



## Augmented Science – E-Kılavuz

Bu belge, Erasmus+ kapsamında yürütülen “*Enriching Learning with Augmented Reality Simulations for Interactive Science*” (Proje No: 2023-1-PL01-KA220-SCH-000164042) projesi kapsamında hazırlanmıştır. Proje; artırılmış gerçeklik ile zenginleştirilmiş bilimsel içerikler ve deneyler ile bunları destekleyen materyallerin geliştirilmesini ve AB’deki okullar için çevrimiçi bir aktif öğrenme sisteminin oluşturulmasını amaçlamaktadır. Projenin çıkış noktası, artırılmış gerçeklik (AG) tabanlı bir öğrenme ortamının laboratuvar uygulamalarını öğrencilerin tabletlerine veya telefonlarına taşıyarak fen derslerinin öğretimi ve öğrenimi desteklemesidir. Bu tür AG destekli simülasyonlar, fen eğitimi daha erişilebilir ve ilgi çekici hâle getirmek ve aktif öğrenmenin sürdürülebilirliğini sağlamak için gereklidir.

### Augmented Science projesinin temel çıktıları şunlardır:

- **E-Kitap:** Fen Dersi İçeriği – Senaryo – Zenginleştirilmiş Etkinlikler
- AG ile Zenginleştirilmiş Deneyler ve Simülasyonlar İçeren **Mobil Uygulama**
- Web Tabanlı Aktif Öğrenme Sistemi (**WALS**)

Proje tamamlandığında, elde edilen tüm sonuçlar ücretsiz olarak erişime açılacak ve proje ortaklarının dillerine (Lehçe, Yunanca, Türkçe ve Fince) çevrilecektir.

E-Kılavuzun amacı, kullanıcıların (öğretmenler, öğrenciler, eğitimciler ve yöneticiler) projenin çıktıları olan **mobil uygulamayı** ve **WALS e-öğrenme platformunu** etkili bir şekilde kullanmalarına yardımcı olmaktır.

Aşağıda, mobil uygulamanın ve WALS e-öğrenme platformunun nasıl kullanılacağına ilişkin bilgiler adım adım sunulmaktadır.



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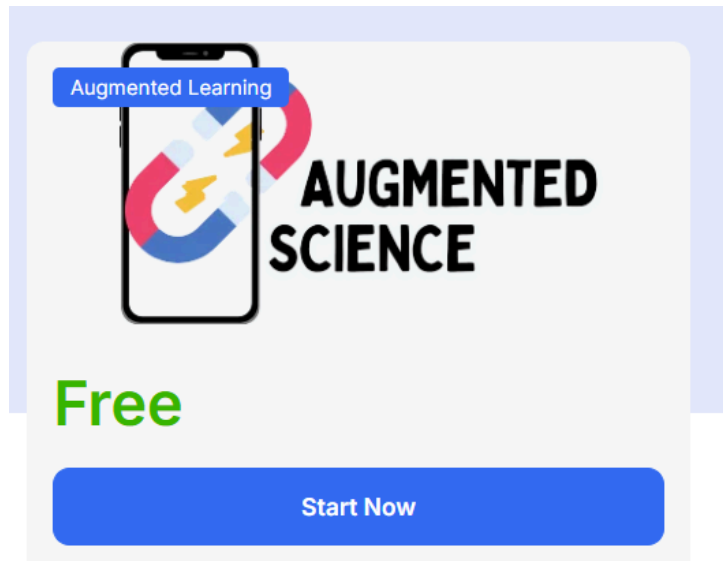
1. Öncelikle, **Augmented Science** mobil uygulamasını cihazınıza indiriniz:

<https://e-hub.augmentedscience.eu/courses/wals/>

Get The App >>



2. Ardından, **WALS** platformuna kaydolunuz (sağ tarafta yer alan **“Start Now”** (hemen başla) butonuna tıklayarak): <https://e-hub.augmentedscience.eu/courses/wals/>



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6. Aynı şekilde, sırasıyla **12 üniteyi** inceleyiniz. Her ünite, kuramsal içerik ve öğrenme etkinlikleri yer almaktadır.

- **Ünite 1:** Manyetik Alan ve Akım
- **Ünite 2:** Kinetik ve Potansiyel Enerji
- **Ünite 3:** Ağırlık ve Kütle İlişkisi
- **Ünite 4:** Işığın Soğurulması
- **Ünite 5:** Hücre Teorisi
- **Ünite 6:** Tohum Çimlenmesi
- **Ünite 7:** İnsan Vücut Sistemleri
- **Ünite 8:** Fotosentez
- **Ünite 9:** Moleküller Arası Etkileşimler
- **Ünite 10:** Asitler ve Bazlar
- **Ünite 11:** Buhar Basıncı
- **Ünite 12:** Fiziksel ve Kimyasal Değişimler

7. Ünitelerdeki öğrenme etkinliklerini tamamlamak için mobil uygulamayı açınız, ilgili üniteyi ya da etkinliği seçiniz ve mobil cihazınızı işaretleyiciye (marker) doğru tutunuz (**AG Taraması / Scan for AR**).

**WALS**

7% Complete 2 of 28 items

Unit 1: Magnetic field and Current ✓

End-of-unit test 1 ✓  
3 Questions

Unit 2: Kinetic and Potential Energy ✓

End-of-unit test 2 ✓  
3 Questions

Unit 3: Relationship between weight and Mass ✓

End-of-unit test 3 ✓  
3 Questions

Unit 4: Absorption of light ✓

End-of-unit test 4 ✓  
3 Questions

Unit 5: Cell Theory ✓

End-of-unit test 5 ✓  
3 Questions

Unit 6: Seed Germination ✓

End-of-unit test 6 ✓  
3 Questions

Unit 7: Human body systems ✓


End-of-unit test 7 ✓  
6 Questions

Unit 8: Photosynthesis ✓

**From Discovery to Invention**

- Ørsted's discovery inspired scientists like **Michael Faraday** and **Joseph Henry** to explore more about electromagnetism.
- Thanks to their work, it became clear that **electricity and magnetism are connected**.
- This idea – turning electricity into magnetism – is the **basic principle behind electric motors and generators**.

Scan the QR code below to learn more about how this principle powers everyday machines!



Scan for AR

Name

Type

Size

Download

Previous

PRETEST-SELF ASSESSMENT QUESTIONS

Next

End-Of-Unit Test 1

8. İşaretleyici (marker) hem slaytlarda hem de e-kılavuzun son sayfasında yer almaktadır. Dilerseniz bu görseli yazdırıp düz bir zemine yerleştirebilir ve mobil cihazınızı üzerine tutarak uygulamayı kullanabilirsiniz.



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9. WALs platformunda her ünitenin sonunda yer alan kısa bilgi testini çözerek ilerleyiniz.

**WALS**

7 % Complete 2 of 28 items

**End-of-unit test 4**

Question 1 of 3 00:08 Finish Quiz

1. What Is The Capture Of Light By A Substance Called?

☐ Reflection

☐ Absorption

☐ Fracture

☐ Shadowing

☐ Dispersal

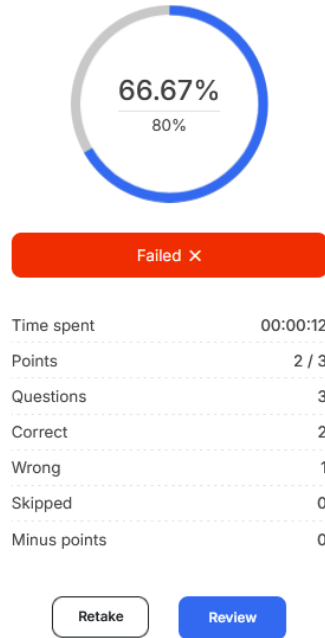
Check Answers

1 2 3 Next

Previous Unit 4: Absorption Of Light Next Unit 5: Cell Theory

10. Her testin ardından, aldığınız puanlara ilişkin bir özet tarafınıza sunulacaktır.

### End-of-unit test 3



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11. Daha sonra testleri **yeniden çözebilir veya gözden geçirerek** doğru cevapları kontrol edebilirsiniz.

### End-of-unit test 3

1. Which Of The Following Is A Correct Statement About Mass?

☐ It depends on the force of gravity.

☐ It is synonymous with weight.

☒ It is measured with an equal-armed balance scale.

☐ It is expressed in Newtons.

☐ Measured with a dynamometer.

Correct 1/1 point

1 2 3 Next

Result

12. WALs platformunda yer alan **Ön Testi**, 12 üniteye başlamadan önce; **Son Test-Öz Değerlendirme** bölümünü ise tüm üniteleri tamamladıktan sonra doldurunuz.

**WALS**

7 % Complete 2 of 28 items

End-of-unit test 6  
3 Questions

Unit 7: Human body systems

End-of-unit test 7  
6 Questions

Unit 8: Photosynthesis

End-of-unit test 8  
3 Questions

Unit 9: Interactions between Molecules

End-of-unit test 9  
3 Questions

Unit 10: Acids and Bases

End-of-unit test 10  
3 Questions

Unit 11: Vapor Pressure

End-of-unit test 11  
3 Questions

Unit 12: Physical and Chemical changes

End-of-unit test 12  
3 Questions

POSTTEST-SELF ASSESSMENT QUESTIONS

the number of molecules that turn into vapor will increase, so the equilibrium vapor pressure also increases with temperature. The equilibrium vapor pressure of a liquid does not depend on the volume, shape, or amount of liquid in the container.

The image below models the formation of equilibrium vapor pressure over time in a closed container.

In the first case, a large amount of water was placed in the container and the container was tightly sealed with a stopper. After waiting 5 minutes, the second case occurred, and after waiting 15 minutes, the third case occurred. After 30 minutes, there was no change in the water level in the third case.

Therefore,

I. At the third stage, equilibrium vapor pressure was established.

II. If the volume of the container is increased, the number of vapor molecules remains unchanged.

III. After 30 minutes, the evaporation process had stopped.

Which of these statements are correct?

1

2

3

☐ A) Only I

☐ B) Only II

☐ C) Only III

☐ D) I and II

☐ E) I and III

13. Tüm kursu tamamladıktan sonra, lütfen **değerlendirme formunu** doldurunuz.



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WALS

10 % Complete 3 of 28 items

End-of-unit test 6  
3 Questions

Unit 7: Human body systems

End-of-unit test 7  
6 Questions

Unit 8: Photosynthesis

End-of-unit test 8  
3 Questions

Unit 9: Interactions between Molecules

End-of-unit test 9  
3 Questions

Unit 10: Acids and Bases

End-of-unit test 10  
3 Questions

Unit 11: Vapor Pressure

End-of-unit test 11  
3 Questions

Unit 12: Physical and Chemical changes

End-of-unit test 12  
3 Questions

POSTTEST-SELF ASSESSMENT QUESTIONS

Evaluation of AR Ebook

Evaluation of AR Ebook

AUGMENTED SCIENCE- Enriching Learning with Augmented Reality Simulations for Interactive Science

Project Number: 2023-1-PL01-KA220-SCH-000164042

Zaloguj się w Google, aby zapisać postępy. Więcej informacji

The aim of the following questionnaire is to gather the essential data for the assessment of the AR E-book and make it a profitable resource for the users. The survey is anonymous. You are kindly asked to choose the correct options or provide the answers if necessary.

1. Were the scientific concepts presented in a clear and understandable way?  
1 is the lowest, 5- the highest

1 2 3 4 5

2. Was the language used in the e-book appropriate for your level of knowledge?

☐ Appropriate

☐ Above

☐ Below

Previous POSTTEST-SELF ASSESSMENT QUESTIONS

14. Çalışma hızınızı kendiniz belirleyebilirsiniz; ancak WALS platformundaki her üniteyi incelemenizin ve testleri tamamlamanızın yaklaşık **30 dakika** süreceğini öngörmekteyiz.

15. “Materyaller” bölümünde, her üniteye ait PDF dosyasını indirebilirsiniz.

Home > Courses > Science

WALS

A course by Augmentedscience

Oct/2025

16 lessons

English

Description Curriculum Materials

Name	Type	Size	Download
1- ( Unit 1: Magnetic field and Current )	pdf	1.17MB	<a href="#">Download</a>
2- ( Unit 2: Kinetic and Potential Energy )	pdf	814.46KB	<a href="#">Download</a>
3- ( Unit 3: Relationship between weight and Mass )	pdf	1MB	<a href="#">Download</a>
4- ( Unit 4: Absortion of light )	pdf	920.87KB	<a href="#">Download</a>
5- ( Unit 5: Cell Theory )	pdf	944.58KB	<a href="#">Download</a>
6- ( Unit 6: Seed Germination )	pdf	668.27KB	<a href="#">Download</a>
7- ( Unit 7: Human body systems )	pdf	1.13MB	<a href="#">Download</a>
8- ( Unit 8: Photosynthesis )	pdf	900.42KB	<a href="#">Download</a>
9- ( Unit 9: Interactions between Molecules )	pdf	1.36MB	<a href="#">Download</a>
10- ( Unit 10: Acids and Bases )	pdf	815.67KB	<a href="#">Download</a>
11- ( Unit 11: Vapor Pressure )	pdf	784.26KB	<a href="#">Download</a>
12- ( Unit 12: Physical and Chemical changes )	pdf	613.89KB	<a href="#">Download</a>

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16. **Profilinize tıklayarak** tamamladığınız adımları, başarı kayıtlarınızı ve erişebileceğiniz kursları görüntüleyebilirsiniz.

## LP Profile



Filiz Hititsoy

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Enrolled Course  
1

Inprogress Course  
1

Finished Course  
0

Passed Course  
0

Failed Course  
0

All

In Progress

Finished

Passed

Failed

	Name	Result	Expiration time	End time
	WALS	0%	Never	-

17. **Forum bölümü**, katılımcıların fikir ve deneyim paylaşımına imkân tanıyarak iş birliğini ve akran öğrenmesini destekler.

## e-Hub Forum

Subscribe

This forum has 4 topics, 1 reply, and was last updated 6 days, 5 hours ago by Agnes.

Topic	Voices	Posts	Last Post
AR-Ebook	1	1	6 days, 5 hours ago Agnes
WALS accelerated my learning process	1	1	1 week ago Irena
My experiences with the Augmented Science mobile application	2	2	1 week ago Carlos
Details in AR displays	1	1	1 week ago Carlos



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18. Uygulama ile ilgili herhangi bir sorunuz ya da görüşünüz olursa, bireysel danışmanlık randevusu oluşturmak için **Muhsin (muhsinkyk08@gmail.com)** veya **Yahya (dogan.yahya.16@gmail.com)** ile iletişime geçebilirsiniz.

19. Uygulama veya e-kitap hakkında bir sorunuz ya da görüşünüz olursa, bireysel danışmanlık randevusu ayarlamak üzere **Filiz Hititsoy (filiz@polygonalnorth.fi)** ile iletişime geçebilirsiniz.

**Augmented Science Mobil Uygulaması için İşaretleyici (marker):**



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