(30 min)
   - Elevii vor crea un prototip sau un plan pentru un produs bazat pe principiile economiei circulare. Acest lucru poate include designul unui produs care folosește materiale reciclate.

5. Reflecție și evaluare(15 min)
   - Discuție de grup despre ce au învățat și cum pot aplica principiile economiei circulare în viața de zi cu zi.

Evaluare:
- Participarea la discuții și activități.
- Calitatea prototipurilor sau planurilor create.

Profesor: Dima Mădălina
Titlul unitatii- Our Precious World
Subiectul lectiei: Mediul înconjurator si vremea , cum este mediul afectat de schimbarile climatice
Unitatea 11, Manual-Enterprise 2
Clasa: a VII-a C
Data: 9 octombrie
Obiectivul lecției:
Să exerseze vocabularul specific legat de mediu și schimbările climatice, utilizând unelte digitale și inteligența artificială,cunostinte dobandite la sesiunea de formare ”Agenda 2030- ICT tools for a sustainable development”, 1-7 septembrie 2024 Roma in cadrul proiectului Erasmus plus Daring Teachers in a Daring Environment.

1. **Introducerea Lecției**

- **Durata**: 10 minute
- **Activitate**: Discuție despre ceea ce știu elevii despre schimbările climatice și cum afectează mediul. Folosiți un flipchart sau un document colaborativ online (ex. Google Docs) pentru a nota ideile principale.

2. **Prezentarea Conceptelor Cheie**

- **Definiții importante**:
  - Schimbări climatice
  - Efect de seră
  - Poluare
  - Biodiversitate
  - Resurse naturale

3. **Activitatea cu Unelte Digitale**

a. **Utilizarea Inteligenței Artificiale**
- **Instrumente AI**: Folosirea unor platforme online, cum ar fi ChatGPT, pentru a genera definiții sau exemple legate de vocabularul specific. Elevii pot interacționa cu AI pentru a clarifica conceptele.
- **Exemplu de activitate**:
  - Fiecare grup de elevi poate să pună o întrebare despre un termen specific (ex. „Ce este efectul de seră?”) și să analizeze răspunsul generat de AI.

b. **Exerciții de Vocabular**
- **Crearea unui cantec**: Elevii pot folosi platforma www.suno.com pentru a crea cântece folosind termenii discutați, apoi acestea vor fi adaugate intr-un padlet: https://padlet.com/publicspeakingsc11bz/agenda-2030-ict-tools-for-sustainable-development-erasmus-pl-ou5d2zhjlcd9n3bo

- **Quiz interactiv**: Utilizarea unor platforme precum Kahoot! sau Quizlet pentru a crea un quiz pe baza vocabularului. Elevii pot testa cunoștințele colegilor.

4. **Studii de Caz și Discuții**

- **Analiza impactului schimbărilor climatice**:
  - Împărțiți elevii în grupuri pentru a studia diferite studii de caz (ex. topirea ghețarilor, fenomene meteorologice extreme).
  - Fiecare grup va prezenta concluziile, folosind vocabularul specific.

5. **Reflecție și Întrebări Finale**

- **Întrebări de reflecție**:
  - Cum putem reduce impactul schimbărilor climatice asupra mediului?
  - Ce rol are fiecare dintre noi în protejarea mediului?

6. **Activitate de Învățare Acasă**

- **Proiect de cercetare**: Elevii pot folosi unelte digitale pentru a cerceta un subiect legat de mediu (ex. surse de energie regenerabilă) și pot crea o prezentare utilizând PowerPoint sau Canva.

Concluzie

Această lecție nu doar că dezvoltă vocabularul specific, dar îi ajută pe elevi să înțeleagă impactul schimbărilor climatice asupra mediului, folosind tehnologia pentru a învăța și a colabora.

Proiect Didactic: **„Arhitecții Viitorului Verde”**
Profesor: Grozavu Veronica
Subiectul lectiei: Arhitecții viitorului verde
Clasa: a III-a

Scop
Conectarea elevilor la realitățile actuale legate de problemele mediului și familiarizarea lor cu utilizarea surselor de energie verde.

1. **Obiectivele Proiectului**
- **Înțelegerea conceptelor**: Elevii vor învăța despre sursele de energie verde (solar, eolian, hidro) și importanța acestora pentru mediu.
- **Dezvoltarea abilităților de gândire critică**: Analizarea problemelor de mediu și a soluțiilor sustenabile.
- **Creativitate și inovație**: Proiectarea unor soluții ecologice pentru comunitate.

2. **Activități Principale**

a. **Cercetare și Explorare**
- **Activitate**: Elevii se vor împărți în grupuri și vor cerceta diferite surse de energie verde. Fiecare grup va alege o sursă (de exemplu, energia solară) și va analiza:
  - Cum funcționează?
  - Beneficii și provocări.
  - Exemple de utilizare în lume.
- **Resurse**: Articole, documentare, site-uri educaționale.

b. **Vizită de Studiu**
- **Activitate**: Organizarea unei vizite la o fermă solară, un parc eolian sau o stație de tratare a apei, pentru a observa aplicațiile practice ale energiilor verzi.
- **Obiectiv**: Învățarea prin experiență și observarea impactului pozitiv al acestor tehnologii.

c. **Proiectare Creativă**
- **Activitate**: Fiecare grup va dezvolta un proiect care propune o soluție ecologică pentru comunitatea lor. Acesta poate include:
  - Un plan pentru un parc solar local.
  - Proiectarea unor clădiri verzi cu eficiență energetică.
  - Soluții pentru reciclare și reducerea deșeurilor.
- **Prezentare**: Elevii vor crea un poster, o prezentare PowerPoint sau un prototip pentru a-și prezenta ideile.

3. **Utilizarea Uneltelor Digitale**
- **Platforme**: Utilizarea unor unelte precum Canva pentru design grafic, Google Slides pentru prezentări și Padlet pentru colaborarea ideilor.
- **Inteligență Artificială**: Elevii pot utiliza AI pentru a genera idei sau pentru a analiza datele despre energia verde.

4. **Evaluare**
- **Participare**: Evaluarea activității în grupuri și a implicării în discuții.
- **Proiect final**: Evaluarea calității proiectelor prezentate, a creativității și a soluțiilor propuse.
- **Reflecție**: Elevii vor completa un jurnal de reflecție despre ce au învățat și cum pot contribui la un viitor mai verde.

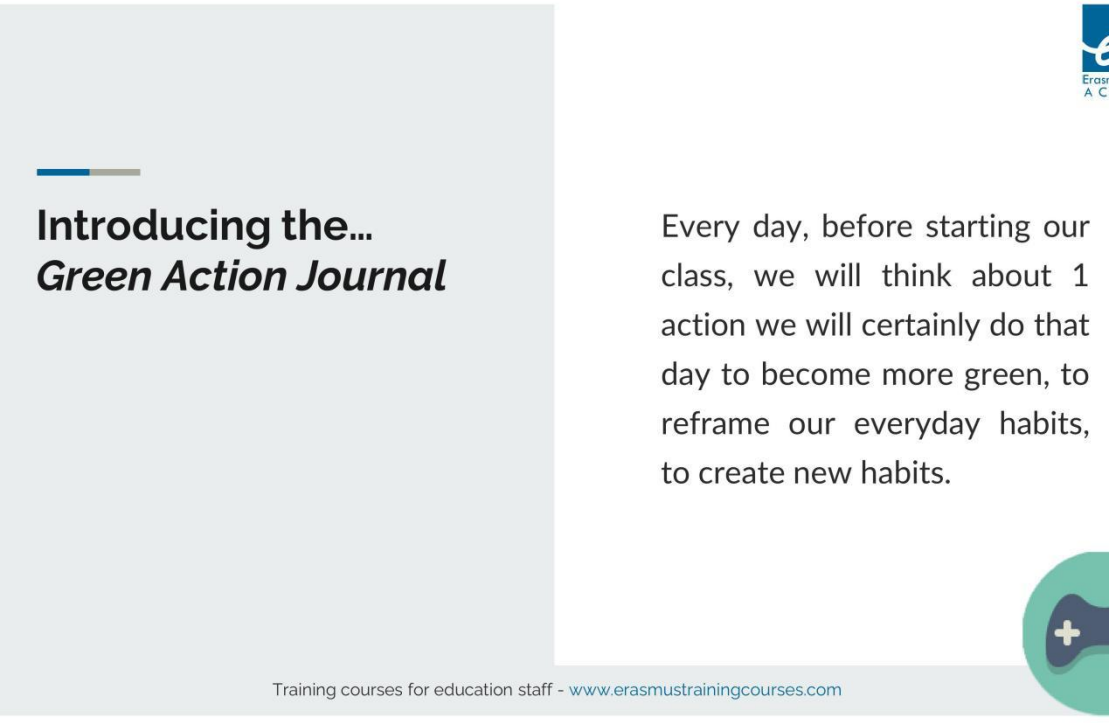
5. **Concluzie**
Proiectul „Arhitecții Viitorului Verde” îi va ajuta pe elevi să conștientizeze importanța energiilor verzi și să devină agenți ai schimbării în comunitatea lor. Prin activități practice și creative, ei vor dezvolta abilități esențiale pentru un viitor sustenabil.

IV. Sesiuni de formare pentru profesori

A. :"Green Skills for Education:environmental awareness and sustainability in the classroom"Spania

-





Before starting...

What "green" words do we use nowadays?

Step 1) Find the words
Step 2) Write down a **definition** for each word. Try not to use internet or dictionaries. It has to be your definition! :)
Step 3) Assign the crosswords to the other group who will try to solve it based on your definitions.

Green skills definition pyramid

Key Aspects of Green Skills:



- Environmental Awareness and Education
- Technical Skills
- Sustainable Development
- Innovation and Problem-Solving
- Policy and Regulation
- Management and Leadership

Green Skills

Green skills refer to the knowledge, abilities, values, and attitudes needed to live in, develop, and support a sustainable and resource-efficient society. These skills are crucial for the transition towards a green economy, which aims to reduce environmental risks and ecological scarcities while improving human well-being and social equity.

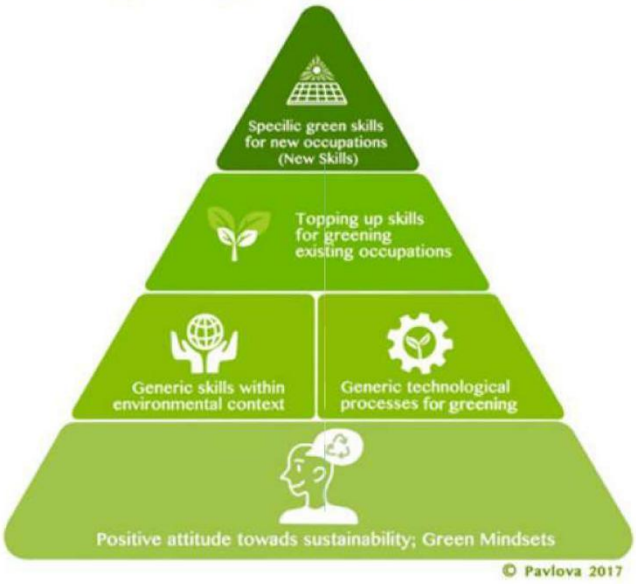
Key Green Skills

1. Environmental Literacy:
   - Understanding Ecosystems
   - Climate Change Awareness
2. Sustainable Practices:
   - Resource Conservation
   - Energy Efficiency
3. Critical Thinking and Problem-Solving:
4. Practical Skills:
   - Gardening and Agriculture
   - DIY and Upcycling

Key Green Skills

5. Scientific Skills:
   - Experimentation and Research
   - Data Analysis
6. Digital and Technological Literacy:
   - Using Technology for Sustainability
   - Green Tech Awareness
7. Civic Engagement and Leadership:
   - Community Projects
   - Advocacy and Policy Understanding
8. Ethical and Value-Based Education:
   - Respect for Nature
   - Sustainable Living Values

Typology of Green Skills



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Sustainability



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Sustainability

Create the definition of ***sustainability***.

Step 1: write down 5-7 key words about sustainability

Step 2: create a common definition in groups

Sustainability

Small activities, second hand clothes, by bike, no food waste, quality, environmentally friendly, recycle, repair, reduce, reuse, fostering green, refuse, rational use, children, future, vital, time, fossil fuels, maintain, social equality, attention for fair supply chain, balance between ecology and economy, substantiations, circular economy, biodiversity, renewable energy, recourse economy, awareness, biodegradable, reducing CO2 emissions, eco-friendly, symbiotic (human and nature), recourse management, carbon footprint, green house effect, reshaping the economy, social, overshooting day, ethical production, Greenpeace,

Sustainability

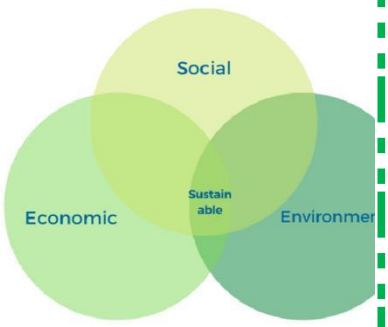
Sustainability is a broad term that describes managing resources without depleting them for future generations. Sustainability is ability to maintain or support a process over time.

Sustainable development

Can be defined as human development that allows the earth's resources to regenerate as fast as they are consumed. Only this way will we permit future generations to meet their development needs.

3 pillars of Sustainability

- **Environmental Sustainability** - we are living within the means of our natural resources
- **Economic Sustainability** - a business or country uses its resources efficiently and responsibly
- **Social Sustainability** - the ability of society, or any social system, to persistently achieve a good social well being.



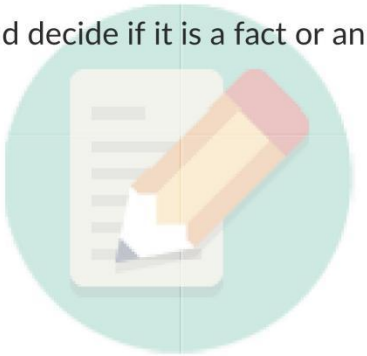
Debriefing

Keeping in mind the different between sustainability and sustainable development, **think of an example from your life concerning sustainable development**



Facts and opinions about sustainability

Read the statements and decide if it is a fact or an opinion.



Greenwashing

Greenwashing:

the dissemination of false or incomplete information by an organization to present an environmentally responsible public image

Greenwashing

What are the main effects of Greenwashing?

Why is it a dishonest adverstiment?

In which way does it mislead consumers?



Effects of Greenwashing

- Misleading consumers
- Undermining genuine sustainability efforts
- Discrediting environmental activism
- Wasting resources



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THINK: Individually write key points and examples of greenwashing?
PAIR: read and discuss your answers with the person next to you. Discuss the differences and similarities depending on your cultural experience.
SHARE: share with the group what you have discussed in pair

How does Greenwashing work?

- **Misleading Claims**
  - Example: "Natural" or "Eco-Friendly" labels on products without clear explanations.
- **Irrelevant Information**
  - Example: An energy-efficient product that's packaged in excessive plastic.
- **Incomplete Comparisons**
  - Example: Advertising a "low-carbon" car without disclosing emissions relative to other transportation modes.
- **Hidden Trade-offs**
  - Example: Promoting a product as organic while disregarding its water or energy consumption.
- **Fake Certifications**
  - Example: Using a logo resembling a recognized environmental certification without legitimate verification.
- **Emotional Appeal**
  - Example: Using pictures of lush forests to evoke feelings of environmental responsibility, even if the product itself is harmful.

Big company examples

Volkswagen (VW) Diesel Scandal (2015):

- **Greenwashing Tactic:** Volkswagen marketed its diesel cars as "clean diesel" and environmentally friendly, emphasizing low emissions.
- **Reality:** VW had equipped these cars with software that manipulated emissions tests to appear compliant while emitting significantly higher levels of pollutants in real-world conditions.
- **Impact:** This scandal highlighted how a reputable company used false claims to deceive consumers and regulators about their vehicles' true environmental impact.

Big company examples

Nestlé's "Eco-Friendly" Water Bottles:

- **Greenwashing Tactic:** Nestlé branded their Pure Life water bottles as eco-friendly by using labels such as "Eco-Shape" and promoting lightweight bottles.
- **Reality:** While the bottles were lighter, Nestlé continued to contribute to the plastic waste problem and faced criticism for not addressing the broader issues of single-use plastics.
- **Impact:** The use of misleading terms created the perception that Nestlé was addressing environmental concerns while continuing to contribute to plastic pollution.

Big company examples

H&M's "Conscious Collection":

- **Greenwashing Tactic:** H&M launched a "Conscious Collection" of clothing, claiming to use sustainable materials and processes.
- **Reality:** Investigations revealed that H&M's overall sustainability efforts were questionable, as the company continued to produce massive quantities of fast fashion, contributing to pollution and poor labor practices.
- **Impact:** The "Conscious Collection" acted as a distraction from H&M's broader unsustainable practices, potentially misleading consumers into thinking the company was more environmentally responsible than it actually was.

Big company examples

McDonald's "Sustainable Beef" Commitment:

- **Greenwashing Tactic:** McDonald's announced plans for sourcing "sustainable beef" as part of its efforts to reduce environmental impact.
- **Reality:** Critics argued that the commitment was vague and lacked clear criteria for what constituted "sustainable beef."
- **Impact:** The announcement was seen by some as an attempt to appeal to environmentally conscious consumers while not providing substantial evidence of meaningful change.

Exercise

You will be divided by country.

Research online and find:

- 1 example of Greenwashing in your country (tactic/reality/impact, type of greenwashing, possible effect on consumers)
- 1 example of a truly ethical and sustainable company

Debriefing

- What examples did you find?
- Which tactics of greenwashing did you spot?
- How can you spot greenwashing from a legit envronmentally friendly company? What were the differences?
- Was it challenging to find an environmentally sound company?

Spotting Greenwashing

- Look for specific and verifiable claims supported by evidence.
- Check for recognized certifications from credible organizations.
- Research the company's overall environmental track record.





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Menti

What would you like to change in your teaching to become more green?

What categories, spheres, areas would you put as important one for the green skills?

...



Menti

What would you like to change in your teaching to become more green?

What categories, spheres, areas would you put as important one for the green skills?

...



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Green Action Journal

Think about 1 action you will certainly do today to become more green, to reframe your everyday habits, to create new habits.

Put it in the Padlet and tomorrow we will read the results.



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Green Action Journal

Think about 1 action you will certainly do today to become more green, to reframe your everyday habits, to create new habits.
Put it in the Padlet and tomorrow we will share the results.

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Sustainable development and green skills

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Agenda 2030 and Sustainable Development Goals (SDGs)





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Focus on the Goal

Divide in groups
Read about the goals
Write 2 reasons *why it is important for everyone as a community*
Write 3 examples *why I should care about the goal personally* (real examples)
Write 4 examples (at least one for each category) *what we can do as a Country, Business/Industry, Employers, Individuals*




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Debriefing

What was the most surprising thing for you?
How relevant is this for your country?
What is the most "important" goal?



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Teaching climate change and sustainability

- Don't overload students: stressing how severe the global environmental crisis is can be overwhelming and make them feel useless and disempowered.
- Discuss environmental success stories.
- Focus on quality of life instead of environmental perfection.



Some Activities

Ecological Footprint?

Go to the website and answer the questions

How many planets do we need if everybody lives like you?

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Debriefing

What could you personally do to reduce your footprint?

What questions would you add to the quiz?

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Ecological handprint

Handprinter



Ecological handprint

The concept of the ecological handprint has different meanings, including:

- A measurement tool to determine action taken, and the positive impacts of our action for a sustainable future
- A symbol of our commitment to positive action
- A promise to take positive action
- A way to connect with a community of people who are committed to a sustainable future



Magical night



Imagine that your day goes on as usual, in the evening you go to bed and fall asleep. During the night something magical happens to your city. You wake up the following day and the electricity and gas have been cut off from your neighbourhood.

When you wake up, how will you first understand that something happened?

Magical night

1. *What will you notice as a first?*
2. *What later?*
3. *Where are you? What can you see around you?*
4. *What changed in your behaviour/environment?*
5. *What did you find uncomfortable during the day?*
6. *What was the most difficult thing during the day for you?*
7. *What new values did you notice after this day?*
8. *What have you done differently today that you could incorporate in your normal lifestyle?*

What is important for me?

Divide in groups.
Skim some newspapers and cut 3 things you value as important things in your life (it could be both pictures of concrete objects, e.g. food, smartphone etc or pictures representing abstract concepts e.g. nature, sport, etc).
Glue the 3 things on 3 sheets of paper (if it is an abstract concept, write down specifically what the picture represents to you) thus obtaining a deck of cards inside each group.

Needs & Wants

Exchange decks of cards with another group, sort things into **wants** and **needs**.
NEEDS are necessary things for survival, WANTS are desirable things but not necessary for survival.



Needs & Wants

Compare different classifications.
Put together all the **wants** and all the **needs** to visualize the overall outcome.



Debriefing

Do we have more needs or wants?
Why?
Are you sure all the needs are really needs?
How could this classification be different for people around the world?
Which needs should be common for all humans in the world?
How are these elements connected to sustainability?

Pandemic is (not) coming...

Imagine that you have only 1 day to prepare a kit for an upcoming lockdown.
Prepare a list of things you will need based on your/world previous experience.

Carbon sinks



https://www.youtube.com/watch?v=OoW2PlvMpZs

Carbon Sinks & Carbon Sources

- A **carbon sink** is anything that absorbs more carbon from the atmosphere than it releases – for example, plants, the ocean and soil.
- In contrast, a **carbon source** is anything that releases more carbon into the atmosphere than it absorbs – for example, the burning of fossil fuels.

Carbon sinks, which are natural (oceans and forests) and artificial deposits (certain technologies and chemicals) absorb and capture carbon dioxide (CO2) from the atmosphere and reduce its concentration in the air.

Alphapoems

Divide in groups.
Create a poem using the letters from the alphabet in the order.
The topic of the poem: how humans could help natural carbon sinks (Ocean and Forest) still to absorb CO2?
Share your poem with us!



Debriefing

What main difficulty did you find to help the natural sinks? What is the closest natural carbon sink do you have? How to help it?

Adaptation and mitigation

Adaptation	Mitigation
is about adjusting to changes caused by climate change	is about preventing climate change from getting worse by reducing its causes

Adaptation VS Mitigation

- In your group, think of examples of adaptation and mitigation




Adaptation

- Developing early warning systems and emergency response plans to mitigate the impac of extreme weather events like hurricanes, floods, and wildfires.
- Creating green spaces and urban forests to reduce the urban heat and provide cooling cities.
- Promoting drought-resistant crop varieties and sustainable agricultural practices to ada to changing precipitation patterns and water availability.
- Investing in water management strategies such as rainwater harvesting, desalination, a water recycling to cope with changing precipitation patterns and water scarcity.
- Educating communities and individuals about climate-resilient practices, including disast preparedness, sustainable land use, and conservation measures.

Mitigation

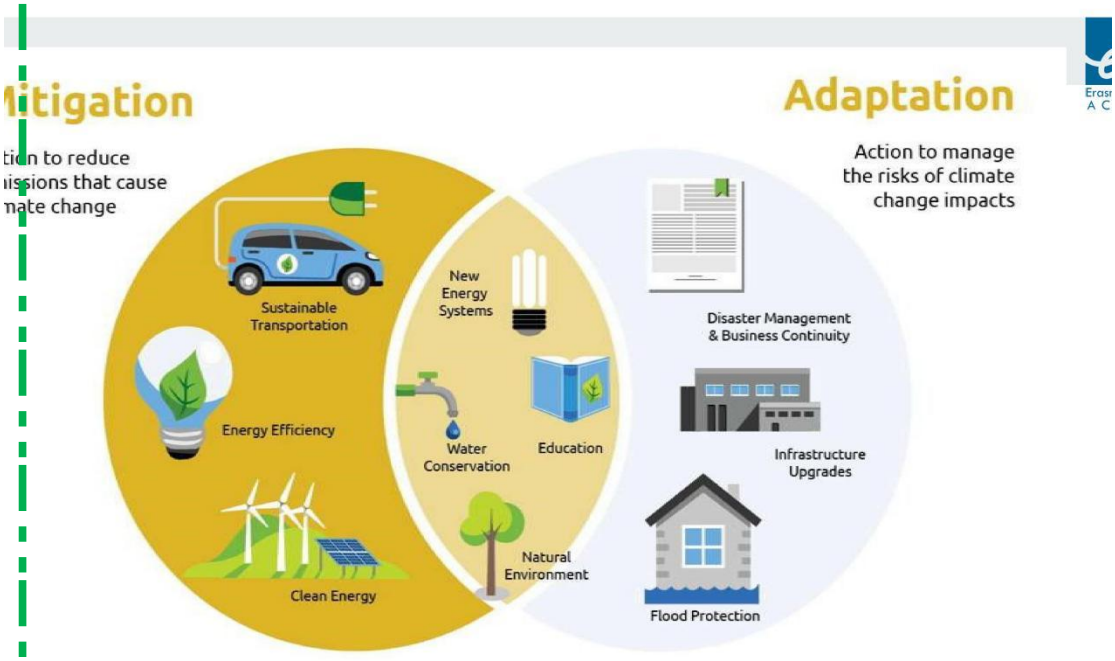
- Transitioning to renewable energy sources such as solar, wind, and hydroelectric power to reduce greenhous gas emissions from fossil fuel combustion.
- Improving energy efficiency in buildings, appliances, and transportation systems through insulation, energy efficient lighting, and fuel-efficient vehicles.
- Enhancing public transportation infrastructure and promoting walking, cycling, and carpooling to reduc reliance on fossil fuel-powered vehicles and decrease transportation emissions.
- Promoting sustainable consumption and production patterns through measures such as waste reductior recycling, and circular economy initiatives to reduce emissions associated with resource extractior manufacturing, and disposal.
- Investing in research and development of low-carbon technologies and innovation in areas such as renewabl energy, energy storage, and carbon capture to accelerate the transition to a low-carbon economy.

Adaptation mitigation

Divide all the actions from the poems to the categories:
mitigation or adaptation.



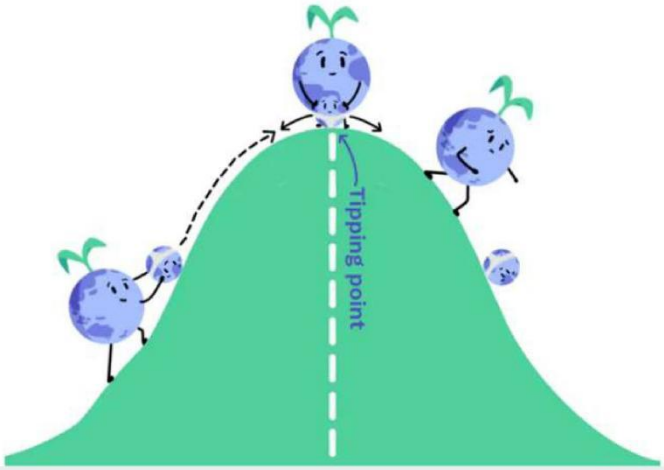




Debriefing

What is the tendency in the actions in your countries?
Which actions are easier to implement as individuals/businesses/governmen

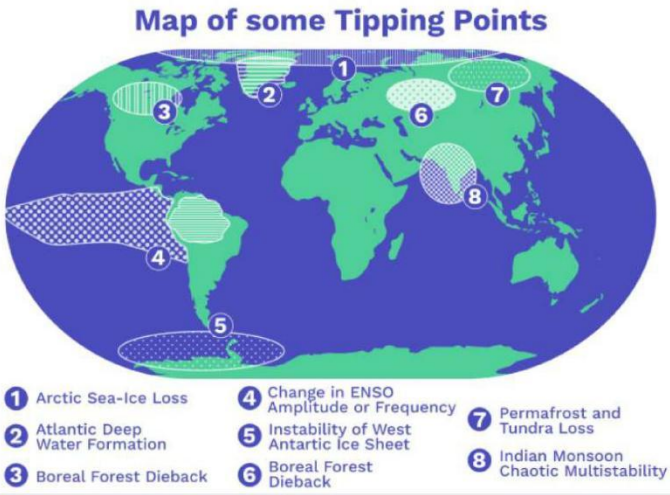
Tipping points



Tipping Points

- **Collapse of Antarctic Ice Sheets**: The destabilization of Antarctic ice sheets, particularly the West Antarctic Ice Sheet and portions of the East Antarctic Ice Sheet, could lead to rapid sea level rise, threatening coastal communities and infrastructure worldwide.
- **Amazon Rainforest Dieback**: Deforestation and climate change could trigger a shift in the Amazon rainforest from a carbon sink to a carbon source, accelerating global warming and biodiversity loss while disrupting regional weather patterns.
- **Permafrost Thawing**: Thawing permafrost releases methane and carbon dioxide, potent greenhouse gases, into the atmosphere, further warming the planet and accelerating climate change.
- **Degradation of Boreal Forests**: Warming temperatures and increased wildfire frequency could lead to the conversion of boreal forests into savannas or grasslands, releasing large amounts of carbon stored in the soil and vegetation.
- **Collapse of Monsoon Systems**: Changes in temperature and atmospheric circulation patterns could disrupt monsoon systems, leading to shifts in precipitation patterns, agricultural productivity, and water availability in regions heavily reliant on monsoon rains.

Tipping points



Watch the video with leading scientist Johan Rockström. He explains how we can transform the future of humanity in ten years.



Earth Day 2023: Johan Rockström's Quest for a Healthy Planet



Alien Travel Guide

Divide in couples. Decide who is the **Alien** and who is the **Earth Travel guide**.
Choose one of the following scenarios: What questions would the Alien ask? What answers would the Travel guide give? Take notes.

- ★ You're all in their spaceship when you fly over some green pieces with sticks laying between them. One of the aliens is confused, and turns to you for help.
- ★ You are chatting with a group of aliens while walking in the park along the river. While you all mingle, one of the aliens picks up a volume about dry weather and dry plants around.
- ★ You are taking a trip in a gondola in Venice with a group of aliens. While you all enjoy the views, one of the aliens picks up a volume about high water level.

Debriefing

What was the most difficult to explain?
Which problem is closer for your environment?
What did you learn about it?

Climate Change Dodgeball

Divide into 2 groups.
The group in the centre is **Earth**.
The group outside is **greenhouse gases**.
One person outside is the **Sun** who throws “rays” at the Earth.
The Earth repel the “rays” by throwing them back out of the circle.
The Greenhouse Gases try to catch or block the “rays” from leaving the circle and throw them back at the Earth.
The round ends when all the “rays” are outside the circle.

Debriefing

What does this game demonstrate? Did it seem like the Earth was suffering at the end? What caused the greenhouse gases to increase? What can we do to prevent/mitigate human-caused climate change? What effects might we see where we live?



Let's make a choice!

Identify 3 recent global environmental events that show we are destabilising Earth's systems.

Imagine you can do any 3 activities towards our planet to be a good friend. In return you must throw away 3 things/activities that destroy our only Home. What do you do and what will you throw away, and why?

Let's make a choice!

What I choose to do

1. _____
2. _____
3. _____

I would do these things because:

_____

_____

_____

What I would throw away

1. _____
2. _____
3. _____

I would throw away it because:

_____

_____

_____





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Curs de formare profesională
" Green Skills for education: environmental awareness and sustainability in the classroom"
Proiectul Erasmus+ "Daring Teachers in a Daring Environment" 2023-1-RO01-KA122-SCH-000123904,Tenerife - Spania
Presented by Oana Olteanu


Participanți
CEHIA, GERMANIA, IRLANDA, ROMÂNIA, UNGARIA
Presented by Oana Oana

Introduction



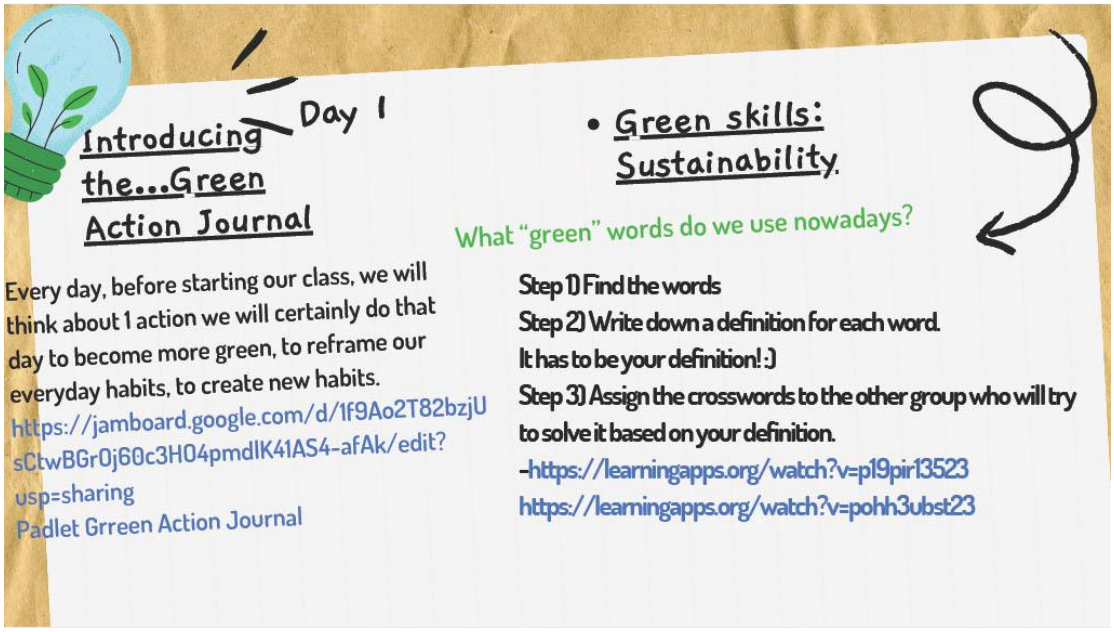
Short description

This training course allowed participants to get a deeper insight and sharing of the role teachers and education can play is promoting a green skill set and a learning environment responsive to the most topical global challenges. Participants learned and practiced tools and strategies to model conscious behaviors, promote dialogue and debate among students on climate changes, plan lessons around sustainable development goals, grow future-oriented and critical minds.

Learning outcomes

- Gained inspiration on how to develop students' green skills sets, including knowledge about sustainability themes and responsible attitudes towards the environment;
- Got acquainted with teaching material on Sustainable Development Goals (SDGs) and how to integrate it in the curriculum;
- Learned how to approach topical issues of global warming, carbon cycle, carbon sinks, food consumption, population growth (and much more) through non-formal and experiential learning activities;
- Got hints on how to make a lesson greener trough the use of ICT, creativity-based approaches, outdoor-inspired activities and project-based learning;
- Got ready to take action and make personal and classroom plans for a green change;
- Exchanged good practices and discussed challenges with fellow colleagues and the course trainers.




Day 1
Introducing the...Green Action Journal
Every day, before starting our class, we will think about 1 action we will certainly do that day to become more green, to reframe our everyday habits, to create new habits.
https://jamboard.google.com/d/1f9Ao2T82bzjUsCtwBGr0j60c3H04pmdlK41AS4-afAk/edit?usp=sharing
Padlet Grreen Action Journal
• Green skills: Sustainability
What "green" words do we use nowadays?
Step 1) Find the words
Step 2) Write down a definition for each word. It has to be your definition! :)
Step 3) Assign the crosswords to the other group who will try to solve it based on your definition.
-https://learningapps.org/watch?v=p19pir13523
https://learningapps.org/watch?v=pohh3ubst23

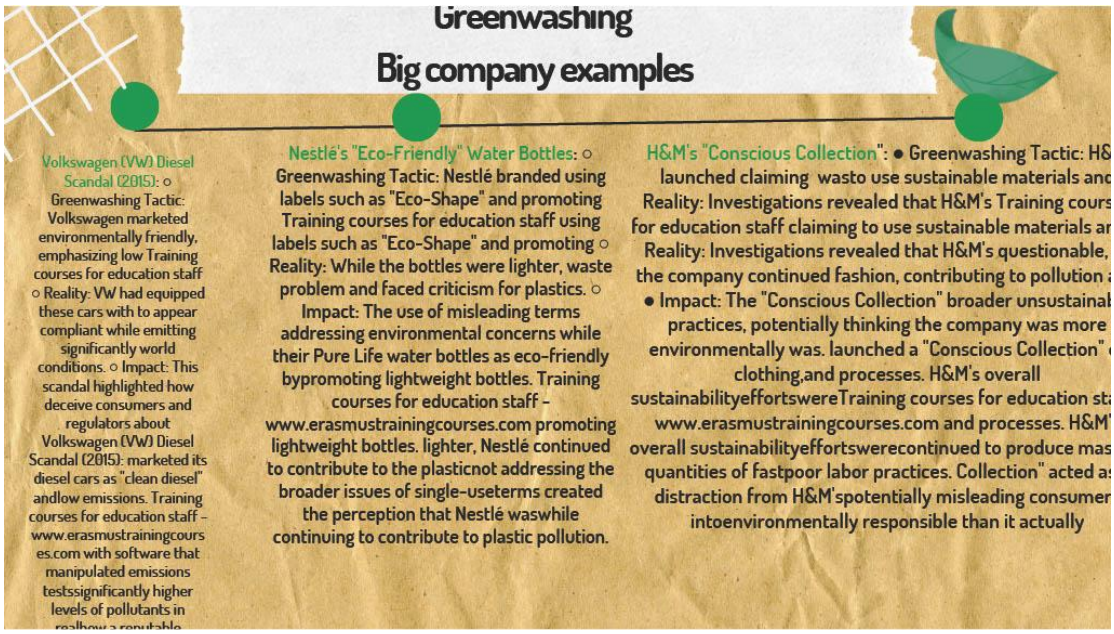

Green skills definition pyramid
een skills refer to the knowledge, needed to live in, develop, and support Training courses for education staff needed to live in, develop, and support efficient society.These skills are crucial for the transition towardsagreen
Key Aspects of Green Skills
• Environmental Awareness and Education
• Technical Skills
• Sustainable Development
Training courses for education staff
• Innovation and Problem-Solving
• Policy and Regulation
• Management and Leadership

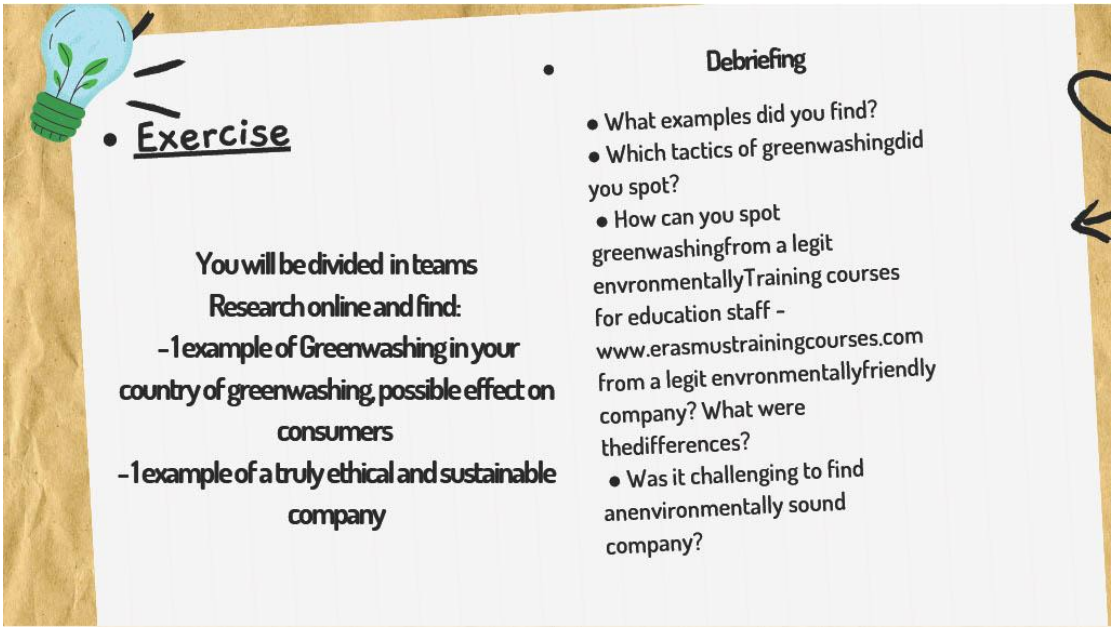

Sustainability
Exercise
Create the definition of sustainability
Step 1: write down 5-7 key words about Sustainability
Step 2: create a common definition in sustainability.
Small activities, second hand clothes,
environmentally friendly, recycle, green, refuse, rational use, children, maintain, social equality, attention between ecology and economy, Sustainability
Training courses for education staff
biodiversity, renewable energy, biodegradable, reducing CO2 emissions,
(human and nature), recourse management,
house effect, reshaping the economy,

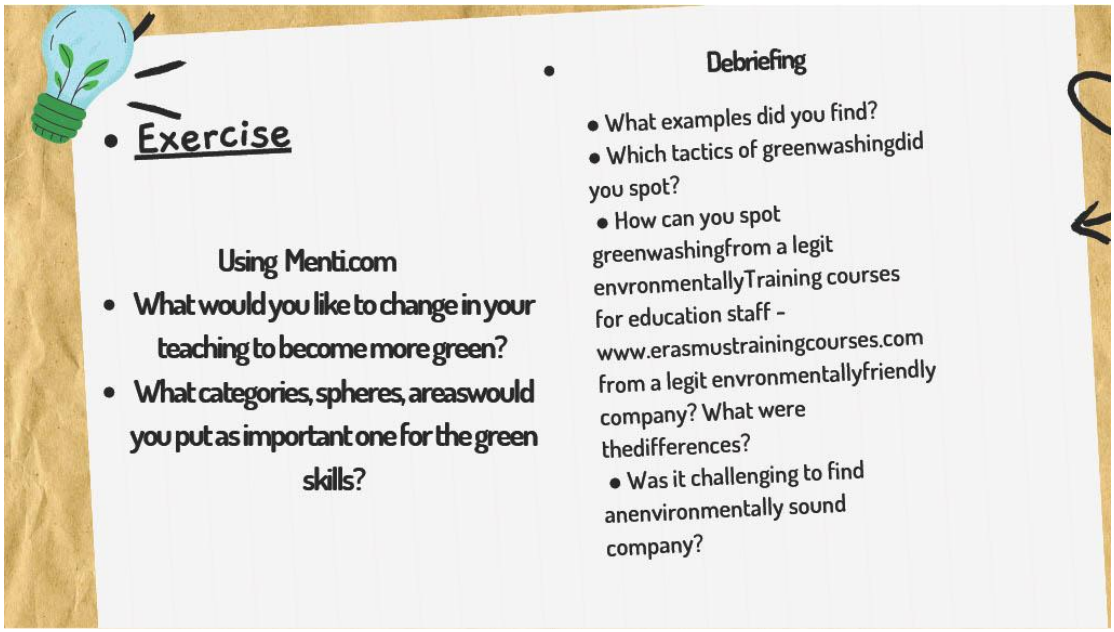

Sustainability
is a broad term that describes
depleting them for future generations.
support a process over time.
Sustainable development
Can be defined as human development that allows the earth's resources to regenerate as fast as they are consumed. Only this way will we permit future generations to meet their development needs


3 pillars of Sustainability
Environmental Sustainability - we are living within the means of our natural resources
Economic Sustainability - a business or a country uses its resources efficiently and responsibly
Social Sustainability - the ability of society or any social system, to persistently achieve a good social well being.


Greenwashing
What is it?
the dissemination of false or incomplete information by an organization to present an environmentally responsible public image
Efecte of Greenwashing
Effects of Greenwashing
• Misleading consumers
• Undermining genuine sustainability efforts
Discrediting environmental activism
Training courses for education staff
•
• Wasting resources
How does Greenwashing work?
• Misleading Claims ○ Example: "Natural" or "Eco-Friendly" labels on products without clear explanations
• Irrelevant Information ○ Example: An energy-efficient product that's packaged in excessive plastic
• Incomplete Comparisons ○ Example: Advertising a "low-carbon" car without disclosing emissions relative to other transportation mode
.• Hidden Trade-offs ○ Example: Promoting a product as organic while disregarding its water or energy consumption
• Fake Certifications ○ Example: Using a logo resembling a recognized environmental certification without legitimate verification
• Emotional Appeal ○ Example: Using pictures of lush forests to evoke feelings of environmental responsibility, even if the product itself is harmful.


Greenwashing
Big company examples
Volkswagen (VW) Diesel Scandal (2015): ○ Greenwashing Tactic: Volkswagen marketed environmentally friendly, emphasizing low Training courses for education staff ○ Reality: VW had equipped these cars with to appear compliant while emitting significantly world conditions. ○ Impact: This scandal highlighted how deceive consumers and regulators about Volkswagen (VW) Diesel Scandal (2015): marketed its diesel cars as "clean diesel" andlow emissions. Training courses for education staff – www.erasmustrainingcours es.com with software that manipulated emissions testssignificantly higher levels of pollutants in
Nestlé's "Eco-Friendly" Water Bottles: ○ Greenwashing Tactic: Nestlé branded using labels such as "Eco-Shape" and promoting Training courses for education staff using labels such as "Eco-Shape" and promoting ○ Reality: While the bottles were lighter, waste problem and faced criticism for plastics. ○ Impact: The use of misleading terms addressing environmental concerns while their Pure Life water bottles as eco-friendly bypromoting lightweight bottles. Training courses for education staff – www.erasmustrainingcourses.com promoting lightweight bottles. lighter, Nestlé continued to contribute to the plasticnot addressing the broader issues of single-useterms created the perception that Nestlé waswhile continuing to contribute to plastic pollution.
H&M's "Conscious Collection": ● Greenwashing Tactic: H& launched claiming wasto use sustainable materials and Reality: Investigations revealed that H&M's Training cours for education staff claiming to use sustainable materials ar Reality: Investigations revealed that H&M's questionable, the company continued fashion, contributing to pollution ● Impact: The "Conscious Collection" broader unsustainab practices, potentially thinking the company was more environmentally was. launched a "Conscious Collection" clothing,and processes. H&M's overall sustainabilityeffortswereTraining courses for education st www.erasmustrainingcourses.com and processes. H&M' overall sustainabilityeffortswerecontinued to produce mas quantities of fastpoor labor practices. Collection" acted a distraction from H&M'spotentially misleading consumer intoenvironmentally responsible than it actually


Exercise
You will be divided in teams
Research online and find:
-1 example of Greenwashing in your country of greenwashing, possible effect on consumers
-1 example of a truly ethical and sustainable company
Debriefing
● What examples did you find?
● Which tactics of greenwashingdid you spot?
● How can you spot greenwashingfrom a legit envronmentallyTraining courses for education staff – www.erasmustrainingcourses.com from a legit envronmentallyfriendly company? What were thedifferences?
● Was it challenging to find anenvironmentally sound company?


Exercise
Using Menti.com
What would you like to change in your teaching to become more green?
What categories, spheres, areaswould you put as important one for the green skills?
Debriefing
What examples did you find?
Which tactics of greenwashingdid you spot?
How can you spot greenwashingfrom a legit envronmentallyTraining courses for education staff - www.erasmustrainingcourses.com from a legit envronmentallyfriendly company? What were thedifferences?
Was it challenging to find anenvironmentally sound company?


"Green Skills for education: environmental awareness and sustainability in the classroom", în cadrul Proiectului Erasmus+ " Daring Teachers in a Daring Environment" 2023-1-RO01-KA122-SCH-000123904:
Școala Gimnazială Nr.11
Buzău
Prezentare realizată de profesor Grozavu Veronica



Proiect Erasmus+
" Daring Teachers in a Daring Environment"
2023-1-RO01-KA122-SCH-000123904, în perioada 25 mai - 2 iunie 2024 (Spania-Tenerife).
Cadrele didactice participante:
Dache M., Grozavu V., Nedelcu A. și Olteanu O.
Activitățile derulate în cadrul acestuia ne-au permis să obținem o perspectivă inovatoare și să împărtășim rolurile pe care profesorii și educația le pot juca în promovarea unui set de abilități ecologice și a unui mediu de învățare receptiv la cele mai actuale provocări globale.
Cursul a debutat cu exerciții de team building și cu evaluarea nevoilor și așteptărilor profesorilor din cele 5 țări participante
(Cehia, Germania, Irlandez, România, Ungaria).
.





Activitățile s-au axat pe:
- prezentarea piramidei competențelor ecologice (de la promovarea mentalităților ecologice la dezvoltarea de noi competențe ocupaționale);
- definirea termenilor "sustenabilitate" și "dezvoltare durabilă" (fapte și opinii);
- împărtășirea de opinii și provocări legate de percepția schimbărilor climatice și acțiunile noastre direcționate către dezvoltarea durabilă

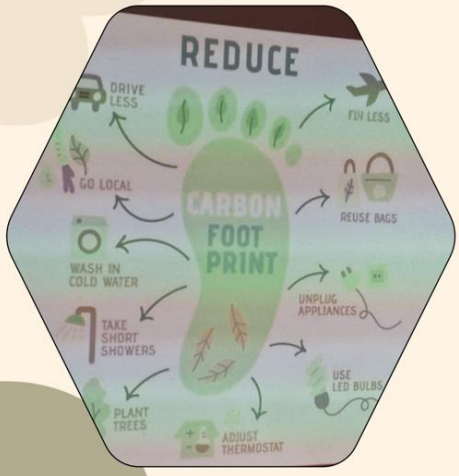
Au fost abordate probleme de actualitate în domeniul dezvoltării durabile:

- încălzirea globală;
- greenwashing;
- amprenta de carbon (dezvoltarea conștientizării de sine și a receptivității față de propriile noastre acțiuni);
- formarea ”abilităților verzi” la clasă (Agenda 2030 și Obiectivele de Dezvoltare Durabilă);
- formarea abilităților specifice promovării unei mentalități ecologice în rândul elevilor noștri.

Așadar, [illegible] da contur [illegible] încă nu îl [illegible]













Am învățat și exersat instrumente/strategii utile în formarea unui comportament conștient, privind schimbările climatice și am proiectat activități de învățare, pornind de la obiective de dezvoltare durabilă.
Lucrând în echipe multinaționale, am desfășurat activități de tip workshop în care am exersat abilitățile de gândire critică pentru dezvoltarea propriei înțelegeri asupra temelor ecologice relevante și am înțeles importanța triadei: întrebare, raționament, dezbatere.





Beneficiile educației outdoor – contexte și conținuturi abordate:
*metode de predare inovatoare pentru a forma competențe ecologice;
*învățarea bazată pe proiecte (provocări din lumea reală - interacțiune și socializare)
*valoarea educației în aer liber (conexiunea cu natura și respectarea mediului înconjurător);
*experimentarea exercițiilor și provocărilor de grup, jocuri de rezolvare a problemelor și activități experiențiale în aer liber.









În echipe multinaționale:
- am creat planuri de acțiune ecologică (la nivel personal/de clasă/de școală);
- am conceput un proiect de lecție pe teme de dezvoltare durabilă, ținând cont de toate abordările și perspectivele dobândite în timpul instruirii.








GREEN VIBES ONLY
HUNGER



Agenda ultimei zile din cadrul cursului de formare ne-a oferit oportunități legate de:

* viitoare cooperări în context multinațional;
* planificarea activităților ulterioare;
* recapitularea și evaluarea finală;
* validarea rezultatelor învățării și ceremonia de certificare.

Megatrends 2023

- What will the 2020s look like?
- What trends will have the biggest impact on our future and what kinds of tensions exist between the various megatrends of our time?
- Sitra's Megatrends 2023 list provides an overview of the issues we should focus on in the coming years.

What are the megatrends

A megatrend is a **general direction of development** consisting of various phenomena and entailing widespread change. They are often considered to occur at the global level and the development is often believed to continue in the same direction.

The big picture



What are Megatrends?
(Mikko Duffa, Sitra 2023)

- General trends consisting of several phenomena, broad arcs of change.
  They are often seen as happening on a global level
  They are often expected to continue in the same direction.
- It is civilization to know what the challenges of the future will consist of and what can be done about them already now (Futurist Elina Hiltunen 2023)
- Megatrend cards 2023 – Sitra
- Digital megatrendcards – Sitra

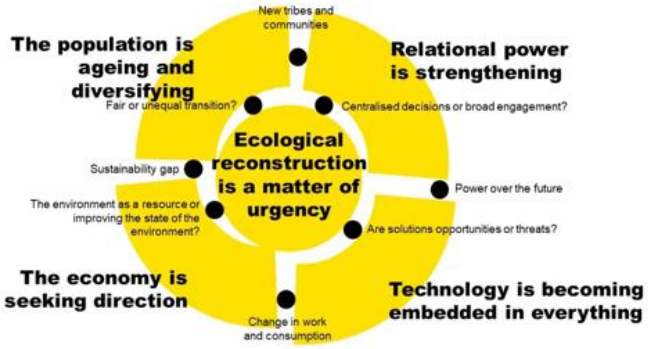


Megatrends

1. **Ecological reconstruction** is a matter of
2. **Relational power** is strengthening
3. **The population** is ageing and becoming in
4. **The economy** is seeking direction
5. **Technology** is becoming embedded in every

Megatrends

SITRA'S MEGATRENDS 2020





Megatrends

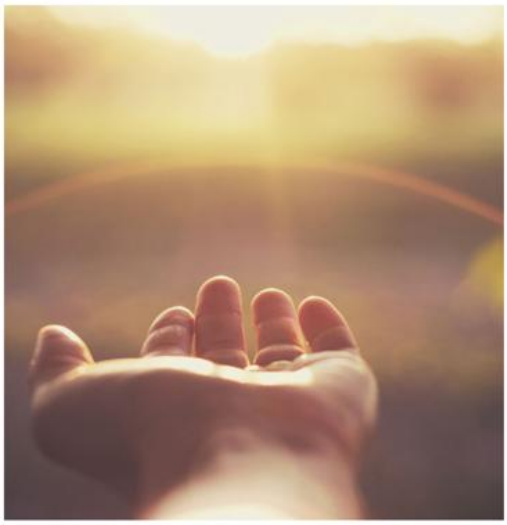
Megatrends and opportunities





The battle for democracy intensifies

- 13 % of the world population (about 1 mrd) live in liberal democracy (based on questionary survey)
- Researches share the opinion that Hungary cannot be called a real democracy any more
- 2024 is a remarkable election year -64 countries + EU
- Miroslav Nemcok, University of Oslo, 2024:
- Democracy is a not a perfect model, it is only better than the others
- Democracy is still the only option if the mankind wants to survive
- It is a slowly way to change the things and politicians promise more than they can do
- Wordl's government: maybe 4600?



Today's decisions and actions will have an impact on the direction of development

- Our future depends on today's choices
  There is a wide range of **alternative futures available**, some of which in many ways promise to make things better than at present

The importance of megatrends

Futurist Elina Hiltunen (2023)

- *Knowing megatrends is part of everyone's civilization*
  Megatrends such as climate change and digitalisation are already here, but they may play an even greater role in the future.
  It is civilization to know what the challenges of the future will consist of and what can be done about them already now
  Education is also an important national defence skill during hybrid and information wars.



Opportunities



What these megatrends mean?

- The key factor influencing our future is the urgent need for ecological reconstruction: how do we respond to climate change, decreasing biodiversity, the dwindling availability of resources and waste-related problems? Other trends should be viewed against this backdrop. For example, decisions should be made quickly – but are they made through centralisation of power of inclusive decision-making.
- The second trend is the strengthening of relational power: power relations move from a multipolar world to a poly-nodal world. In a "poly-nodal" world power will be determined by relational influence and held not only by states but also by companies, regions and transnational organisations.
- The third trend is the ageing and diversification of the population: the population is not only ageing but also becoming more diversified in terms of backgrounds, opportunities and habits. The question is: is ecological reconstruction carried out fairly or in a manner that increases inequality?
- The fourth trend, the redefinition of the economy, is also linked to this: is the environment only to be regarded as a resource or should the economy aim to improve the state of the environment?
- Fifth, technology is embedded in everything: it is becoming a part of society and everyday life. For example, while technology offers new solutions for the production of energy it also simultaneously increases the demand for energy. This creates a conflict: to what extent does technology promote ecological reconstruction and to what extent does technology hinder it?

Understanding the big picture

- "The start of a new decade is a good time to update our views of major long-term developments," according to **Katri Vataja**, Director, Foresight, Insight and Strategy at Sitra.
- "When it comes to issues of ecological sustainability, the term "crisis" is now widely used. While concerns over the state of democracy have been evident in discussions about the future for many years, there are now new nuances in the discussion as a result of the increase in new ways of wielding power, for example. Technological progress is no longer greeted exclusively with enthusiasm, and as technology becomes embedded in everything we do, we will need to deal with completely new questions."
- Rather than understanding a single megatrend, it is more crucial to understand the more extensive phenomenon to which it is related and the manner in which it is linked to other trends.
- "The overview of social changes and tensions may seem challenging and even frightening. However, merely being able to identify these tensions suggests it is possible to influence the future," says Leading Foresight Specialist **Mikko Dufva** from Sitra.

Our future depends on today's choices

Mikko Dufva, Sitra 2023

Today's decisions and actions will have an impact on the direction of development – will this direction be the same as before? Will development proceed in a new, previously unseen direction? Or will a state of tension remain?

There is a wide range of **alternative futures available**, some of which in many ways promise to make things better than at present. Our eventual future depends on our current choices and actions.

MEGATRENDS, KNOW YOUR FUTURE

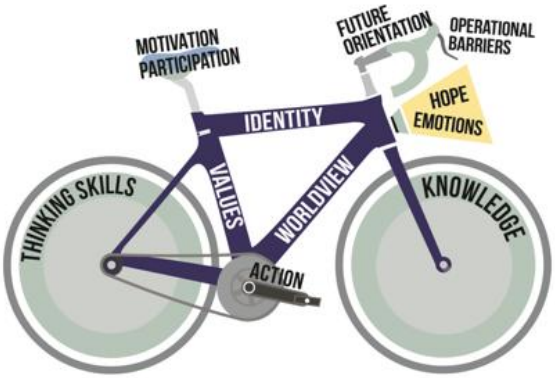
- The trend cards stimulate and broaden your thinking and help you come up with new ideas and envision what the future could look like.
- All you need is the trend cards, a pen, paper and a couple of friends!
- Megatrend cards 2023 – Sitra
- Digital megatrendcards – Sitra

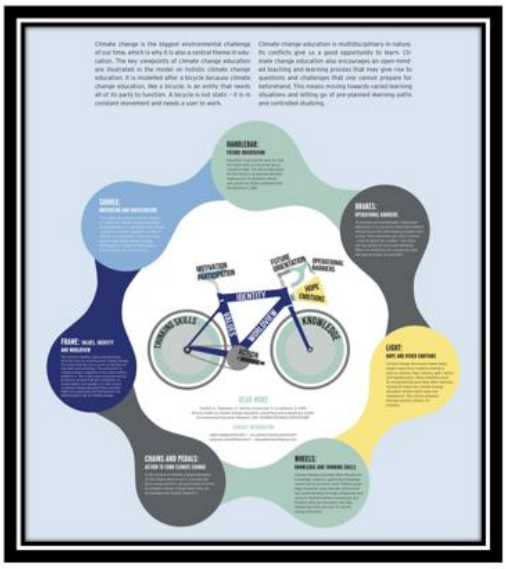
Different options to play

- **STUDY**. Read through the deck of trend cards and see what thoughts you have about the trends and tensions. Are they familiar to you? Which ones are already apparent? Which ones are surprising?
- **PRIORITISE**. Draw 3-6 cards from the deck at random and place them in the order of priority based on your view. If you are working together with others, discuss and compare the way each of you prioritise the trend cards. Does your discussion highlight any common themes? Do you agree on the priorities?
- **CREATE A STORY** Draw 3-6 cards and use them to create a story about the future. Incorporate topics that are related to your work or other aspects of your life. Share your story with others.
- **SOLVE**. Choose a tension card from the deck. Think about how the tension could be resolved: is one of the two sides of the tension stronger, could a new direction be found, or will the state of tension continue – and what would that mean?
- **DREAM**. Draw 3-6 trend cards. Based on the cards, create a picture of the best possible future by describing the future of something that is important to you in combination with the cards you drew.
- **INVENT**. Draw 3-6 cards. Based on the ideas you get from the cards, create a future service, solution, product or procedure related to your subjects of interest that would make it better.
- **BE SURPRISED**. Draw 3-6 cards and come up with completely opposite scenarios for them. What would had to have happened for the opposite scenario to become a reality? Can you find surprising perspectives? Share your most interesting and surprising ideas with others. Think about how conceivable the scenario is.

How to get the sustainability cycle move forward

(Cantell , H , Tolppanen , S , Aarnio-Linnanvuori , E & Lehtonen , A 2019),









We need a new generation with competences to tackle the challenges of climate change and the sustainability crisis (Climate university)



Climate change and future skills

Climate change is one of the wicked problems the world is facing now. Climate change is connected to many other problems like urbanization, population growth, resource scarcity, globalized economic and other megatrends.

To solve them we need future skills: creativity, problem solving skills, communication skills, co-operation skills.

When we are better equipped for the future, we can minimize the stress and anxiety when thinking the future with climate change and "new normal" times.

During this course you will learn how to develop yours and student's futures consciousness with different exercises. Practical approach to difficult problems

Wicked problems

- Wicked problems are highly complexed problems linked to each other

- https://www.bing.com/videos/riverview/relatedvideo?&q=Wicked+Problems+Animation&&mid=D37FCF17DFD860934258D37FCF17DFD860934258&&FORM=VRDGAR





Speed of change

World is changing fast: in last 20 years more than 300 years before and

You have been living last 20 years in this rapid change

Think for a moment: How was your first mobile phone like?



Future job: Taxidriver to the moon

Fly to the moon
https://vimeo.com/52354666



Canoe on the waves of change

Futures studies-an academic approach

"The future does not exist; there cannot be knowledge about something that does not exist" (Mintzberg 1994)

"All useful knowledge has implications towards the future. However, there is no knowledge about the future" (e.g. de Jouvenel 1967)

Why we need futures studies?

Future can not be predicted, because life is full of accidents and chaotic processes and future does not exist.

We can make a sensible foresight for the future, because we know about people's hopes and plans, about slowly changing demographic issues, investments, cultural habits, natural processes, and about our ability to make decisions and about our imagination

Future studies try to understand the future in order to make better decisions today



Many futures or just one right future?

There is not only one future but many futures:

*some of them more likely

*some of them not so wanted

*some of them tolerable

.....and this all makes futures studies so interesting



One basic future skill- make your mind ready for future thinking

Future images : utopias and dystopias













Future images

We have all permission to positive future images and we can learn to create them.

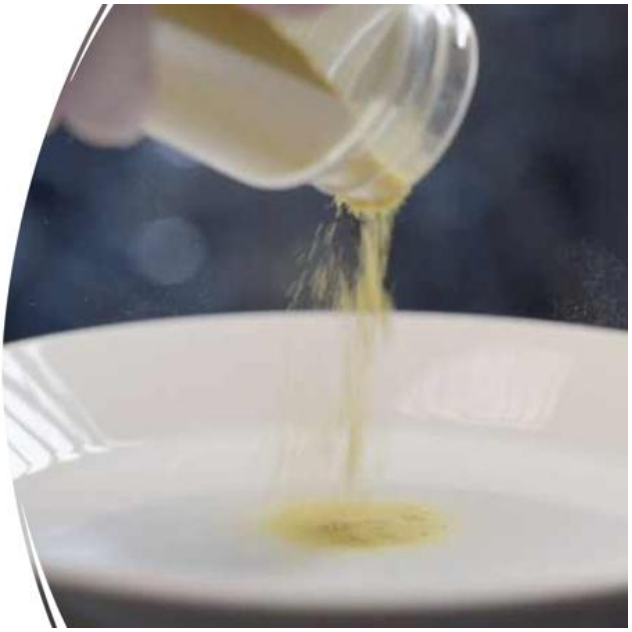
Practise (3 minutes): What are you going to eat for lunch in 2040?

New approaches

Solein is a naturally occurring microbe that is grown in a factory with carbon dioxide from the air using electricity.
Solein contains 75 percent protein.

Solein can replace meat, eggs etc

Carbon footprint is said to be only 1% compeared to red meat production



New approach

- https://yle.fi/a/74-20085505

- Earthy, slightly cellar-like and also mildly nutty.
  It can replace existing proteins such as milk, eggs and meat. In the future, the manufacturer expects the product to provide an answer to the global food shortage.
  Solein is a naturally occurring microbe that is grown in a factory with carbon dioxide from the air using electricity.
  Solein contains 75 percent protein.
  The deep yellow color of the powder gives its own stamp to the cream cheese and ravioli pasta in the appetizer. The color can also be faded if necessary.
  "In Singapore, chocolate ice cream was sold, and the yellow colour disappeared completely from view," says Sinisalo.
  Singapore is so far the only country where the product has received a novel food authorisation. Solar Foods has also started work on obtaining marketing authorisations in the US, UK and EU.
  According to the company, the carbon footprint of producing solein protein is only one percent compared to red meat production.
  The hydrogen technology used to produce solein consumes a lot of electricity. (Hanna Tuominen University of Helsinki)
- According to the company, the carbon footprint of producing solein protein is only one percent compared to red meat production.
  The hydrogen technology used to produce solein consumes a lot of electricity.



Turku University research

Future images





The top 10 most important skills 2023 WEF

- 1. Analytical thinking
- 2. Creative thinking
- 3. Resilience, flexibility, and agility
- 4. Motivation and self-awareness
- 5. Curiosity and lifelong learning
- 6. Technological literacy
- 7. Dependability and attention to detail
- 8. Empathy and active listening
- 9. Leadership and social influence
- 10. Quality control



Futures skills consist of the following informational, functional and emotional skills (Johanna Ollila 2022, University of Turku)

1. Perceiving diverse futures.
2. Systemic thinking and perception of complexity.
3. Recognizing perceptions of time and broadening one's own time perspective.
   Critical thinking.
   Creative thinking.
   Proactive and responsible operations.
   Accepting uncertainty.
   Self- and value reflection and recognizing one's own relationship with the future.

Future skills by World Economic Forum 2019



Future of work

- https://www.youtube.com/watch?v=LrhmHbDLM8o&list=PLenFgk0I6WrPFy7R8MnMnBhsBZxV2oX9q&index=4
- https://futureskills.pearson.com/research/#/welcome-video

We

- ...need to jump directly to the new normal and not to miss the past and protective borders we had buildt
- ...need to use the information about the future we have in the decision making of today
- ...can not return to the old times, to "normal", we have moved to post normal, which is full of surprises and uncertantities
- ...can look for weak signals, black swans and trends and not to forget the megatrends. Crises like corona crises seldom come without a warning
- ...need to surf on the waves of change, at least canoe and not to sit in a bunker
- ...need to talk more together about the future and share our knowledge and opinions



Skills needed just now

- How to make a desicion according to incomplete, partial knowledge
- Cope, when everything is unsure and researches give different answers
- Change your decisions and take a new direction and not to be shamed for that
- Not to trust populist, childish leaders (like Obama said) and try to get easy wins
- A positivist does not need to smile all the time but one believes in good future



From linear to circular economy

- We have had **overconsumption** in our planet for too long time. Linear economy must be changed to circular economy.
- In order to create a circular economy society, we need a new kind of expertise, co-operation between silos, development of the operating environment and a general change in attitudes and operating methods. Professionals, experts and decision-makers, both now and in the future, will play a decisive role in building a new future.
- **Education** plays an important role about the circular economy developing experts. When today's school pupils are ready to enter employment, the debate my will no one longer exist; the economy will be the only way of operating.
- Circular economy solutions are needed to safeguard biodiversity and solve the climate crisis.

videos

- https://www.youtube.com/watch?v=UBCXpkWoPp8
- https://www.youtube.com/watch?v=ECHiWnSvklo
- https://www.youtube.com/watch?v=_dJMWnVQUUc
- https://www.youtube.com/watch?v=X6HDcubgxRk



Principles

- By designing out waste, by making products that last and by keeping those products in active use as long as possible, we get more value from what we have. This also reduces the need to extract new natural resources, leaving more room for nature to thrive.
- The potential of the circular economy is significant: circular interventions in the **food and agriculture, construction, textiles and forest** sectors can halt biodiversity loss even if no other action is taken.
- **Food – the biggest challenge but the greatest potential**

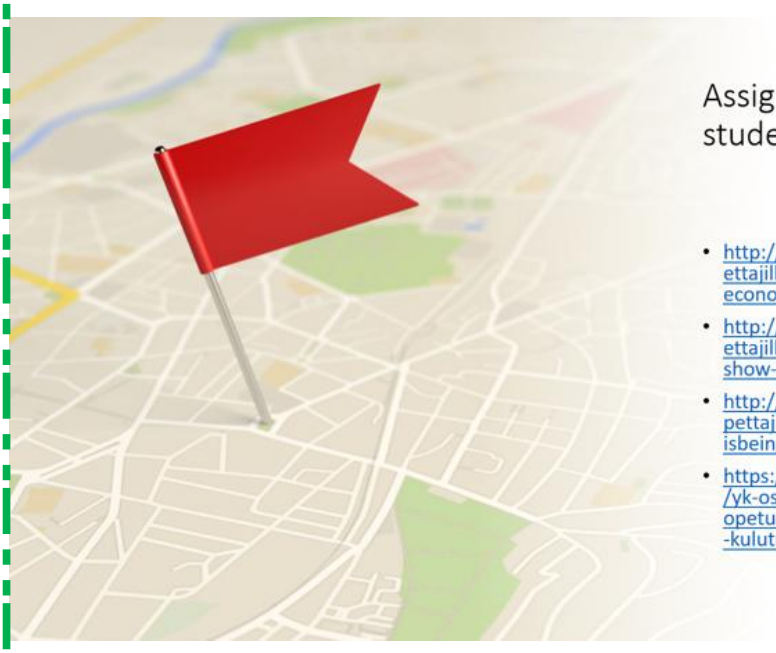


The link between circular economy and biodiversity

- circular interventions can have the largest positive impact in food and agriculture. Merely by shifting to more alternative proteins and regenerative agriculture, and by reducing food waste by half, biodiversity loss could be halted by 2035.
- In practice, the transition to a circular economy in the food and agriculture sector will make it possible to produce the food humanity consumes on a much smaller area of agricultural land and with fewer inputs such as fertilisers, **leaving more room for nature to thrive**.

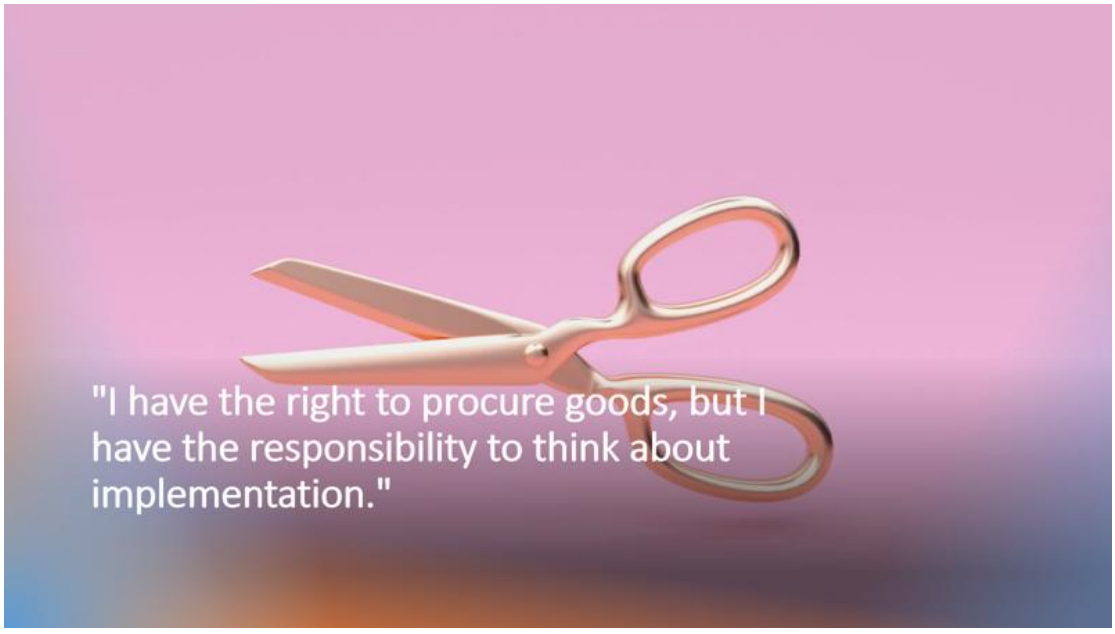
Circular economy as part of all decision-making

- the circular economy should be integrated into all decision-making and strategies.
- the emphasis should be on circular interventions that effectively halt biodiversity loss and at the same time mitigate climate change.
- “The planetary boundaries are all deeply connected, but climate and biodiversity are core boundaries. They impact on all others,” says Johan Rockström, Director of the Potsdam Institute for Climate Impact Research



Assignments for students and teachers

- http://www.kiertotalousnetti.fi/opettajille/tehtavapankki/circular-economy-town.html
- http://www.kiertotalousnetti.fi/opettajille/tehtavapankki/simon-the-show-off.html
- http://www.kiertotalnousnetti.fi/opettajille/tehtavapankki/what-isbeing-asked.html
- https://www.ykliitto.fi/kasvattajille/yk-osaksi-opetusta/tehtavat/palapelitehtava-kulutustottumuksista



Regenerative economy (Eeva Hällström, Sitra), one step forward from circular economy

The regenerative economy is one fresh approach to the economy of the future. It is attracting interest both internationally and in the Finnish business field

A regenerative economy works in the service of life, strengthening the vitality of the natural and social systems on which the economy also ultimately depends. **A regenerative economy is therefore inspired by nature and imitates the structures and processes that occur in it.**.

A regenerative economy tackles the root causes of problems while trying to solve acute problems that have already arisen from them. In this way, societies can cope better with unexpected shocks.



Where to find regenerative economy?

- A regenerative economy should be seen as **a compass** rather than a map to the future.
- The need to move towards a regenerative economy concerns all parts of the economy, such as consumption, business, finance and economic policy, as well as economic management. There aren't many companies in the world that apply thinking to everything they do.
- Agriculture and food production, clothing industry.



More about regenerative economy



- https://www.sitra.fi/en/articles/what-is-regenerative-economy/




Uusintavaan talouteen tähtääviä yrityksiä
Maa- ja metsätalous
SOIL FOOD
BSAG
Metsä
storaenso
Design
Interface
7TH GENERATION DESIGN
RAMBØLL
Tekstiili- ja vaateteollisuus
patagonia
Timberland
VIVOBAREFOOT
FLUFFSTUFF
Elintarviketeollisuus
GUAYAKÍ
YERBA MATE
Unilever
PEPSICO
Rahoitus
PICTET
Asset Management
Uudistavan maatalouden erikoissijoitusrahasto
SITRA


Regeneratiivinen talous tänään
– muutosta tarvitaan kaikilla tasoilla!
Metsä Group
Baltic Sea Action Group
Interface
Raaka-aineet, materiaalit, komponentit
Tuotteet, ratkaisut ja kulutus-tottu-mukset
Liike-toimin-tamallit
Raholtus
Poli-tiik-ka
PICTET
Asset Management
Uudistavan maatalouden erikoissijoitus-rahasto





Wicked problems are connected to each other

We discoused about connections between wicked problems (climate change, biodiversity loss, pandemics) and the importance of creativity in future thinking.

We also learned how to handle wicked problems with different games, getting to know basics of futures sciences, learn to make utopias and dystopias.

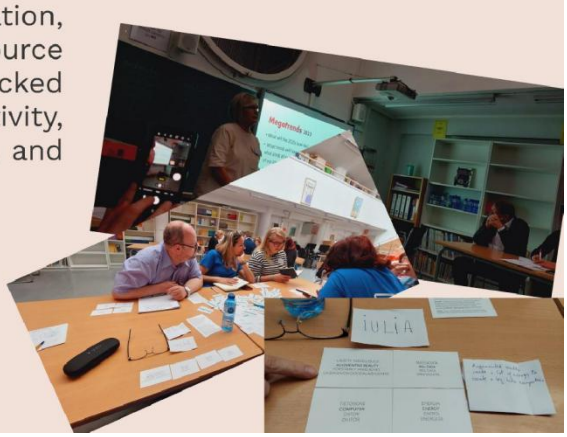



SCOALA GIMNAZIALĂ NR. 11, BUZĂU
Co-funded by the
Erasmus+ Programme
of the European Union
"Daring Teachers in a
Daring Environment"
2023-1-RO01-KA122-SCH-000123904



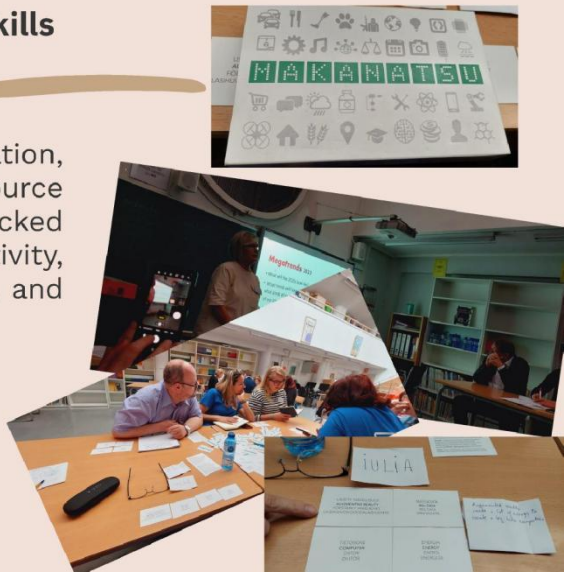
Wicked Problems and Future Skills

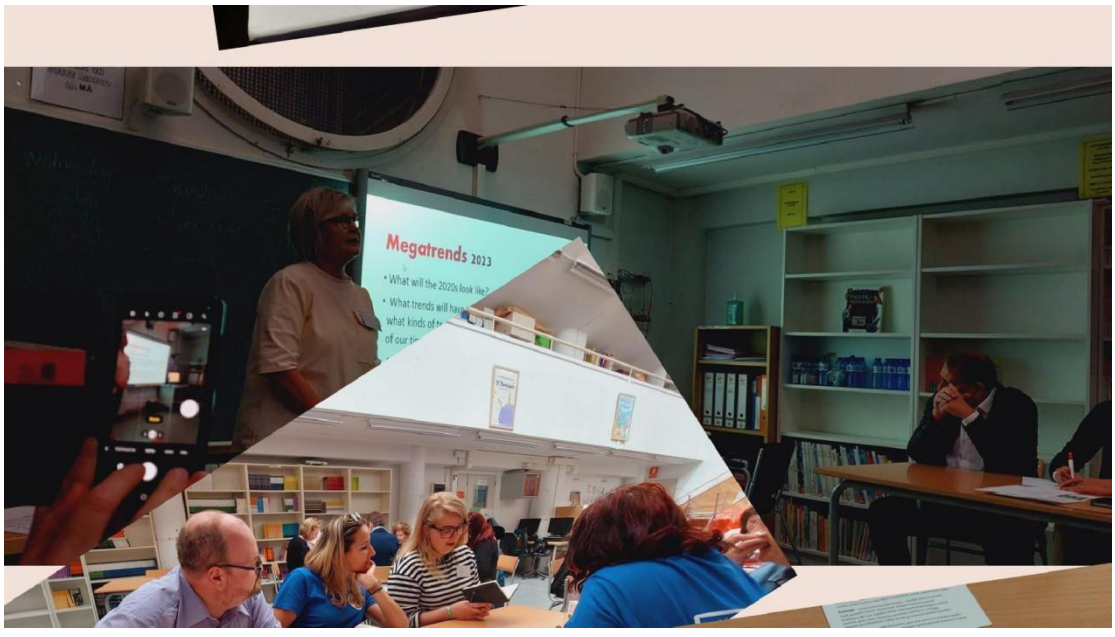
Climate crisis, urbanization, population growth, and resource scarcity are interconnected wicked problems requiring creativity, problem-solving, communication, and cooperation skills.

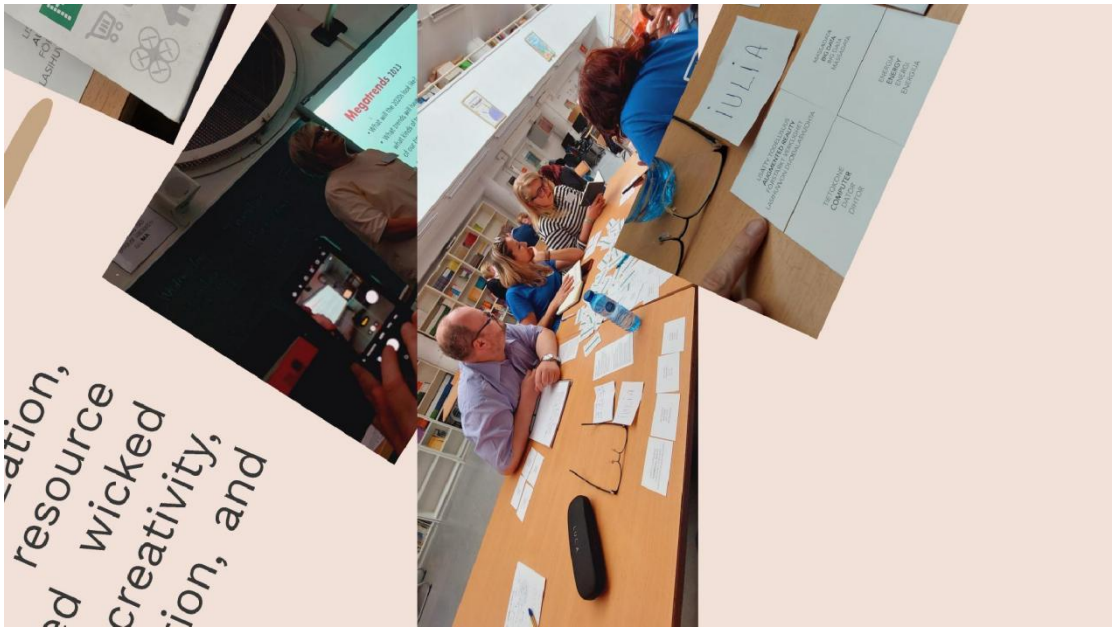


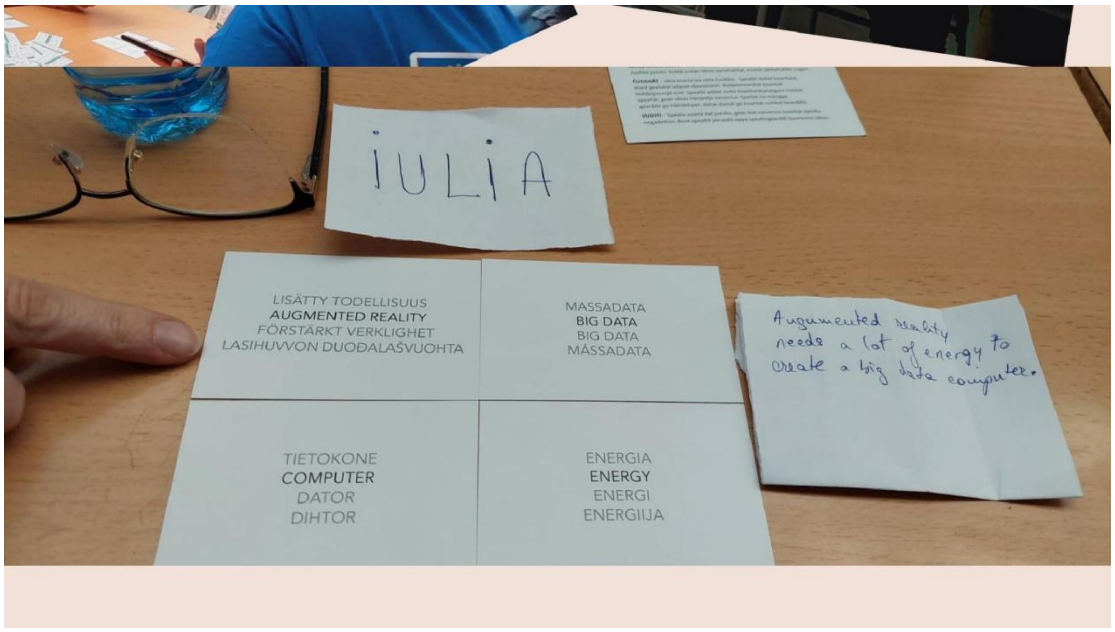
Wicked Problems and Future Skills

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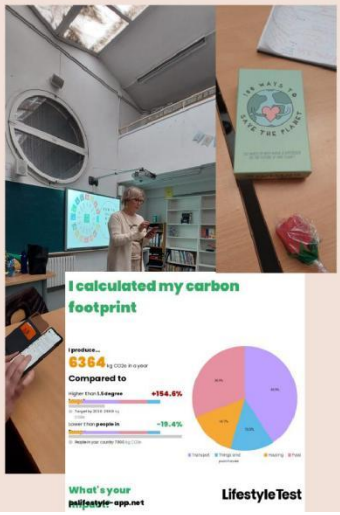

Megatrends 2011
iULiA
resource
wicked
creativity,
and


iULiA
LISÄTTY TODELLISUUS
AUGMENTED REALITY
FÖRSTÄRKT VERKLIGHET
LASIHUVVON DUODALAŠVUOHTA
MASSADATA
BIG DATA
BIG DATA
MÁSSADATA
TIETOKONE
COMPUTER
DATOR
DIHTOR
ENERGIA
ENERGY
ENERGI
ENERGIIJA
Augumented reality needs a lot of energy to create a big data computer.

Sustainability and circular economy are the best-known practical solutions to wicked problems

Understanding sustainable development, understanding the importance of stopping overconsumption based on all thinking, understanding the unavoidability of circular economy thinking, understanding the link between circular economy and biodiversity, to know the most effective ways in circular economy.

We had practical exercises for schools to learn about the circular economy, testing your lifestyle.



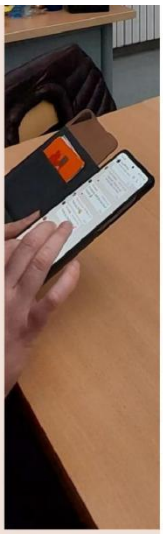
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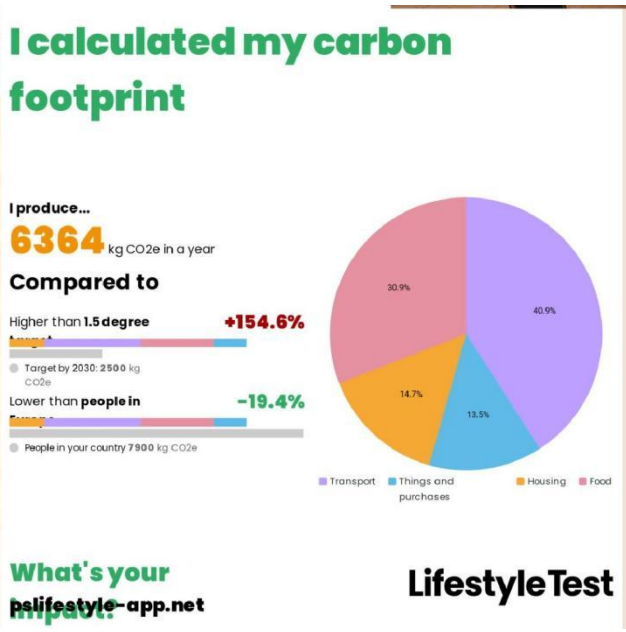
ercises for schools to ular economy, testing

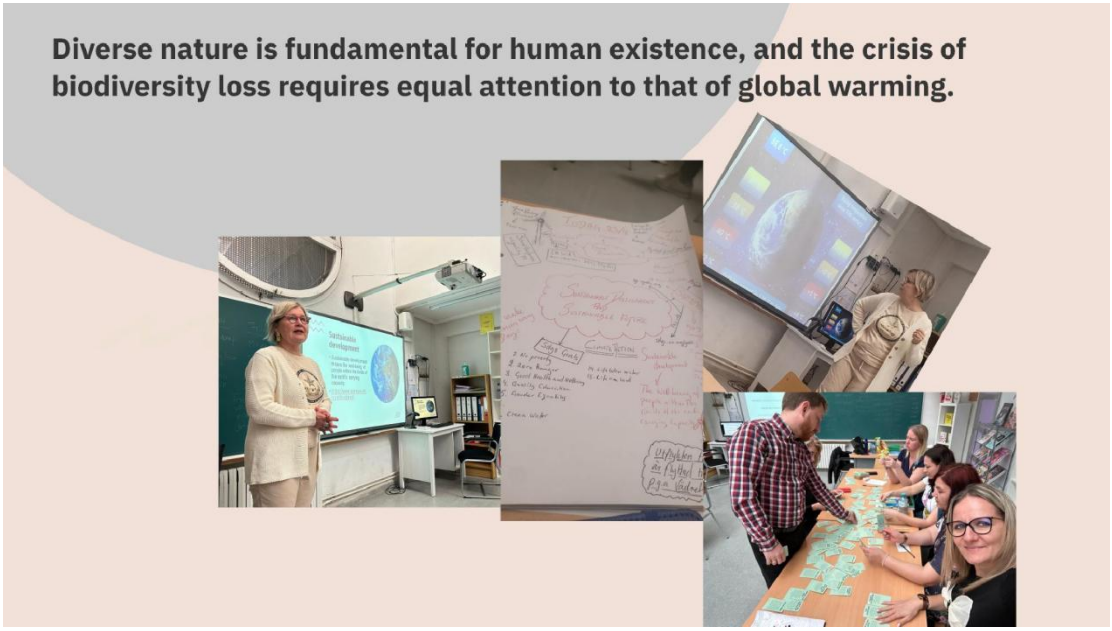


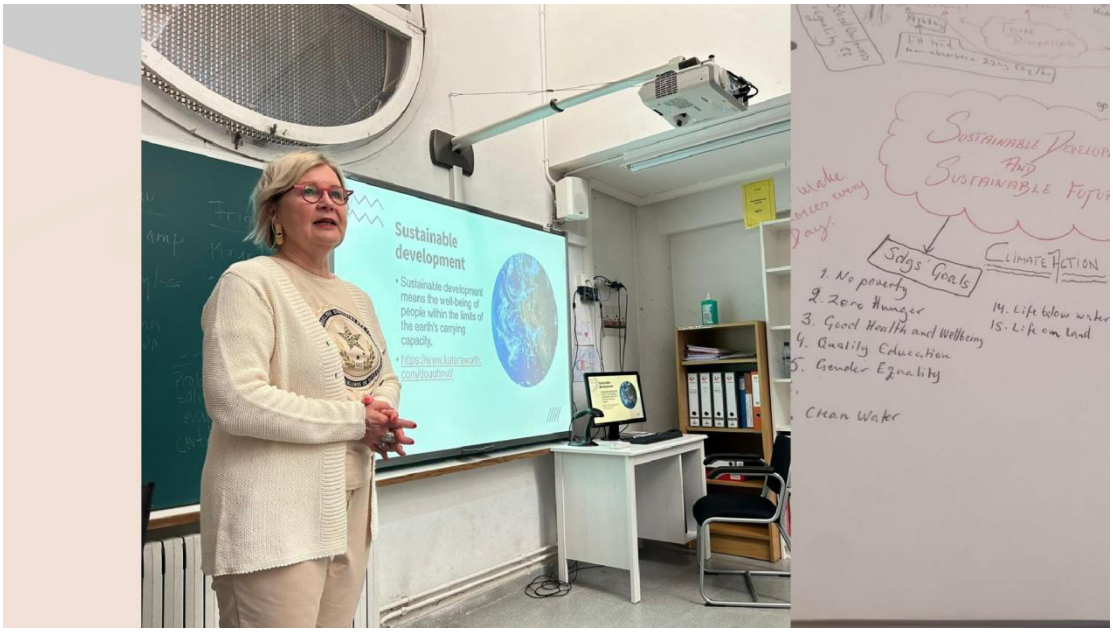


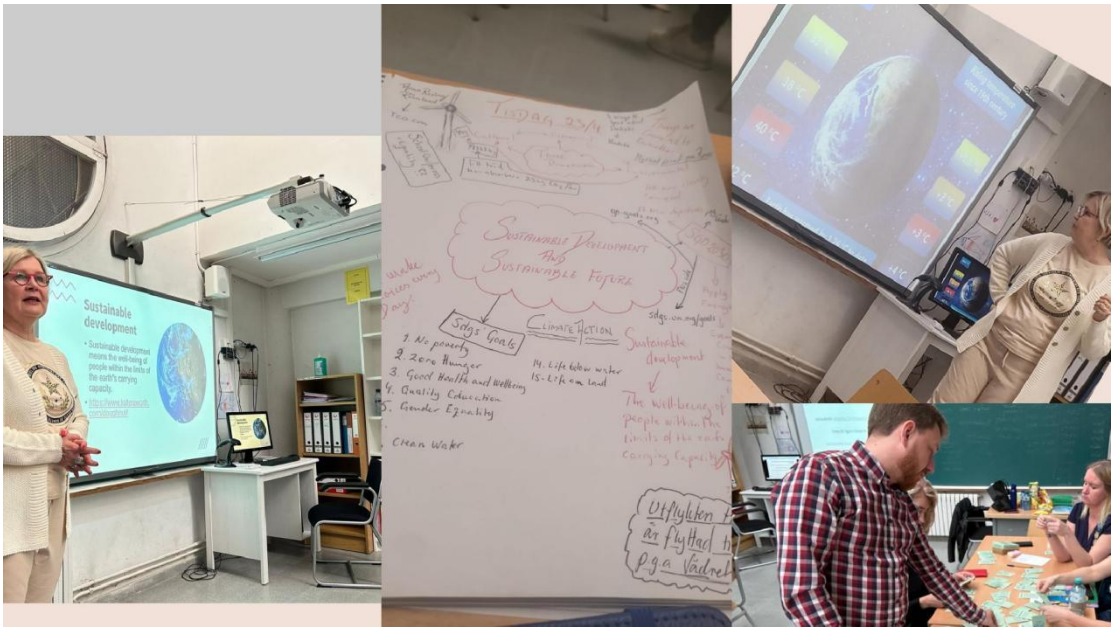

100 WAYS TO
SAVE THE PLANET




I calculated my carbon footprint
I produce...
6364 kg CO2e in a year
Compared to
Higher than 1.5 degree
+154.6%
Target by 2030: 2500 kg CO2e
Lower than people in
-19.4%
People in your country 7900 kg CO2e
30.9%
40.9%
14.7%
13.5%
Transport
Things and purchases
Housing
Food
What's your impact?
pslifestyle-app.net
LifestyleTest


Diverse nature is fundamental for human existence, and the crisis of biodiversity loss requires equal attention to that of global warming.


Sustainable development
Sustainable development means the well-being of people within the limits of the earth's carrying capacity.
SDGs Goals
CLIMATE ACTION
1. No poverty
2. Zero Hunger
3. Good Health and Wellbeing
4. Quality Education
5. Gender Equality
14. Life below water
15. Life on land
Clean Water


Sustainable development
Sustainable Development and Sustainable Future
Climate Action
Sustainable development
The Well-being of people within the limits of the earth's carrying capacity
Utflykten är flyttad p.g.a Vädret


Utflykten är flyttad p.g.a Vädret



Call for Action! Circular economy or/ and biodiversity day

Addressing global challenges demands the development of future skills and a unified effort towards sustainable solutions.

Understanding the importance of nature resources to biodiversity loss, knowing the importance of city nature, get aware of the means to avoid people's effect in the city nature, the importance of art in thinking about the future.

How to make your school circular and how to implement it, find out the ways involve students in the circular economy work, learn to take contact to municipalities, learn to take the response, learn to minimize anxiety and stress by being active in circular economy.

Learn to observe the nature and changes in it, learn to use digital apps in identification of species, notice the impact of climate change in nature.

How to make a practical circular economy plan for the school, how to make students be circular economy agents, learn to realize the effects of different actions, learn to calculate energy loss and consumed water.



ance of city nature,
s effect in the city
about the future.
how to implement
the circular
municipalities,
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Take the future in your hands, skills needed for good choices

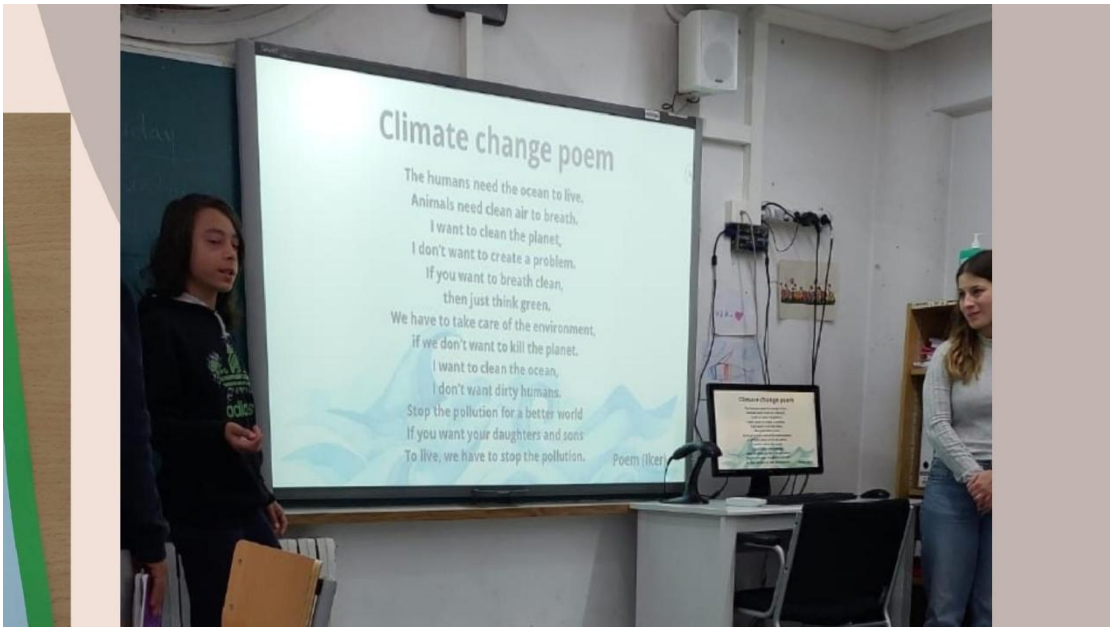
Understanding that future skills can be developed and thus influence one's future, future professions, the importance of one's own choices, stopping to look at one's own life.








Think green, go clean, survive


Climate change poem
The humans need the ocean to live.
Animals need clean air to breath.
I want to clean the planet,
I don't want to create a problem.
If you want to breath clean,
then just think green.
We have to take care of the environment,
if we don't want to kill the planet.
I want to clean the ocean,
I don't want dirty humans.
Stop the pollution for a better world
If you want your daughters and sons
To live, we have to stop the pollution.





“What a wonderful world…” towards better future

The importance of biodiversity loss, the reality of environmental anxiety, especially for young people, finding hope, practicing good negotiation skills, busting myths, active citizenship.

Getting to know and using learning methods that awaken hope and bring joy.







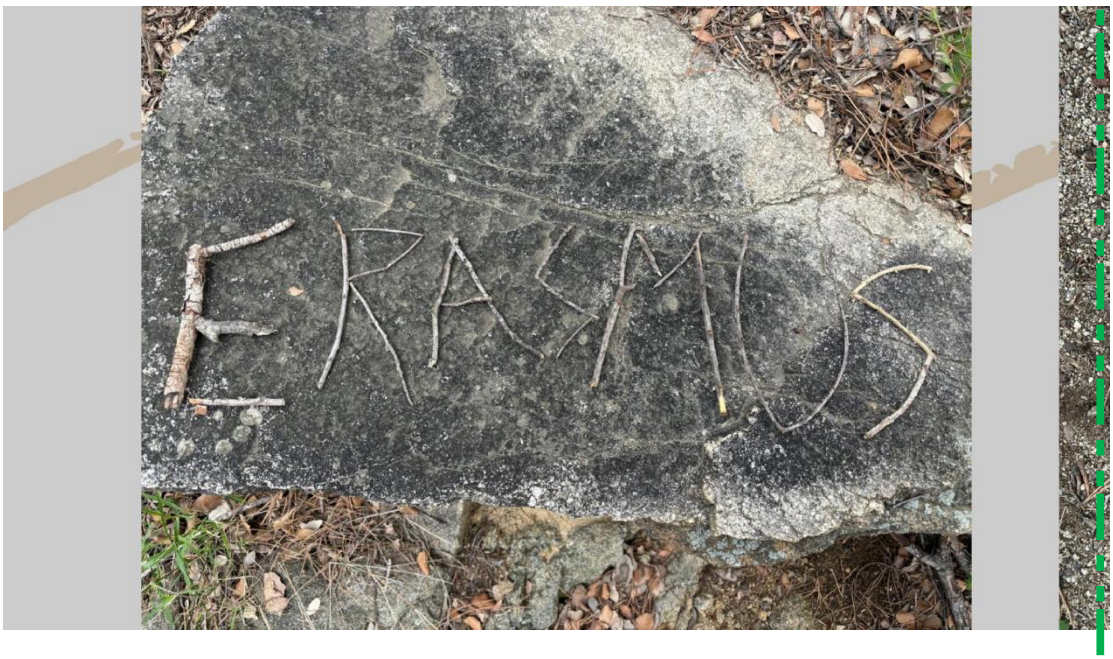


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ERASMUS

Take the future in your hands, skills needed for good choices

Understanding that future skills can be developed and thus influence one's future, future professions, the importance of one's own choices, stopping to look at one's own life.

How can I implement a future camp in my own school and convert it for my own use.







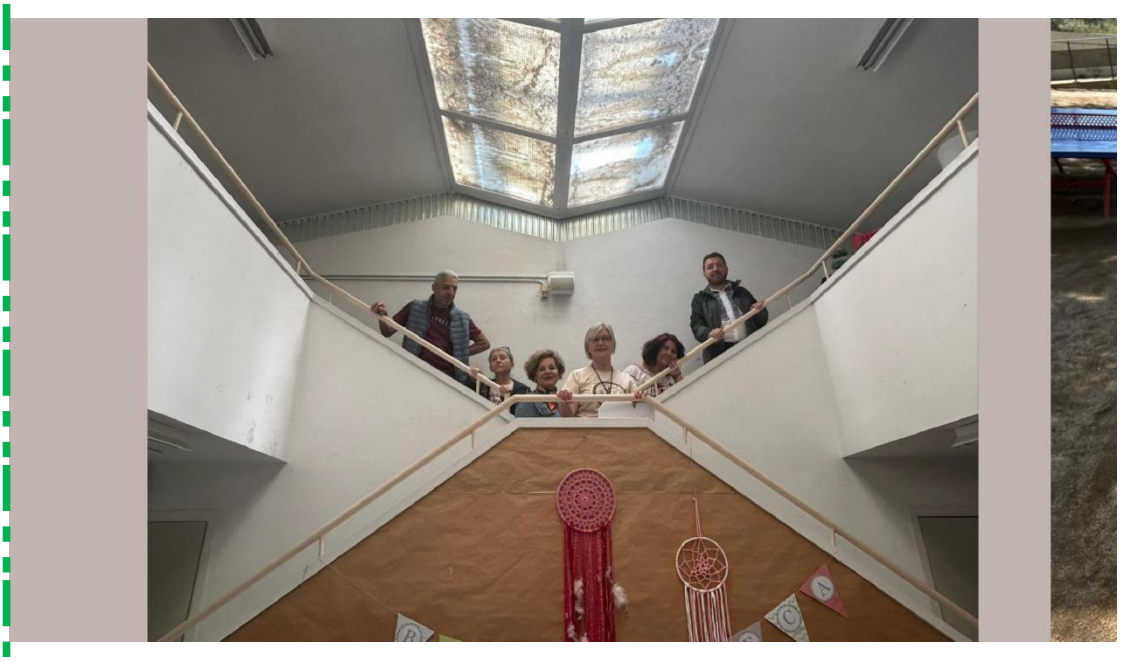







WAKE
HR







Summary and Conclusion



To combat global crises, future skills must be developed, and efforts towards sustainability and biodiversity conservation must be unified.







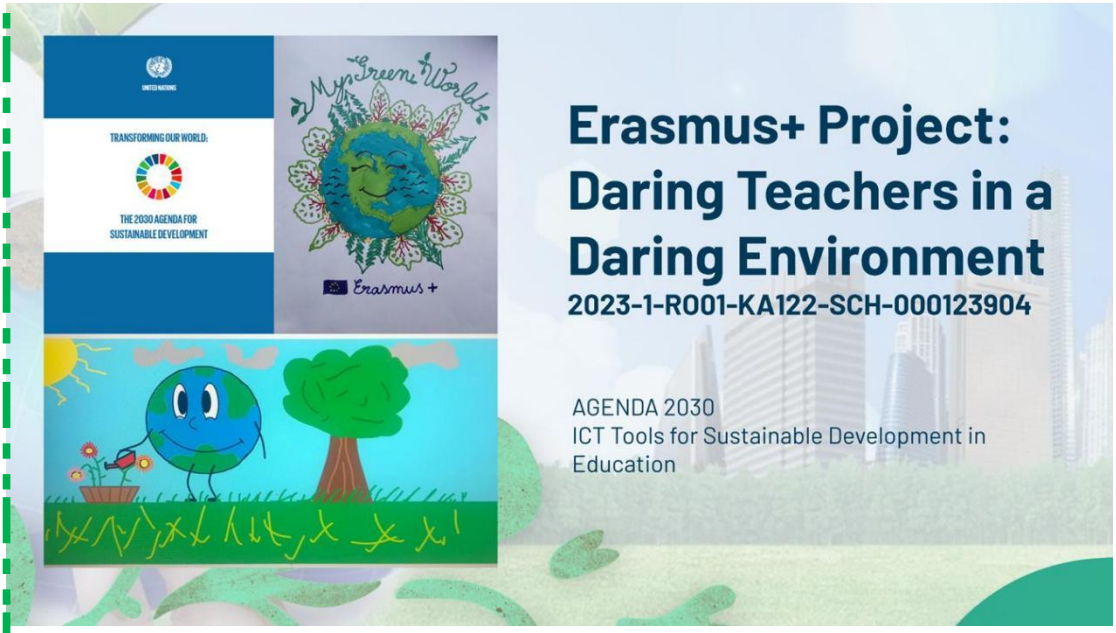






C."Agenda 2030:ICT Tools for Sustainable Development"Italia.



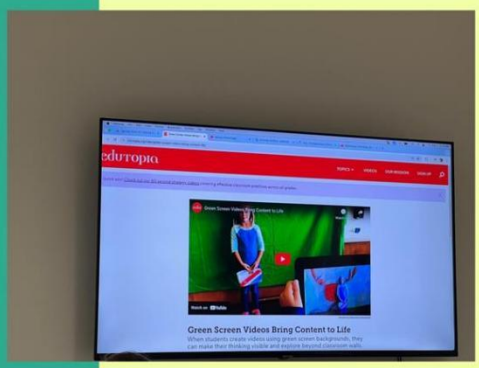




Introduction to Erasmus+

Erasmus+ is a European Union initiative aimed at enhancing education, training, youth, and sport across Europe. It promotes international cooperation and partnerships, facilitating exchanges and collaborative projects that foster educational innovation and inclusion.



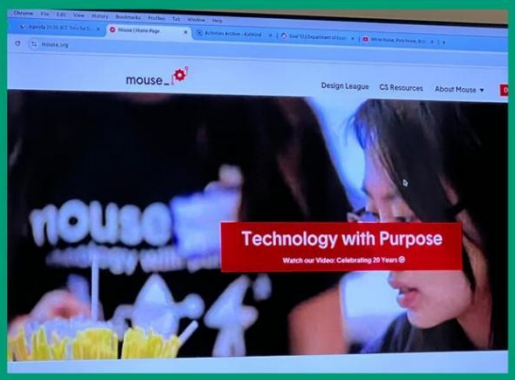


Importance of Agenda 2030

The UN's Agenda 2030 outlines 17 Sustainable Development Goals (SDGs) that address global challenges, including poverty, inequality, climate change, and education. Integrating these goals in education empowers students to actively contribute to a sustainable society.

Objectives of the Project

The primary objectives include enhancing digital skills for 70% of school teachers and training 12 teachers in green skills. Additionally, the project aims to engage 70% of school students in sustainability topics, fostering a new generation of environmentally-aware individuals.

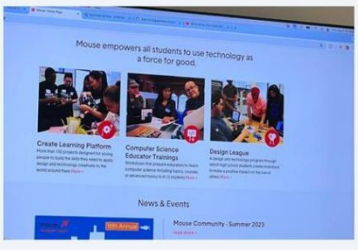


Digital Technologies in Education

Digital technologies play a vital role in modern classrooms, enhancing teaching methodologies and fostering student engagement. By integrating ICT tools with curriculum, educators can effectively convey the United Nations' 2030 Agenda for Sustainable Development goals.

Role of ICT Tools

ICT tools facilitate interactive learning experiences, allowing teachers to present information in diverse formats. They support collaboration among students and enhance their critical thinking skills by providing access to a wealth of resources and digital content.



Integration of Global Goals

Integrating the UN's 2030 Agenda global goals into classroom activities using digital technologies fosters awareness and responsibility. Teachers can facilitate discussions around sustainability topics, encouraging students to think critically about their roles in achieving these goals.



Overview of EdTech Apps

A range of quality edTech apps are available to enhance teaching and learning. These tools not only aid in organization and planning but also provide interactive experiences that make learning about sustainability engaging and effective for students.



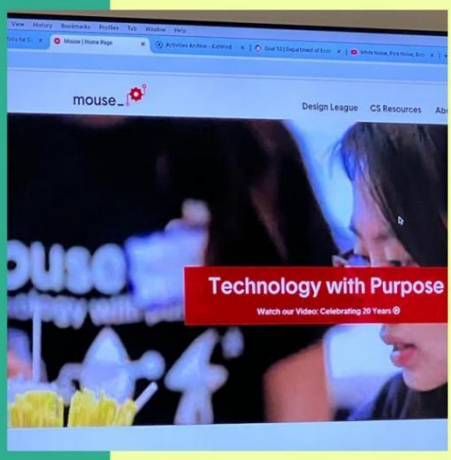
Development of Competencies

This section focuses on enhancing teacher competencies through targeted training in green skills, which in turn positively impact student learning outcomes related to sustainability. As digital skills evolve, educator preparedness plays a crucial role in fostering environmentally responsible behaviors among students.

Training Green Skills for Teachers

Training for teachers in green skills aims at equipping them with the knowledge to promote sustainability in classrooms effectively. By focusing on environmental education, teachers become agents of change, capable of integrating sustainability practices into their teaching methods and influencing student attitudes towards eco-friendly behaviors.





Impact on Student Training

As teachers develop green skills, students benefit through enriched learning experiences that emphasize critical thinking about sustainability. This training empowers at least 70% of school students, fostering a generation that is more informed and engaged in sustainable practices and environmental stewardship.

Measuring Competency Development

Competency development in green skills for teachers and students can be measured through assessments, feedback, and real-world applications of sustainability projects. Tracking effectiveness ensures that educational goals align with the 2030 Agenda for Sustainable Development and facilitates continuous improvement in teaching and learning.





Digital Skills for Teachers

Digital skills are crucial for teachers to effectively incorporate sustainability practices in education. Training programs are designed to equip 70% of teachers with essential digital competencies, enabling them to find and use quality edTech apps and AI tools for enhanced teaching activities.



Implementation of Sustainability Activities

Empowered teachers implement activities that directly address sustainability and climate change issues. These initiatives, integrated into the curriculum, provide students with hands-on experience in understanding environmental impacts and promoting sustainable practices.



Addressing Climate Change Education

Education on climate change is critical within the Agenda 2030 framework. The project focuses on training 70% of school students in relevant digital skills, preparing them to engage with and address environmental challenges in their communities.



Project Outcomes and Future Directions

This section outlines the anticipated results of the Erasmus+ project and its alignment with long-term sustainability goals, while providing a roadmap for future implementation efforts.



Expected Outcomes

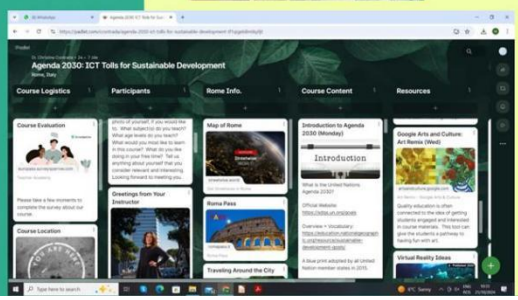
The project aims to train at least 12 teachers in green skills and enhance digital capabilities for 70% of educators involved. This competence development will directly influence teaching methodologies related to sustainability and climate change education.

Long-term Sustainability Goals

Aligned with the UN's Agenda 2030, the project strives to instill sustainable practices within education. Long-term goals include fostering a generation of environmentally responsible individuals equipped with essential green skills for the future labor market.







Next Steps for Implementation

To ensure the continuity of the project's impact, steps include the integration of trained teachers into curriculum design and continuous evaluation of effectiveness. The project will foster partnerships to expand access to digital tools and resources beyond the project's timeframe.

APLICAȚII



Almanack is an AI tool that helps teachers create lessons, slide decks, worksheets, report card comments, and more. Teachers can prompt the AI to generate content in any subject. Educators can select from hundreds of standards frameworks (like Common Core, NGSS, or ISTE) for Almanack to use when creating content. Choose which students can receive differentiated versions of presentations, worksheets, or lessons. Thankfully, after the AI generates content for the teacher, the teacher is brought to a simple editor to make basic edits. It's great that this step is baked in because, as with any AI product, tweaks and edits will be required.

Overall, it's straightforward to use Almanack to generate simple editable content. Content can be exported as a PDF or Microsoft Office file, or to Google Drive. Teachers can translate worksheets, slides, and similar items into many languages. If possible, have someone who speaks and reads the language look over the translations to get a sense for how well Almanack does. Almanack is designed for teacher use only; there is no student-facing product.

The creation of slide decks is one of Almanack AI's strong points. Teachers can instruct the AI to generate a slide deck on anything, like the structure of matter, an introduction to the Civil War, or how to write a detailed paragraph. For example, for a Civil War slide deck, Almanack generated a title slide and several slides with pictures about important contributing factors to the cause of the Civil War, its impact on different peoples, and its lasting effects on the United States. It also included a YouTube video and several questions (discussion, multiple choice, true or false), as well as "fun fact" and "joke" slides. As created, the slides would need several adjustments before using them with students. For example, in the Civil War case, the teacher may want to rearrange some slides, add a bit more context, and remove the joke slide because it doesn't feel appropriate. Nevertheless, using Almanack as a starting point would almost certainly be more time-efficient than creating slides from scratch.

Teachers will likely be drawn to using Almanack to help create lessons and units. They can create lesson plans with simple instructions, with the option to identify frameworks such as Bloom's taxonomy, backward design, inquiry-based, etc., for Almanack to use. Many of the lessons generated in the process of writing this review tended to be simplistic. They would serve as a good starting point, and perhaps a way to get new ideas, but the lessons themselves won't be classroom-ready (which is true for any AI-generated lesson). As with many AI products like Almanack, the more specific your prompt, the better your results will be, so be sure to at least let Almanack know what your learning objectives are. As always, be sure to look at all

AI-generated slides, lessons, and other content critically, as AI can produce content that isn't accurate or that includes bias or inappropriate material.

Editor's note: Never input personal, sensitive, or confidential information into a generative AI model. Any information you put in can become publicly available and used as training data for future iterations of the tool. If there is ever any doubt about whether or not to enter particular information, do not include it. Be aware of privacy settings on your device that might be helpful. Keep in mind that these tools often don't have their own privacy settings.



How can Iteach with this tool?

Magicschool.ai could be useful for teachers in many ways. The specifically designed tools give teachers lots of ideas about how generative AI can help them. For example, it can take on the busywork and tedium of constantly creating content or looking for just the right way to present a lesson. Teachers can browse the categories -- planning, student support, communication, productivity, and community tools -- to explore the options.

There are many AI tools within this one product, like a conceptual understanding generator, science lab generator, student work feedback tool, lesson plan generator, academic content generator, syllabus generator, behavior intervention suggestion generator, and many more.

Once teachers find a tool they like, the more specific information they put into the generator, the more relevant the output will be. Play around with adjusting the output's length, text complexity, and even language to see how little changes can make what comes out more or less useful. Teachers should thoroughly review the output to make sure that it is accurate, up to date, relevant, and appropriate.

On the first go, the AI output may not be exactly tailored for a specific grade level, so be sure to be as precise as possible when writing your prompts. For example, requesting a science lesson plan about rocks for "5-year-olds" will garner a different response than asking for one for "kindergarteners." Teachers may want to cover some basic guidelines for using AI fairly and safely, such as avoiding using personal, sensitive, or confidential information with the AI bot.

Magicschool.ai also includes an AI coach called Raina, which you can ask education-related questions 24/7. It's compliant with the Family Educational Rights and Privacy Act (FERPA) and offers tailored suggestions, definitions, and other types of targeted responses for new and experienced teachers.

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Note: Common Sense Growth (CSG) has invested in Magicschool.ai; however, our rating and review of [tool] was completed by Common Sense Education with full editorial independence. CSG's investment does not impact this rating or review or any updates to this rating or review.

What is this?

Magicschool.ai uses generative AI to produce a variety of educational and teaching-related content. There are more than 40 tools and content generators designed specifically for teachers within the product to help create content such as lesson plans, grading rubrics, parent emails, IEPs, math word problems, and even jokes. After signing up, teachers access a simple dashboard where they can choose which tool they want to use, from creating a behavior intervention plan to leveling a text's reading level up or down. Each tool works slightly differently, but most ask teachers to indicate grade level, input any relevant background information, and include general instructions for what they'd like to see created for them. The AI then takes over and creates something following the teacher's input. Teachers can then adjust reading level, make the output longer or shorter, ask for it in a summarized form, or translate it into more than 30 languages. When they're happy with the output, they can copy it and paste it wherever they want.

It is good for learning?

Magicschool.ai offers tools that can help take away some of the busywork and tedium of finding exactly the right words or format for much of what teachers need to create, such as lesson plans, email communications, and syllabi. It's important to remember, however, that the quality of what comes out depends on how well teachers guide the prompts. It's true that Magicschool.ai can create an assessment rubric, but the more relevant and useful information that teachers give the generator, the better the rubric will be.

And, as the site makes very clear, teachers still need to look over what comes out to check for accuracy and appropriateness, and customize as needed. So it's not quite time to hand over the reins to AI, but Magicschool.ai can be a great way for teachers to set a foundation, brainstorm some good ideas, or get some guidance on wording. And it's intuitive to use: Even those who don't know much about AI won't need much practice to see how the tool might help give them a little boost.

Diffit does a great job of quickly putting together resources on just about any topic you can think of—though there is a focus on English, social studies, science, and art. You can input a prompt for a specific topic, upload a link to a website or video, or drop in your own text, and the AI backend will create a series of resources you can use in your classroom. These resources are in printable and digital formats. This is where the tool shines: It can create PDFs, Google Forms quizzes, bubble maps, workbooks, vocabulary choice boards, character analysis sheets, interactive slides, and so much more. These resources can be used to introduce new topics, recap work already taught in class, organize thoughts on a larger research project, and more. It also stores past resources and searches to your account so that you can reference them later. Keep in mind that some of the resources and text the tool creates can be the same for all grades under fifth grade.

Diffit provides a number of resources for helping teachers understand how the tools work and how the content can be implemented in class. It also provides lots of options to personalize and edit the content to meet a class's needs. This is especially important given that all of the content is AI generated and needs to be reviewed for accuracy and appropriateness before it's presented to students (for example, the generator recommended that grade 11 students be asked to reflect on "when your own fatal flaw lead to a tragic event in your own life," which may not be appropriate for all students).

However, the base materials provided can be a real timesaver for teachers and provide a starting point for discussions and engagement. The other advantage of Diffit (and one of its main marketing points) is the ability to take the same base content or topic and differentiate it for students at different reading levels. For example, you can put in a topic like "the water cycle" and have it generate materials at a second grade reading comprehension level (along with appropriate questions) and at an 11th grade reading level. Another great feature: The tool can display footnotes with sources upon request, which makes it stand apart from less reliably sourced AI tools. Again, though, it's important for the teacher to double-check the materials provided before giving them to students.

Overall, Diffit does a good job generating base resources for teachers, but teachers need to take care before assembling the final product. While the tool is promising, it's still in beta and missing some of the features you'd expect to see in a tool made for education, such as feedback and reporting options. The free version is quite powerful and provides all but a few of the functions from the premium version. It's also worth noting that Diffit is most appropriate for language-based instruction, though it was able to handle some math questions as well.

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https://www.commonsense.org/education/lists/classroom-tools-that-use-ai
https://padlet.com/ccontrada/agenda-2030-ict-tolls-for-sustainable-development-tf1qigeb8mtky0jt
https://padlet.com/publicspeakingsc11bz/daring-kids-ready-for-environmental-challenges-hom3zj8dra7csct8

Name: _____ Course: _____

Learning What have I learned today? Write down at least three things	**Connection** How does today's learning connect to my previous learning and experience? -I already knew that... -I previously struggled... -It never occurred to me...	**Relevance and Impact** How is what I learned today relevant for me? How is what I learned today relevant for my school? How will what I learned today influence my future actions?	**Follow-up** What further questions do I have? Do I have anything to comment on? Any hints I would like to suggest?
Day 1			
Day 2			
Day 3			

Day 4			
Day 5			

Travelling Journal

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Haraga Maia Andreea.



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THE AIRPORT



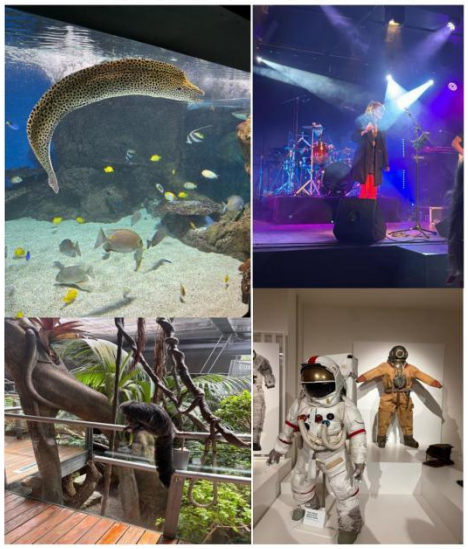
- The first day was truly exhausting. You can say that we walked enough for the rest of our lives!
- First, we said goodbye to our parents , excited to begin our first Erasmus project and probably the most interesting one yet. A bus came and everybody got in. We were joking and laughing the whole time, so none of us got any sleep.
- After 2 hours that passed faster than 2 minutes, we finally arrived at the airport, where we got our tickets and checked in. We waited almost 3 hours for our flight. During that time, we explored the airport and us girls even got a Victoria's Secret body mist.
- I couldn't wait to get on the plane, since it was my very first time flying , so I was super excited.
- While we were on the plane, I took a lot of pictures since the sky was very pretty and colorful.
- After we finally landed, which seemed like forever, we got our luggage and we waited for another bus to pick us up and drive us to Granada.
- When we arrived, Marina, my partner's mom was waiting for me and we got home very late , so I went straight to bed.
- That's where my journey began!

ANOTHER SCHOOL



- On the second day, we got to see how the school system in Spain is like!
- The kids were very nice and welcoming, while the school was very big and much more different than our school.
- We started the day with some fun games and introducing ourselves, so we could all get to know each other better, then we went to gym class, which was very fun and new to all of us, the Romanian students. After that, we went to present our school to some classes and the children were very interested in finding more about our school, it was very nice meeting them!
- Then, some of us went to get pizza, which was very delicious .
- When school finished, me with my partner Julia, my class mate Daria and her partner went on a walk and got some boba tea and chat to get to know more about each other. We got home at about 8 o'clock, then we went to sleep,

NEW PLACES



- The third day was my favorite day, we had so much fun, I would love to relive it again!
- First, we went to school for a bit for a Spanish lesson, which was very easy and fun, then we picked up our partners in order to go to the Science Museum by foot. It was a very long walk, but it was all worth it in the end!
- Once we got there, we visited the space gallery, where we saw a short movie and astronaut suits, which were surprisingly big, compared to a human. Then, we visited the Biodome, which , for me, was the star of the show, because we got to see jellyfish, a lot of fish species, monkeys, toucans and much more adorable animals.
- After that, we had a little lunch break , then we went and visited a room where the human body was explained and we learned a lot of things there!
- Then, we visited a room where predator animals were presented. We got to see how they hunt other animals and it was really interesting.
- After we left the museum, me , Daria , teacher Ana , Julia (my partner) and her mom went to a concert and I loved the music! There was a very pretty lady that sang cover songs of Queen, Amy Winehouse and other artists .
- After the concert, we went home and had Kebab for dinner, which was amazing, then we went to sleep in order to get some rest, so we could be fresh the next day!

THE ALHAMBRA






- On the fourth day, we visited the Alhambra, a fortress complex in Granada, which amazed us all with its beautiful architecture.
- Before visiting the Alhambra , we quickly visited Granada's Cathedral, which was very big and beautiful.
- First, we went to school so we could all meet, then we walked and paid for a Road Train ticket to get there faster.
- The way to the Alhambra was relatively long, but I enjoyed it because the roads and the buildings were very colorful . On the roads , you could see many orange trees, with freshly grown oranges.
- Once we finally arrived , we saw that the Alhambra was bigger than we imagined. The architecture was very detailed and beautiful.
- We stopped to take some pictures, then we went to get some ice cream and some of us got sandwiches, then we waited for the bus, which only 7 of us could take, because there weren't enough seats.
- Then, we went to the school to pick up our partners and we went to the Albaicin, where we could see the whole city and the views were spectacular.
- After we got home, for dinner we had the best known traditional Spanish dish named paella, it had rice and vegetables with chicken and it was very delicious!
- On this day, we walked a lot, so we were very tired, but we saw some very beautiful places, so it was all worth it!

REUSE, RECYCLE, REDUCE







- On the fifth day, we visited a Recycling centre, where we learnt a lot of new things, such as the process of recycling.
- When we arrived, we met a very nice man, who talked to us about different materials to recycle and how we should recycle them.
- After that, we played a game where we had to unlocks some locks in order to obtain a secret note, I think.
- Then, we had a little lunch break and when we finished, the guide talked to us about the recycling process, which they used a lot of machines for, it seemed really complicated.
- After the guide finished explaining everything, we took a bus so we could see how the recycling machines worked and we saw a lot of trash being picked up. It didn't smell nice, but after a while, we got used to the smell, and it didn't bother us anymore.
- After we left the Recycling center, we went to the biggest make up shop that we had ever seen, with our partners, and we loved it! Needless to say the shopping spree began!

SAYING GOODBYE

- Almost every morning, Marina, Julia's mom , cooked for us a Spanish version of scrambled eggs, which was very tasteful. I even helped preparing it there and already cooked it for my family, at home.
- We all cried while saying goodbye to our new, long distance friends, that we got along so well with.
- None of us wanted to say goodbye and we knew that we would miss them a lot.
- We made so many memories that will constantly live free in our minds.
- But, maybe, we will see them again, if they come to Romania for their experience change, next year.
- After we said goodbye, we visited a building that is specific to Spain. It was really colorful, I enjoyed that day as well!

