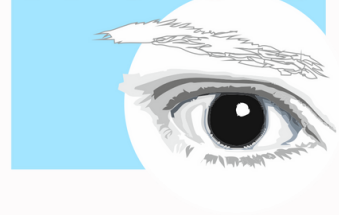


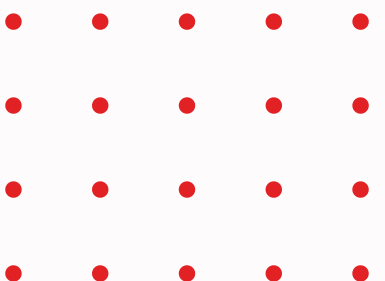
seeing the
invisible



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TOOLS ADAPTED TO STUDENTS WITH LOW VISION

INCLUSIVE DIGITALIZATION OF LOW VISION
STUDENTS IN PRIMARY AND SECONDARY EDUCATION



This presentation has been created within the framework of the Erasmus+ Project

“SEEING THE INVISIBLE: INCLUSIVE DIGITALIZATION OF
LOW VISION STUDENTS IN SCHOOL EDUCATION”

This project is co-funded by the Erasmus+ Programme of the European Union. The content of this presentation is the sole responsibility of Redtree Making Projects Coop.V. and the organizations collaborating in the project, and neither the European Commission nor the Spanish Service for the Internationalization of Education (SEPIE) can be held responsible for the use made of the information disseminated here.

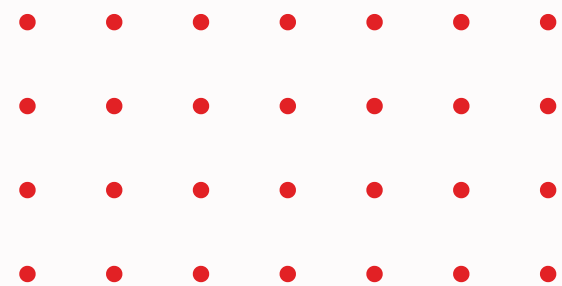


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CONTENTS

- 01** Description
- 02** Beneficiaries
- 03** Open Educational Resources
- 04** Access and download

seeing the
invisible



DESCRIPTION

42 Unique digital resources to support the teacher's work in the classroom, not only because they are directly adapted to the low vision suffered by people with aniridia and albinism, but also because they include a wide variety of formats and types (digital APPs, assessment mechanisms, guidelines, disease detection systems, curricular adaptations...).



BENEFICIARIES

Teachers



With these open educational resources, teachers can complement the training of their low vision students both in the classroom and at home.

Students with low vision



All elementary and middle school students with low vision. These applications have solutions to very problematic issues for students with low vision in subjects like math, in which not perceiving full equations means serious complications.

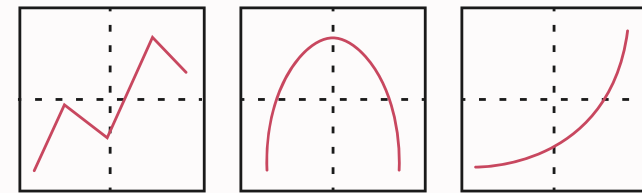
Educational community



All those people who are part of and influence the educational environment of students with low vision.

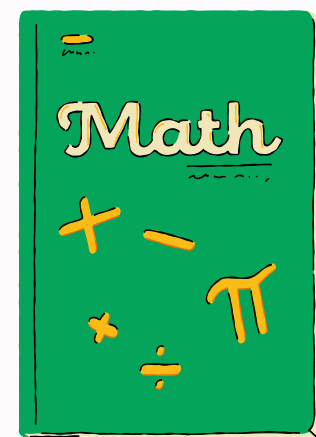
**OPEN
EDUCATIONAL
RESOURCES**

ANDROID APP

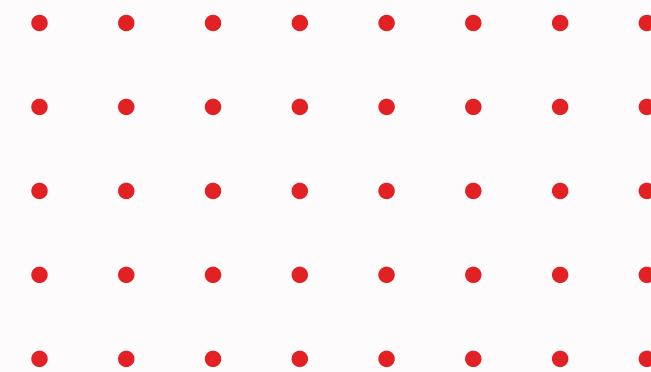


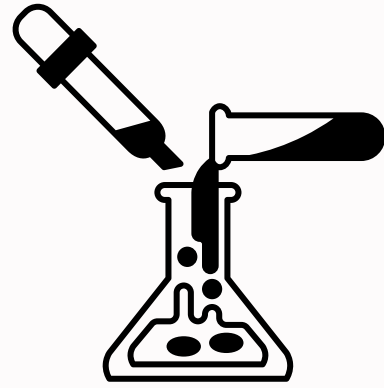
MATH APP: CREATE EQUATIONS FOR YOUR STUDENTS

This is an APP designed for secondary students with low vision. STUDENTS can solve mathematical equations with this APP in a simple, dynamic, and adapted way. TEACHERS can create their own mathematical equations with it for your low vision students.

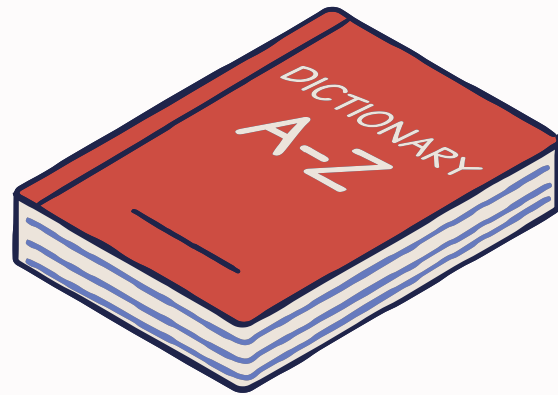


LEARN MATH: This is an APP designed for secondary students with low vision to solve mathematical equations in a simple, dynamic, and adapted way.

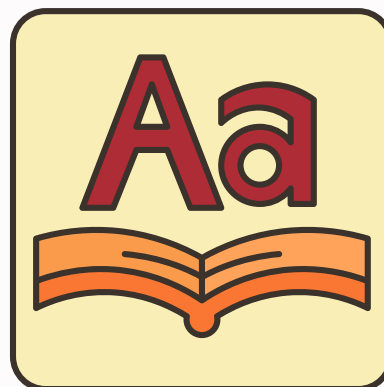




LEARN CHEMISTRY: This is an APP designed for secondary students with low vision so they can solve chemical equations in a simple, dynamic, and adapted way.



LEARN ENGLISH: This is an APP designed for secondary students with low vision so they can practice English vocabulary in a simple, dynamic, and adapted way.

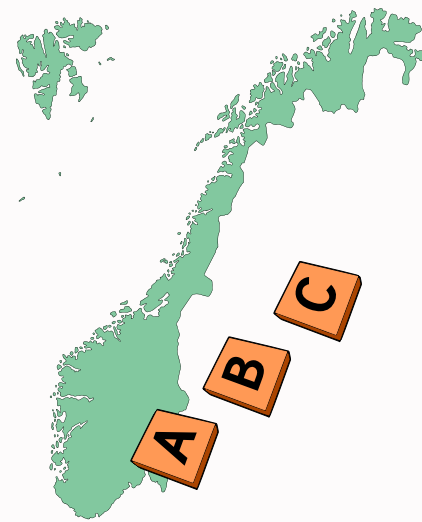


LEARN SPANISH: This is an APP designed for secondary students with low vision so they can practice spanish vocabulary in a simple, dynamic, and adapted way.

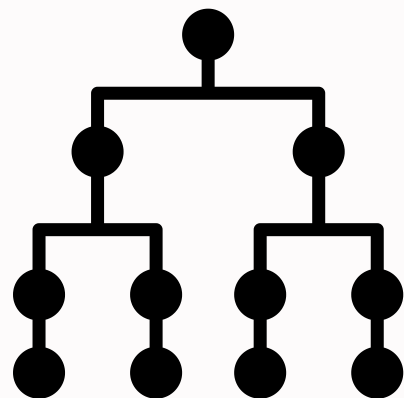




LEARN ITALIAN: This is an APP designed for secondary students with low vision so they can practice italian vocabulary in a simple, dynamic, and adapted way.

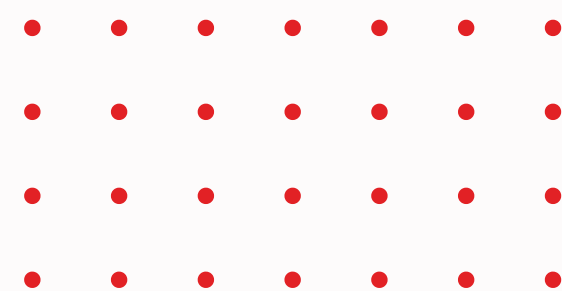


LEARN NORWEGIAN: This is an APP designed for secondary students with low vision so they can practice Norwegian vocabulary in a simple, dynamic, and adapted way.



MAKE DIAGRAMS: This is an APP designed for secondary students with low vision so they can create diagrams (concept maps) in a simple, dynamic, and adapted way.

In this way they can prepare their topics for study and also create the concept maps to use in the classroom.





LEARN FRENCH: This is an APP designed for secondary students with low vision so they can practice french vocabulary in a simple, dynamic, and adapted way.



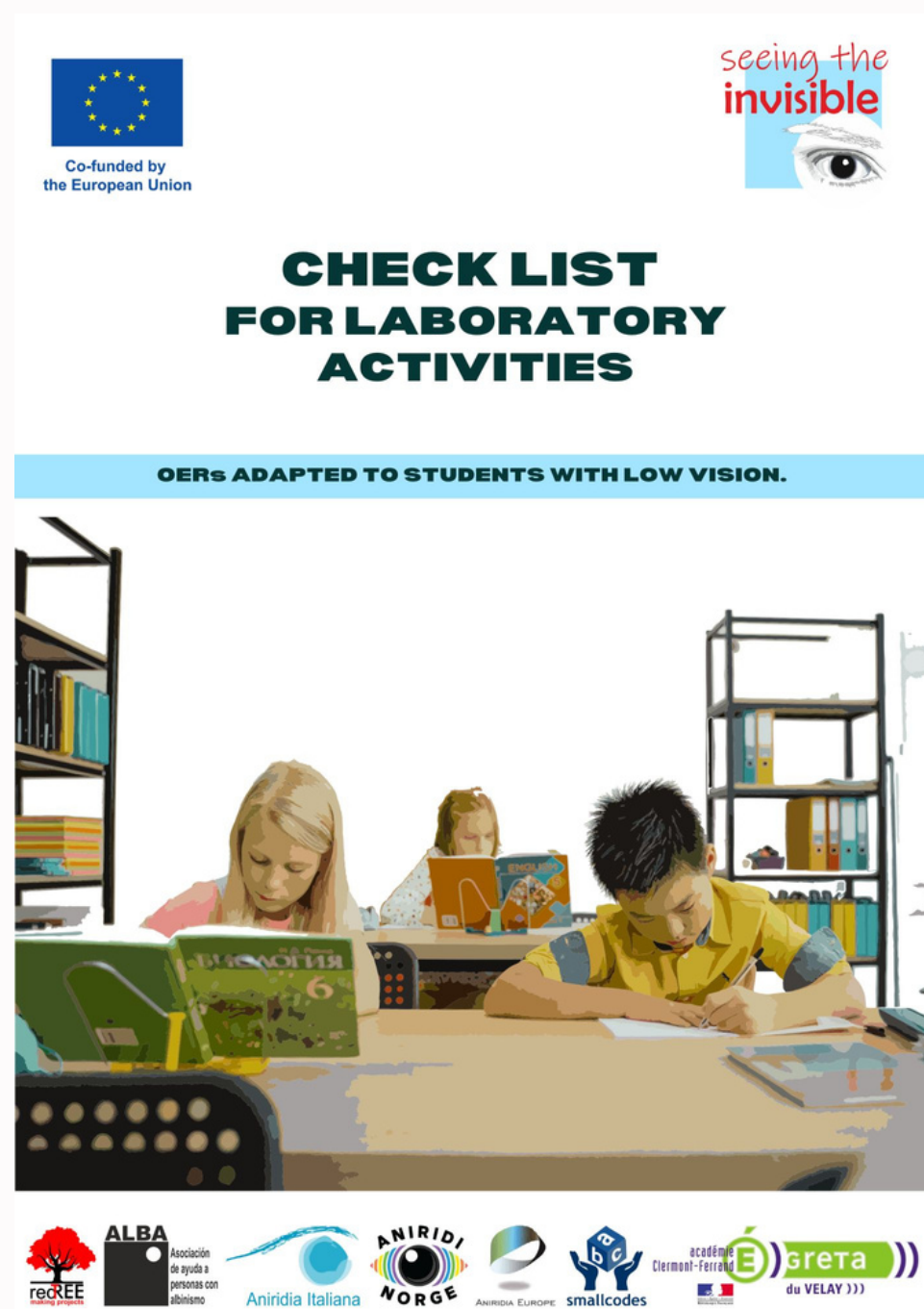
STUDY WITH PRESENTATIONS: This is an APP designed for secondary students with low vision so they can create their own presentations.



LEARN GEOGRAPHY: This is an APP designed for secondary students with low vision so they can learn about Europe's geography in a simple, dynamic, and adapted way.



CHECKLIST



CHECKLIST FOR LABORATORY ACTIVITIES

The objective of this open educational resource is to offer the teachers of subjects that include laboratory activities a checklist to verify that they have made the main adaptations to develop the activity with students with low vision properly.



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CHECK LIST FOR CURRICULAR ADAPTATIONS

OERs ADAPTED TO STUDENTS WITH LOW VISION.



ALBA
Asociación
de ayuda a
personas con
albinismo



ANIRIDI
NORGE



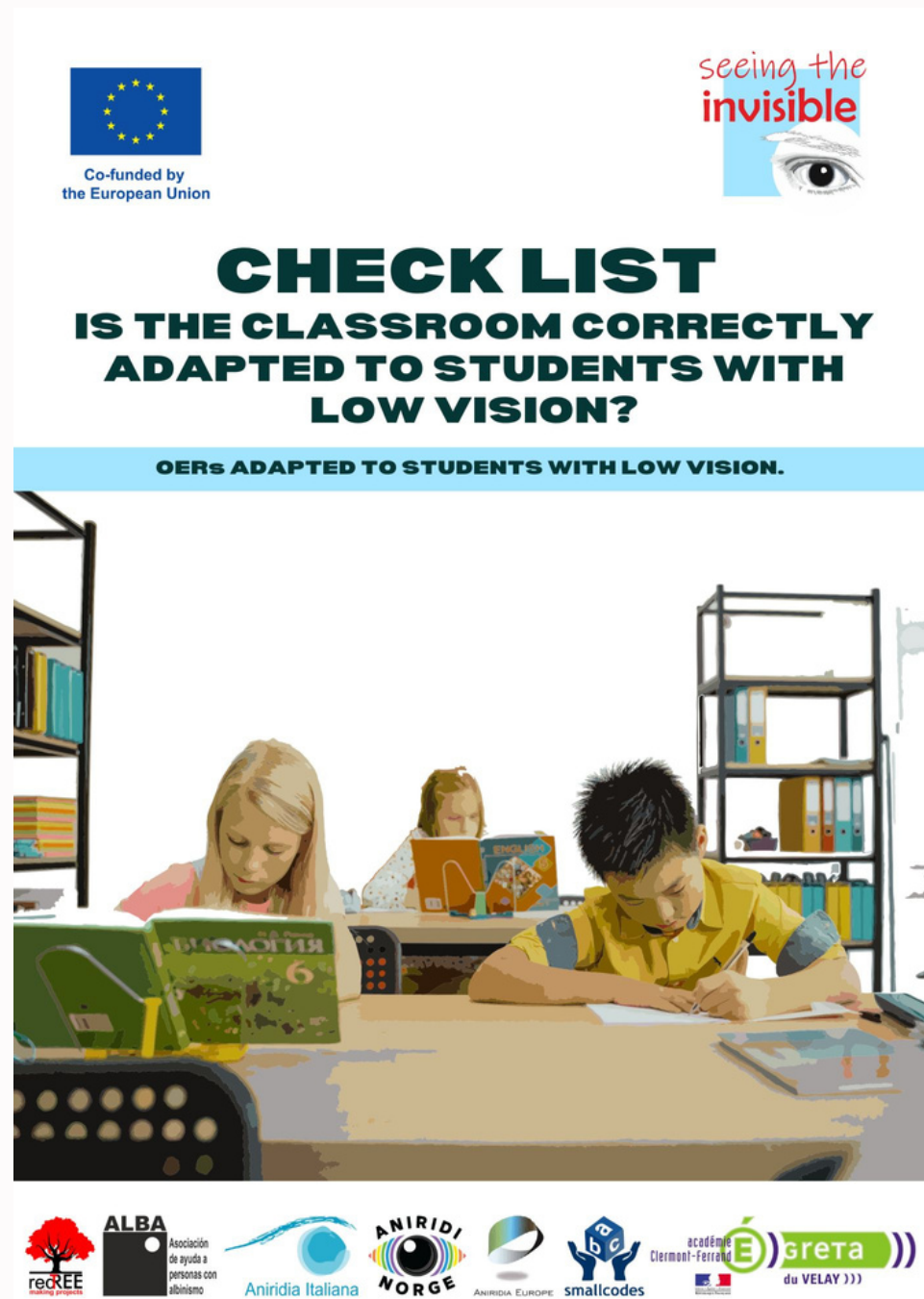
smallcodes



Académie
Clermont-Ferrand
E)greta
du VELAY)))

CHECKLIST FOR CURRICULAR ADAPTATIONS

To create the curricular adaptations of these students, it is essential to focus on the help they need and what they can do, avoiding to focus on what they cannot do due to their low vision.



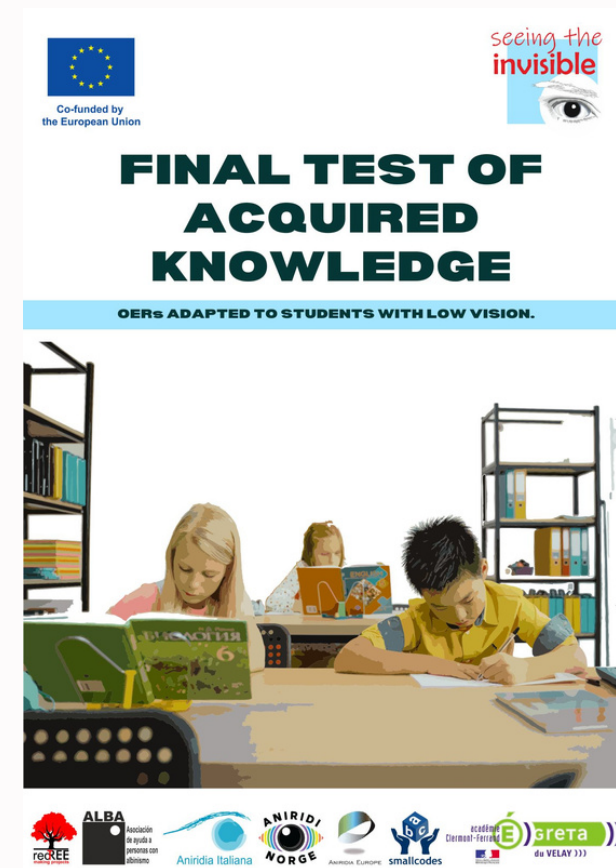
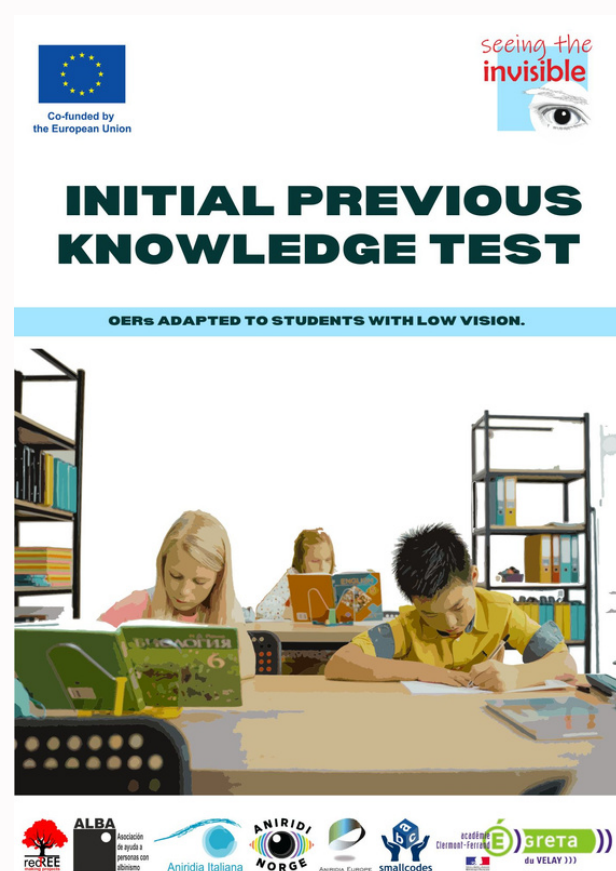
CHECKLIST: IS THE CLASSROOM CORRECTLY ADAPTED TO STUDENTS WITH LOW VISION?

The objective of this open educational resource is to offer teachers a checklist for them to check if the classroom is correctly adapted to students with low vision.

TESTS FOR TEACHERS

FINAL TEST OF ACQUIRED KNOWLEDGE

The objective of this open educational resource is to offer teachers a final test to assess the knowledge they have acquired on Albinism and Aniridia after having learned how to teach students with low vision. In this way teachers can verify if they have the necessary knowledge for the inclusive adaptation of the classroom to these students.

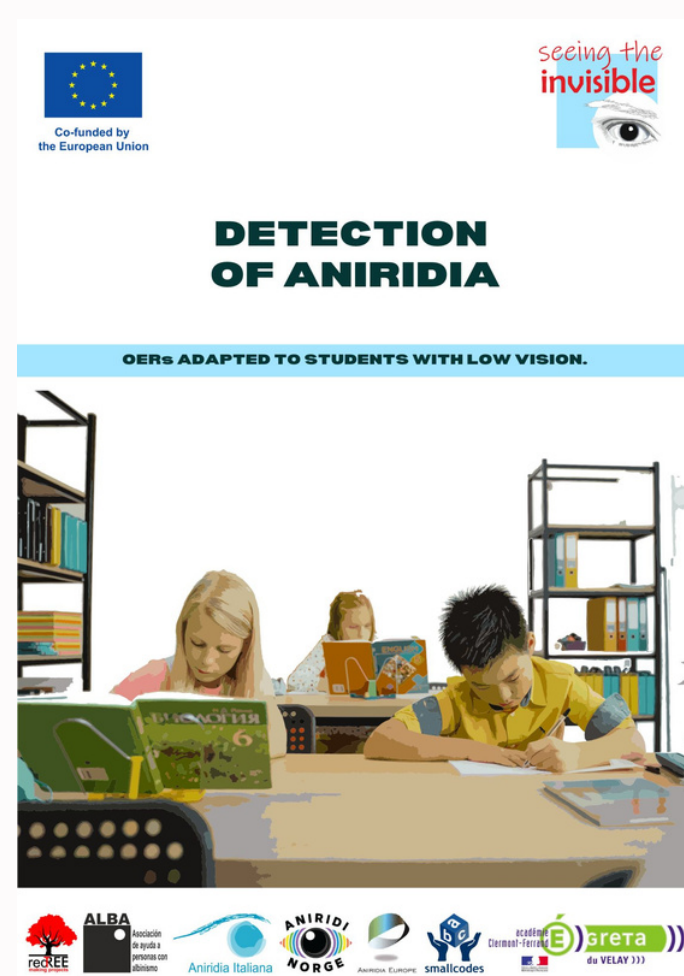


PREVIOUS KNOWLEDGE INITIAL TEST

The objective of this open educational resource is to offer teachers an initial test to know their knowledge about Albinism and Aniridia before they teach students with low vision. In this way they can access information on the characteristics of both diseases and the visual impairment they cause with the knowledge available to them.

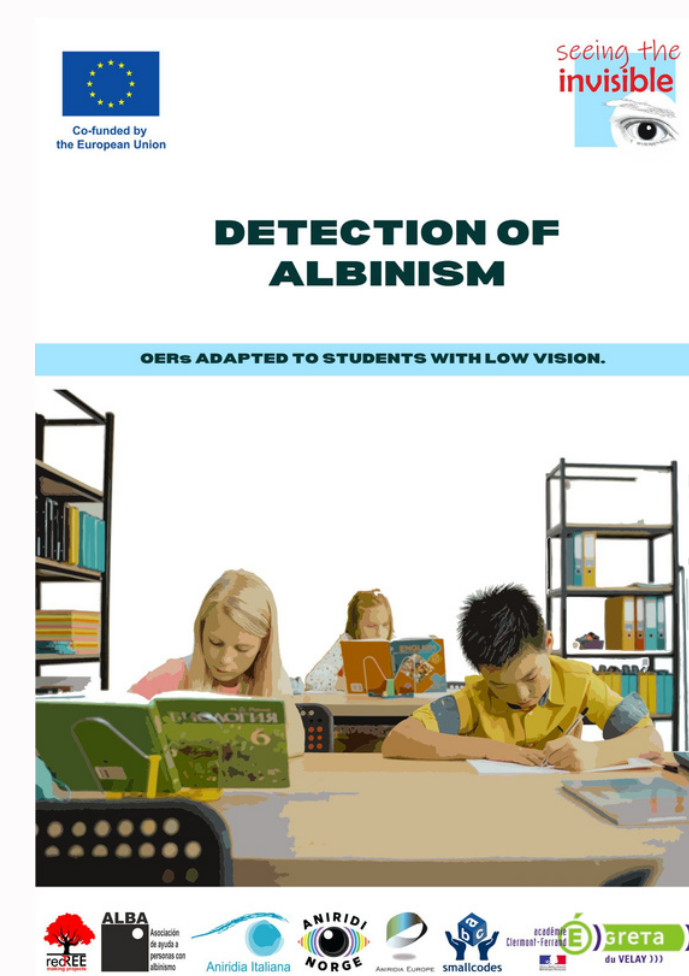
DETECTION SYSTEMS

ANIRIDIA DETECTION SYSTEM



Open educational resource that shows the main characteristics of Aniridia to know them and facilitate the integration of these students in the classroom.

ALBINISM DETECTION SYSTEM



Open educational resource that shows the main characteristics of Albinism to know them and facilitate the integration of these students in the classroom.

SUPPORT RESOURCES FOR THE CREATION OF MATERIALS

COOPERATIVE LEARNING SYSTEMS

Co-funded by the European Union

OERs ADAPTED TO STUDENTS WITH LOW VISION

The diagram features a background of a hand-drawn map with dashed lines and arrows. Six dark blue circles are arranged in a roughly circular pattern, each containing white text. The circles are: 'CIRCLE OF FRIENDS' (top left), 'SYSTEMS OF PEERS AND FRIENDS' (middle left), 'PEER TUTORING' (top right), 'COMMISSIONS OF SUPPORT BETWEEN PEERS' (middle right), 'GROUPS OF COLLABORATION BETWEEN PEERS' (bottom right), and 'SUPPORT NETWORK' (bottom left). A central circle contains the text 'Co-funded by the Erasmus+ Programme of the European Union'.

CIRCLE OF FRIENDS

SYSTEMS OF PEERS AND FRIENDS

PEER TUTORING

COMMISSIONS OF SUPPORT BETWEEN PEERS

GROUPS OF COLLABORATION BETWEEN PEERS

SUPPORT NETWORK

Co-funded by the Erasmus+ Programme of the European Union

seeing the invisible

reCREE

smallcodes

ALBA Asociación de ayuda a personas con albinismo

académie Clémence-Ferrand DU VELAY 333

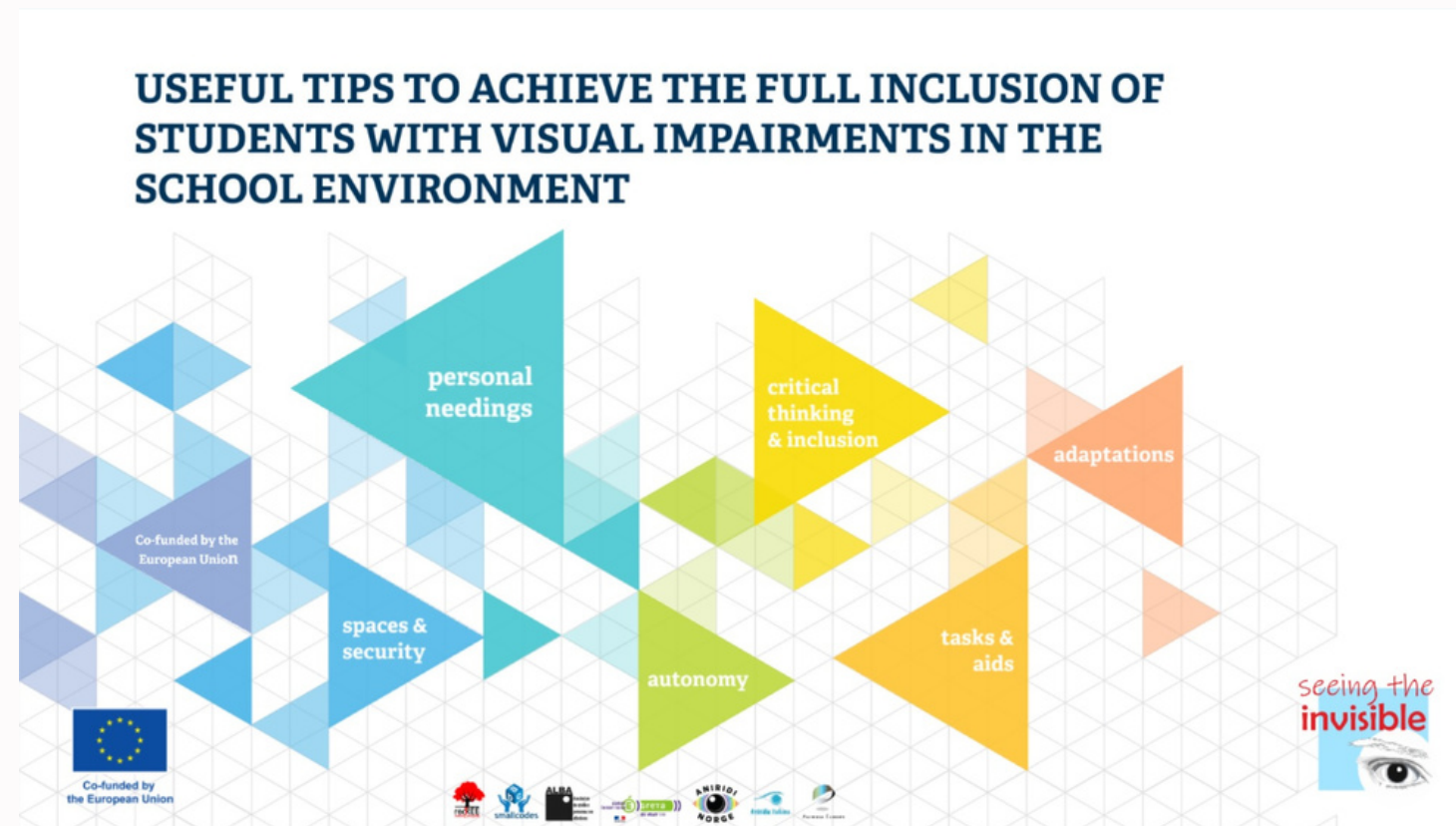
ANIRIDI NORGE

ANIRIDIA EUROPE

Aniridia Italiana

Presentation on the many cooperative learning pedagogical systems for the integration of students in the classroom.

USEFUL TIPS



Resource that provides a set of tips generated by experts in low vision to help teachers create inclusive materials adapted to students with low vision and adapt the classroom.

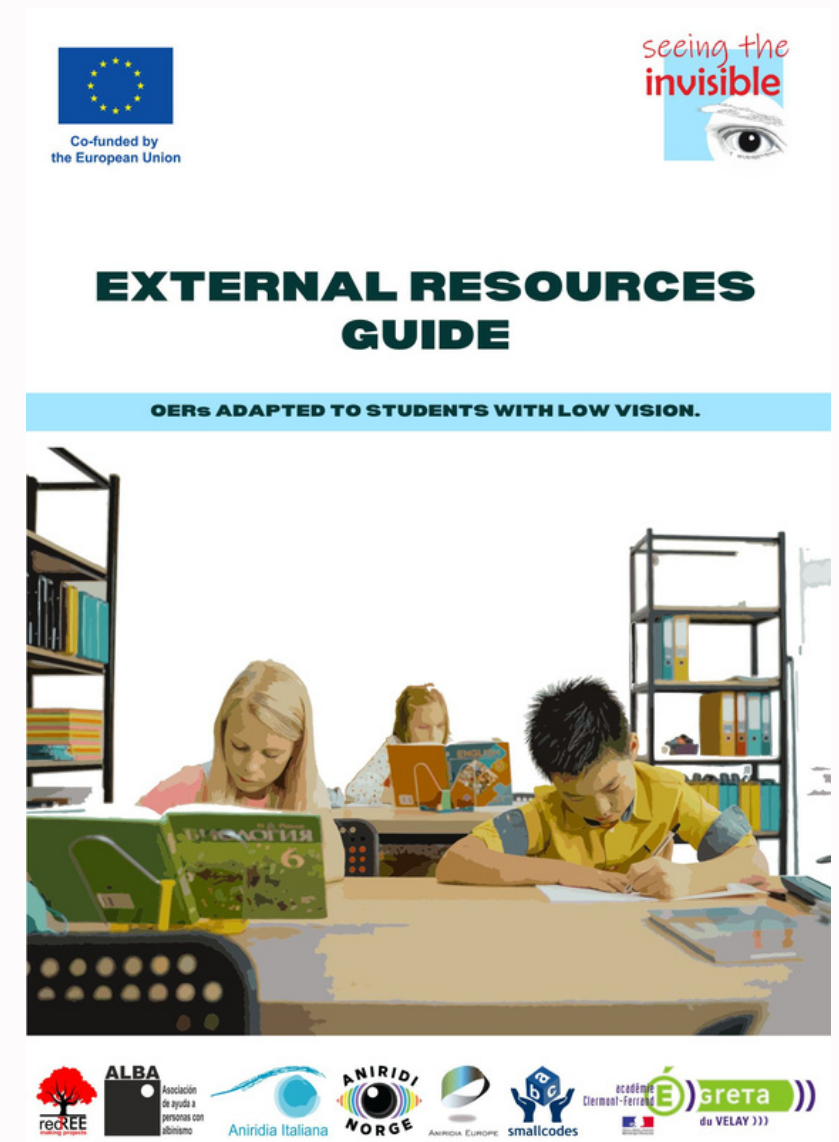
AYUDA DE DESPLAZAMIENTO (PREZI).

Open educational resource with recommendations to help students with low vision move around the school.



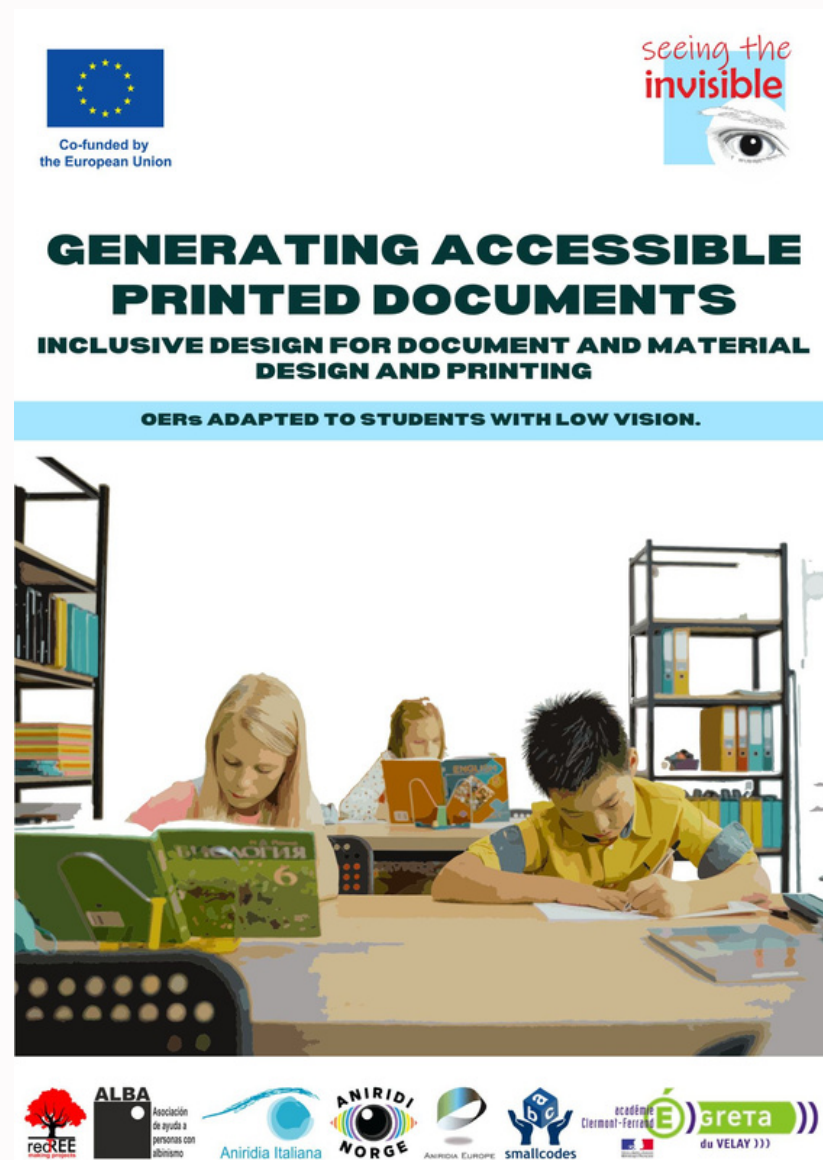
EXTERNAL RESOURCES GUIDE

We propose a set of external resources that haven't been developed within the framework of this Erasmus+ project, but that we think can help teachers.



GENERATING ACCESSIBLE PRINTED DOCUMENTS

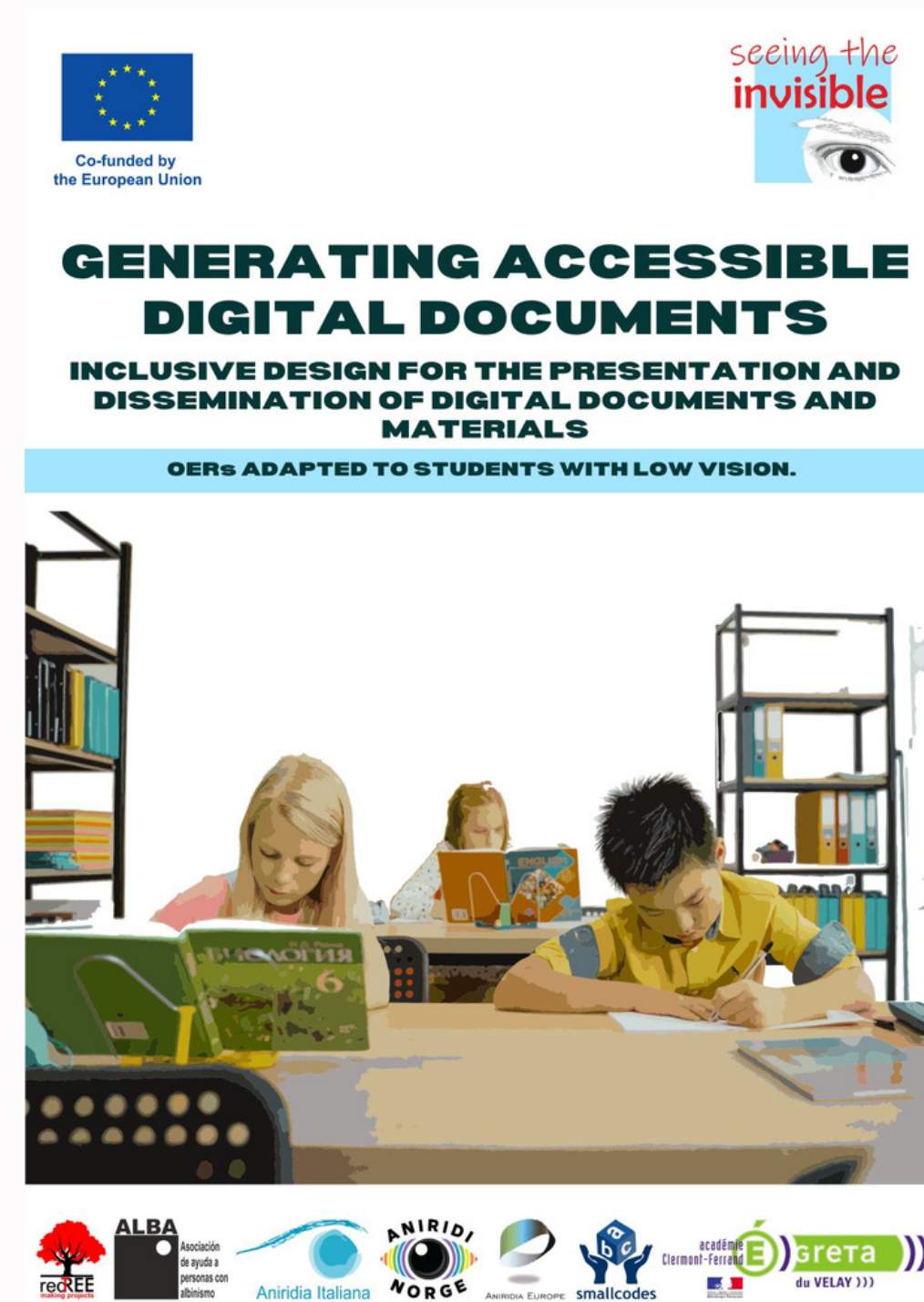
Resource that includes the guidelines to generate printed documents adapted to low vision students.





GENERATE DIGITAL ACCESSIBLE DOCUMENTS

Recurso que facilita las pautas para la creación de documentos digitales que estén adaptados a estudiantes con baja visión.



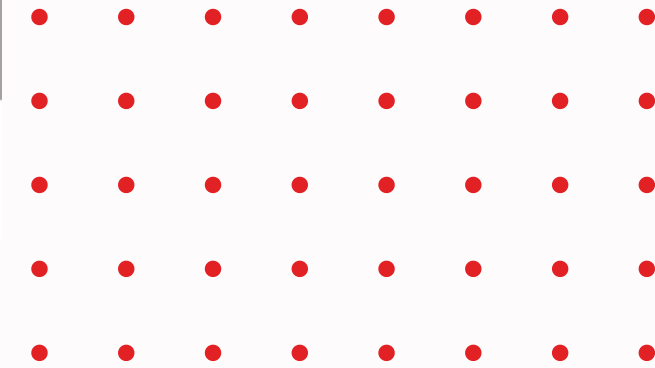
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SETUP OF ACCESIBLES AND INCLUSIVE CLASSROOMS FOR LOW VISION

Recommendations to create inclusive classrooms for students with low vision.



The cover features the European Union flag and the text 'Co-funded by the European Union' on the left, and the 'seeing the invisible' logo on the right. The main title is 'SETUP OF ACCESSIBLE AND INCLUSIVE CLASSROOMS FOR LOW VISION' in bold green letters. Below the title is a blue banner with the text 'OERS ADAPTED TO STUDENTS WITH LOW VISION.' The central image shows three students in a classroom setting, with one student in the foreground using a laptop. At the bottom, there is a row of logos for partner organizations: recREE, ALBA (Asociación de ayuda a personas con albinismo), Aniridia Italiana, ANIRIDI NORGE, ANIRIDIA EUROPE, smallcodes, académie Clermont-Ferrand, and greta du VELAY.



POSTERS

LOW VISION IN ITALY

Low vision involves a significant reduction in a person's vision that doesn't improve by wearing glasses, contact lenses, or with medical treatments.

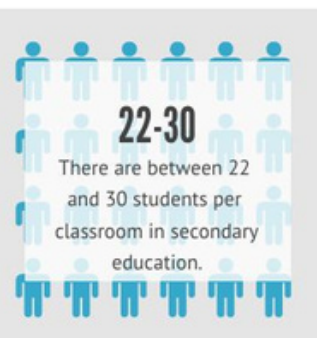
500.000 +

Over the past decade, more than 500.000 children with low vision have been reached in Italy.



SECONDARY EDUCATION IN ITALY

In Italy, secondary education lasts for 3 years, from ages 11 to 14 (scuola secondaria di primo grado), and second stage secondary education lasts from ages 14 to 19.



1.649.031

In the 2021-2022 academic year, there were 1.649.031 students in secondary education.

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MIUR - Portale unico dei dati della scuola, Anagrafe studenti
<https://eurydice.eacea.ec.europa.eu/national-education-systems/italy/organisation-general-upper-secondary-education>
<https://polanzionaleipovisione.it/about-us/?lang=en>

LOW VISION IN SPAIN

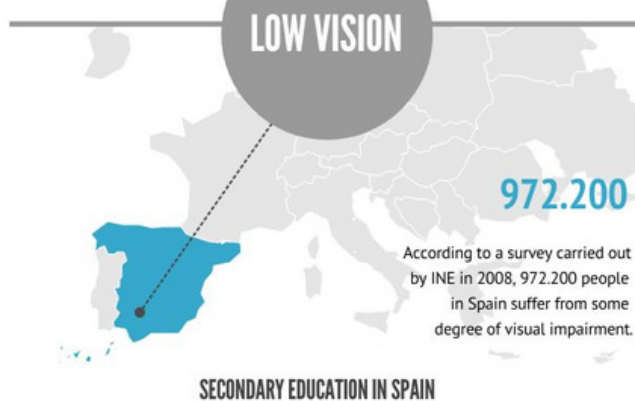
Low vision involves a significant reduction in a person's vision that doesn't improve by wearing glasses, contact lenses, or with medical treatments.

2/7

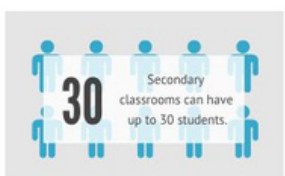
In children, ANIRIDIA and ALBINISM are 2 of the 7 main diseases that cause low vision in Spain.



The rate of visual impairment among people over 6 years is 8,97%

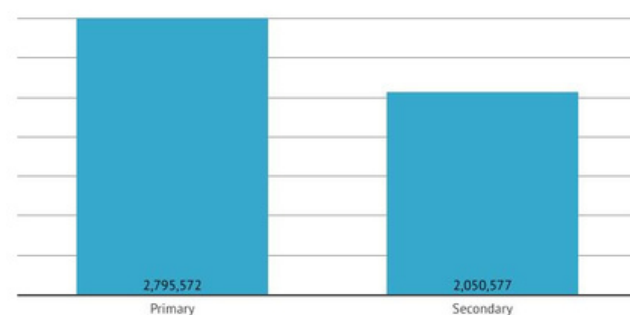


SECONDARY EDUCATION IN SPAIN



In Spain, secondary education lasts for 4 years, and includes the school years between ages 12 to 16.

Children in primary and secondary education in 2021-2022



REFERENCES

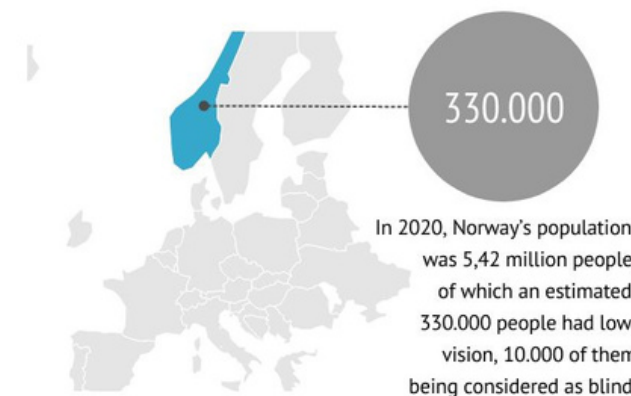
University Institute of Applied Ophthalmology. "Demography of low vision and blindness in Spain". Valladolid, 2015.
Ministry of Education and Vocational Training. Facts and figures. School year 2022-2023. General Technical Secretariat. Edition: 2022. NIPO (pdf): 847-19-065-6
Royal decree 132/2010, of 12 February, by which establish the minimum requirements of the centres that impart the educations of the second cycle of the infantile education, the primary education and the secondary education.

LOW VISION IN NORWAY

Low vision involves a significant reduction in a person's vision that doesn't improve by wearing glasses, contact lenses, or with medical treatments.

49.131

In 2021, there were 633.992 children in primary and secondary school in Norway, of whom 49.131 had special needs.



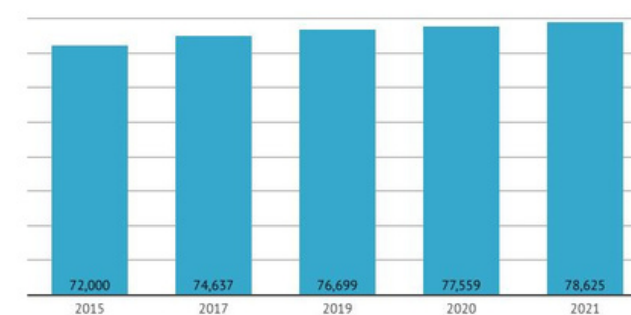
SECONDARY EDUCATION IN NORWAY

In Norway, secondary education lasts for 3 years, from age 13 to 16.

633.992

In 2021-2022, there were 633.992 children in primary and secondary school in Norway.

Employed teachers in primary and lower secondary education in Norway



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<https://www.ssb.no/en/utdanning/utdanningsniva/statistikk/befolknings-utdanningsniva>
O. H. Haugen, C. Bredrup, E. Rodahl. Visual impairment in children and adolescents in Norway. June 2016Tidskrift for den Norske laegeforening 136(11): 996-1000.DOI:10.4045/tidskr.15.1243

LOW VISION IN FRANCE

Low vision involves a significant reduction in a person's vision that doesn't improve by wearing glasses, contact lenses, or with medical treatments.

170.000

In France, around 170.000 children are visually impaired, of which 2000 are blind.

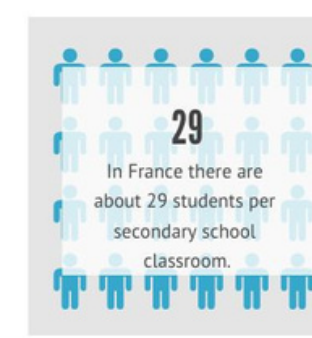


Of France's population has vision loss.



SECONDARY EDUCATION IN FRANCE

In France, the educational system is organized in 3 stages: primary school (école), secondary school, (collège), and high-school (lycée). Secondary education is from age 12 to 16, and it is taught at "collèges" (11 to 14 years old) and at "lycées" (15 to 18 years old).



5,7 million

In 2021, there were 5,7 million students in secondary school.

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<https://www.iapb.org/learn/vision-atlas/magnitude-and-projections/countries/france/>
<https://www.statista.com/statistics/1200871/vision-impairments-by-severity-in-france/>
<https://cherchonspourvoir.org/en/the-current-situation/#:~:text=In%20France%2C%20we%20estimate%20that,are%20blind%2C%20including%20%2C000%20children>
<https://www.exteriores.gob.es/Consulados/marsella/es/ViajarA/Paginas/Educaci%C3%B3n.aspx>
Statista Research Department

POSTERS

ALBINISM IN EUROPE

Albinism is a genetic disorder caused by the mutation of several genes, affecting humans, other animal species, and even some plants. Its most visible and known effect is the severe lack of melanin, although its most characteristic effect is actually the vision problems it causes.

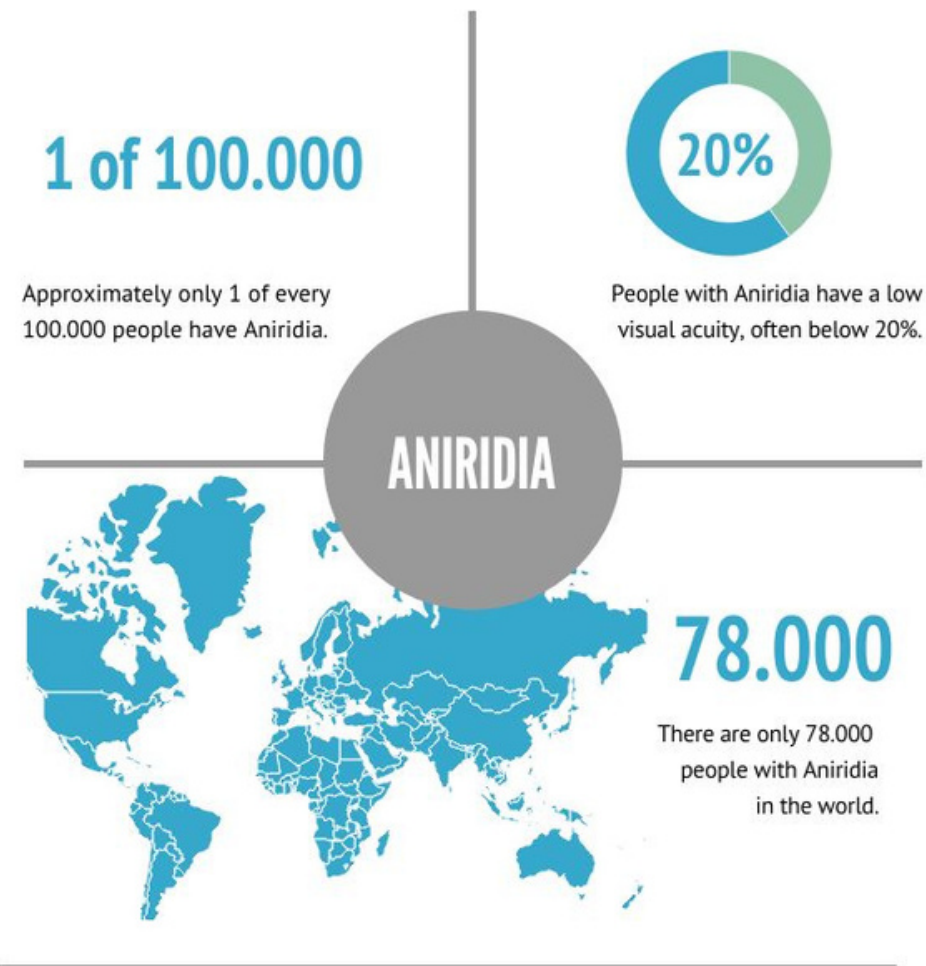


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"PEOPLE WITH ALBINISM IN THE WORLD: A perspective of rights", by Ikponwosa Ero, Sarmer Muscati, Anne-Rachelle Boulanger, and India Annamathadoo.
13-06-2021 Albinism Awareness Day 2020: not ghosts or magical beings, but human beings.
12-06-2020 European Union Europea
https://www.eeas.europa.eu/eeas/albinism-awareness-day-2020-not-ghosts-or-magical-beings-human-beings_en#:~:text=While%20in%20North%20America%20and,prevalent%20in%20sub%20Saharan%20Africa.https://www.un.org/en/observances/albinism-day
<https://www.ohchr.org/en/stories/2022/03/attacks-against-people-albinism-are-hate-crimes-un-albinism-expert>
<https://www.ui1.es/blog-ui1/atencion-educativa-personas-con-Albinismo>

ANIRIDIA IN EUROPE

Aniridia, meaning "without iris", is a rare genetic disorder affecting vision, characterized by the partial or total lack of the iris.



An average of 1 of every 30 Europeans experience some degree of sight loss.

30 million

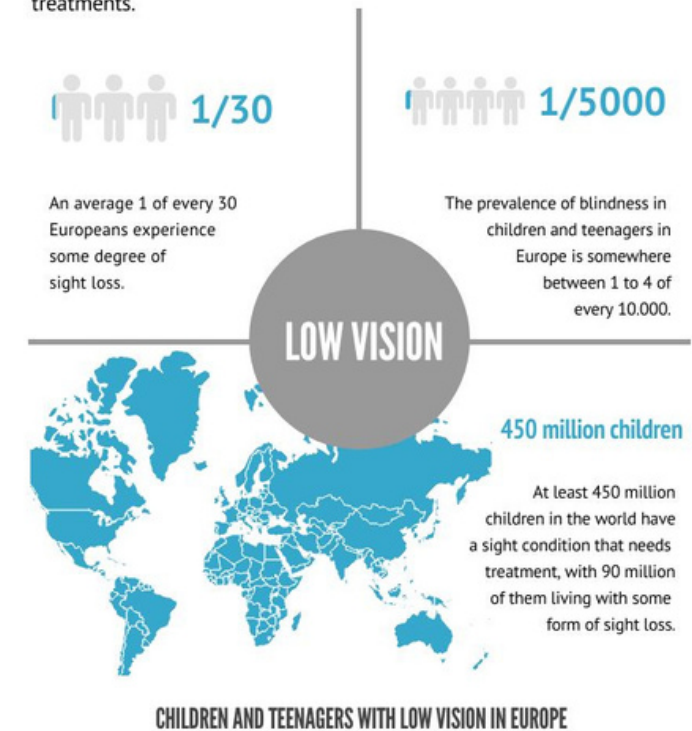
There are an estimated 30 million blind or visually impaired people in Europe.

REFERENCES

Spanish Aniridia Association
[1] WHO presents the first world report on vision: <https://www.who.int/es/news/item/08-10-2019-who-launches-first-world-report-on-vision>

LOW VISION IN EUROPE

Low vision involves a significant reduction in a person's vision that doesn't improve by wearing glasses, contact lenses, or with medical treatments.



- 32 million children and teenagers (age 0 to 19) have blindness or severe vision loss.
- 24 million children (age 0 to 14) have blindness or severe vision loss.
- Approximately 9 million students in secondary school (age 12 to 18) have blindness or severe vision loss.

30.000.000 +

There are an estimate of more than 30 million blind and partially sighted people in geographical Europe.

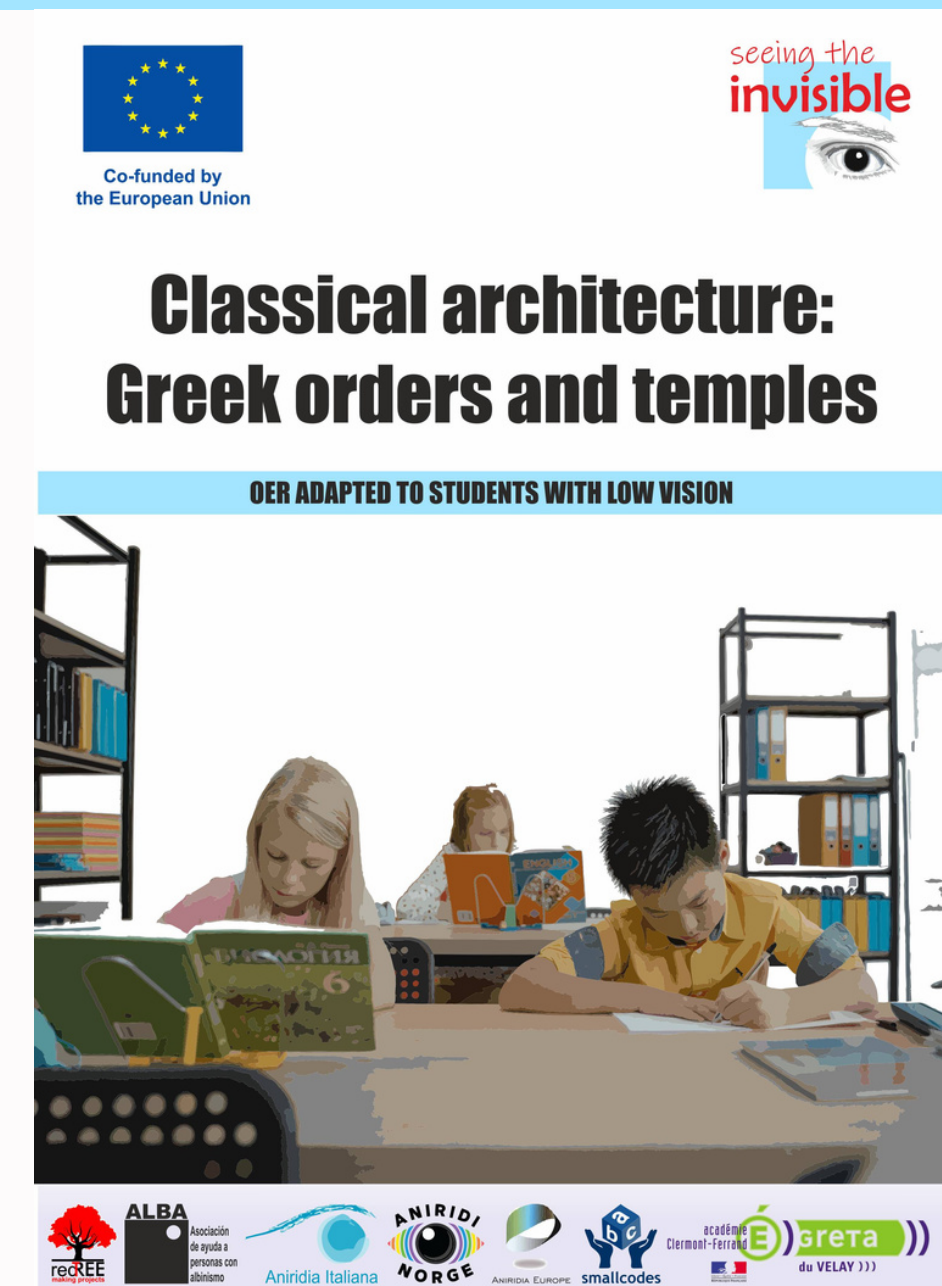
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Source: Data from VLEGI/GBD 2020 model, accessed via the IAPB Vision Atlas University Institute of Applied Ophthalmology. "Demography of low vision and blindness in Spain". Valladòid, 2015. Visual impairment and blindness in Europe and their prevention I Kocur, S Resnikoff Br J Ophthalmol: first published as 10.1136/bjo.86.7.716 on 1 July 2002. Downloaded from <http://bjo.bmj.com/> on July 5, 2023 by guest. Protected by copyright.
EBU The voice of blind and partially sighted people in Europe

CURRICULAR ADAPTATIONS



This Open Educational Resource offers a learning situation that provides a series of materials to develop in the students the adjusted conception of sizes and distances between the various planets and bodies in the solar system.



This OER provides a series of materials to enable students with low or no vision to approach the types of classical temples and orders. It includes floor plans of various types of classical temples along with high-contrast drawings and indications of the elements of elevation of classical temples.

VIDEOS

8 videos that show the success experience of young people with low vision during their educational stage



Bea, 19-year-old
university student (Spain)



Carol, 16-year-old high
school student (Spain)



Enrique, 20-year-old
university student (Spain)



Ramon, 19-year-old
university student (Spain)



Alma, 19-year-old
student (Norway)



Sunniva 20-year-old
university student
(Norway)



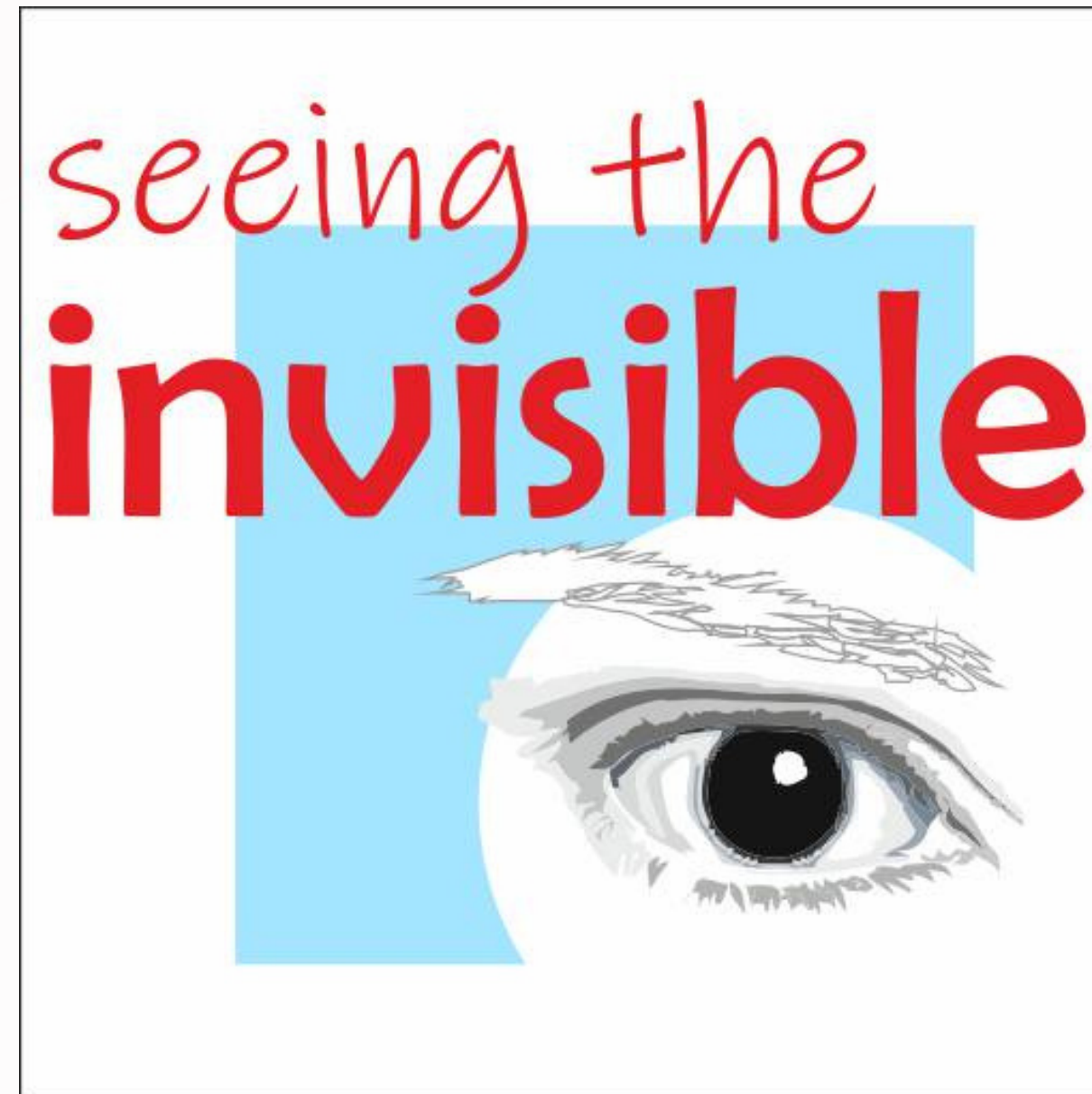
Marta, 25-year-old
university student and
worker (Italy)



Michael, 32-year-old
worker (Italy)

ACCESS AND DOWNLOAD

www.schoolforall.eu/seeingtheinvisible/o3





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THANK YOU VERY MUCH

FOR MORE INFORMATION:

www.schoolforall.eu/seeingtheinvisible

