

The Matter Mystery: Identify Properties of Materials



تم تحميل هذا الملف من موقع المناهج الإماراتية

موقع المناهج ← المناهج الإماراتية ← الصف الخامس ← علوم ← الفصل الأول ← ملفات متنوعة ← الملف

تاريخ إضافة الملف على موقع المناهج: 2026-08-20 11:47:05

ملفات اكتب للمعلم اكتب للطالب | اختبارات الكترونية | اختبارات | حلول | عروض بوربوينت | أوراق عمل
منهج انجليزي | ملخصات وتقارير | مذكرات وبنوك | الامتحان النهائي | للمدرس

المزيد من مادة
علوم:

إعداد: Adel Rania

التواصل الاجتماعي حسب الصف الخامس



صفحة المناهج
الإماراتية على
فيسبوك

الرياضيات

اللغة الانجليزية

اللغة العربية

التربية الاسلامية

المواد على تلغرام

المزيد من الملفات بحسب الصف الخامس والمادة علوم في الفصل الأول

حل اختبار مطابق لمخرجات الهيكل الوزاري الجديد منهج انسابير الجزء الموضوعي

1

حل تجميعية نهائية وفق الهيكل الوزاري الجديد منهج انسابير

2

حل تجميعية مراجعة وفق الهيكل الوزاري الجديد منهج انسابير

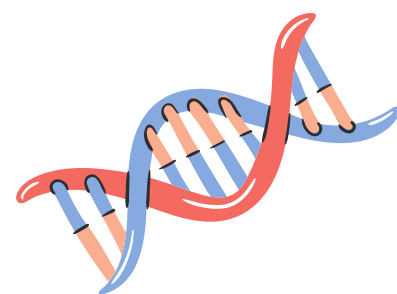
3

تجميعية مراجعة وفق الهيكل الوزاري الجديد منهج انسابير بدون الحل

4

حل مراجعة نهائية وفق الهيكل الوزاري الجديد منهج انسابير

5



Science zone



Grade: Five inspire

unit: 1

lesson:1

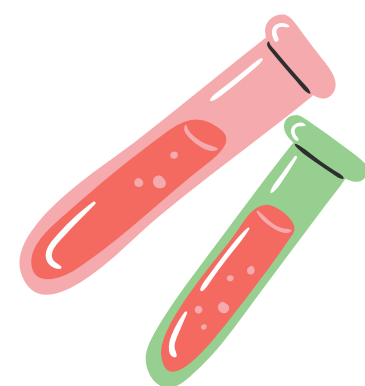
Teacher: Rania Adel

Learn .Explore . Discover

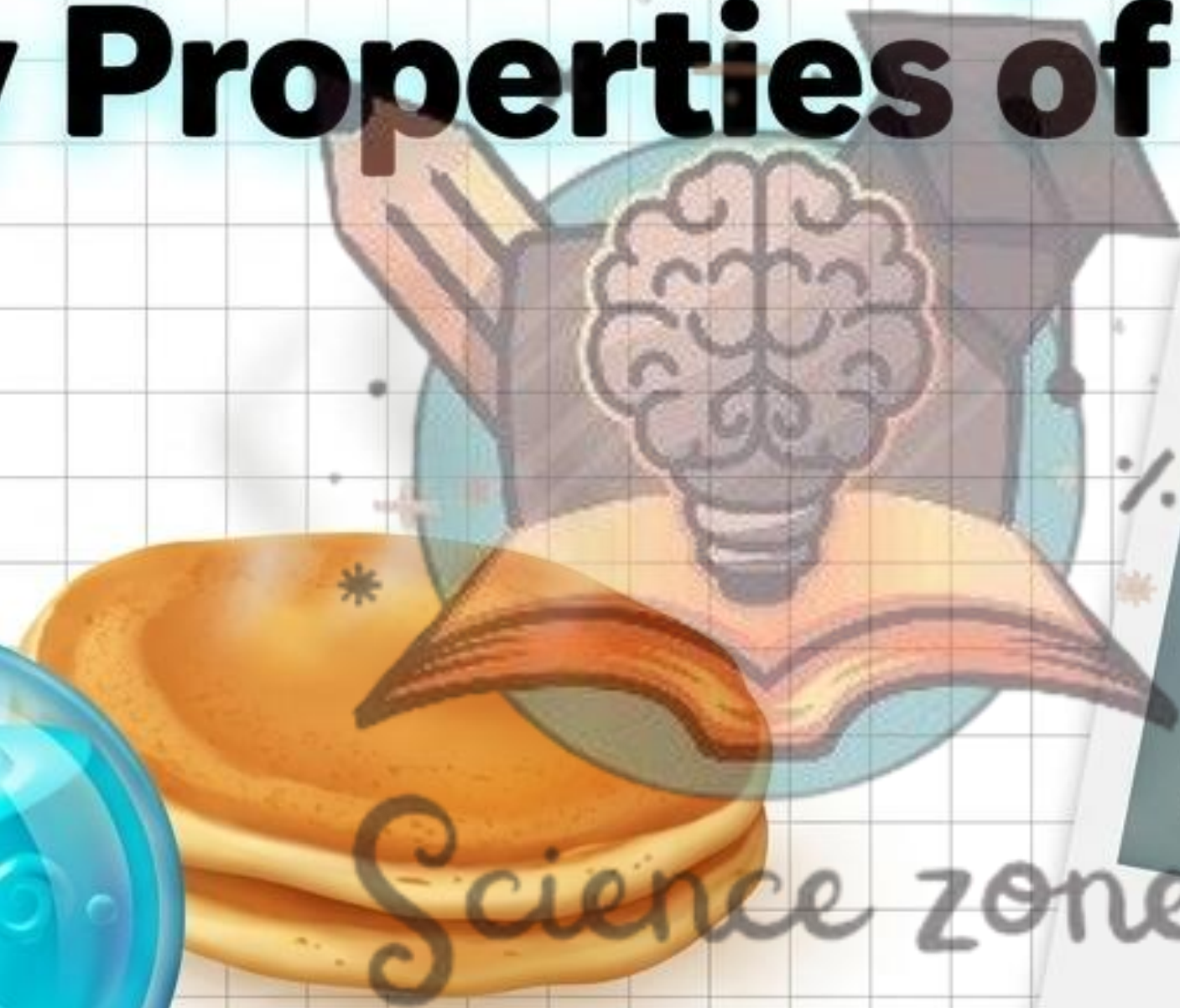
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Science zone

مؤسسة رانيا عادل



The Matter Mystery: Identify Properties of Materials!



Science zone

مجال العلوم



Enter the Lab! >

The Perfect Pancake Challenge

The Goal

The Question:
How do culinary scientists use the properties of matter to make the best pancakes?



The Science

Your Mission:
By the end of this lab,
you will learn to
identify the materials
needed to design the
ultimate pancake!



Think About It!

What makes a pancake fluffy instead of flat?
(Click to lock in your guess!)

Click Here

Mystery #1: What exactly IS matter?



Abe

Abe: I think something needs to be solid to be matter.



Kayla

Kayla: I think matter can be a solid or a liquid.



Curtis

Curtis: I think matter can be a solid, liquid, or gas.

CORRECT!



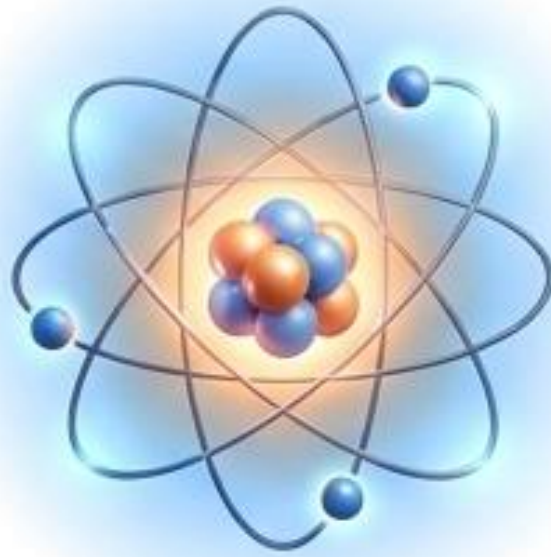
Gray

Lori: It's solid, liquid, or gas, but **NOT** living things.

Great Thinking! Curtis is right. Matter can be a solid, a liquid, or a gas!

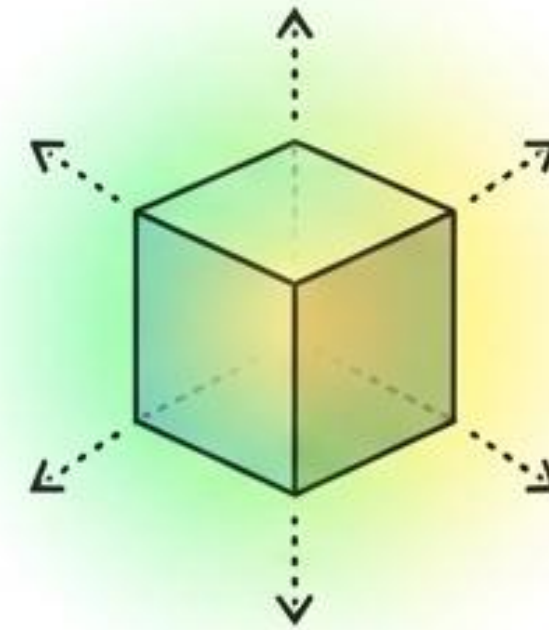
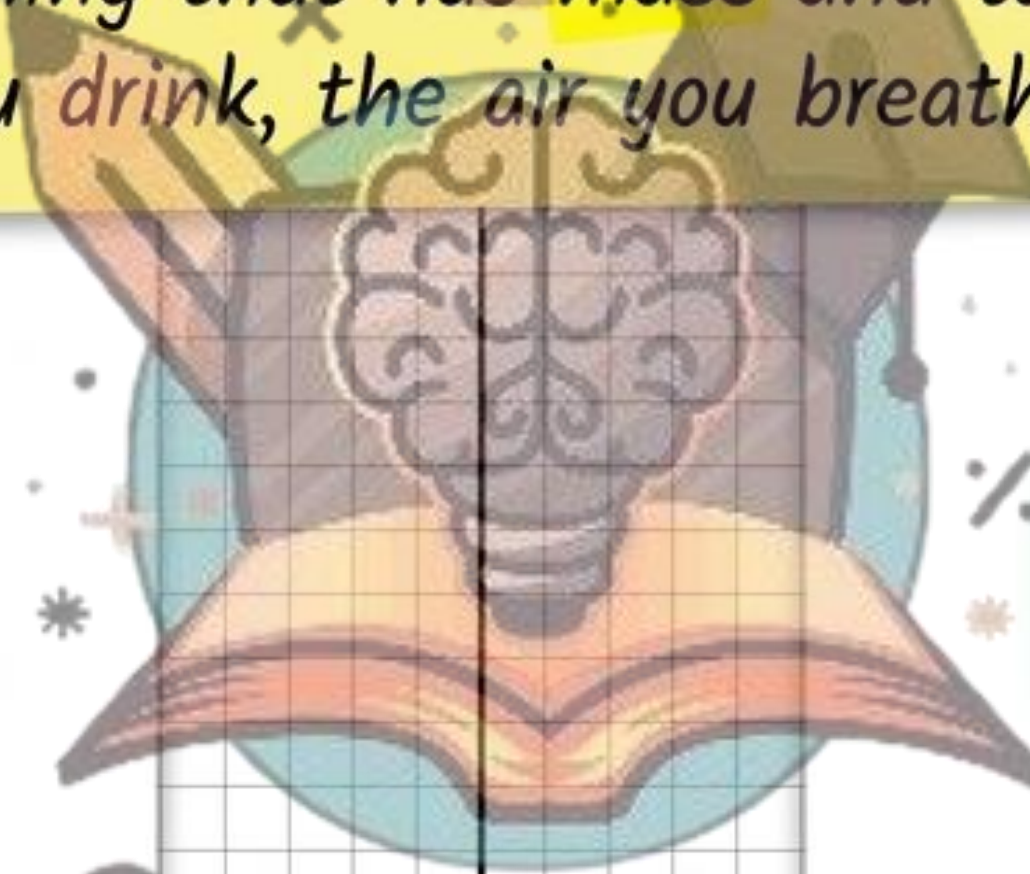
The Two Golden Rules of Matter

Matter is anything that has mass and takes up space.
(The water you drink, the air you breathe, and YOU!)



1. Mass

Made of tiny particles.
Mass is the measure of the **AMOUNT** of matter in an object.



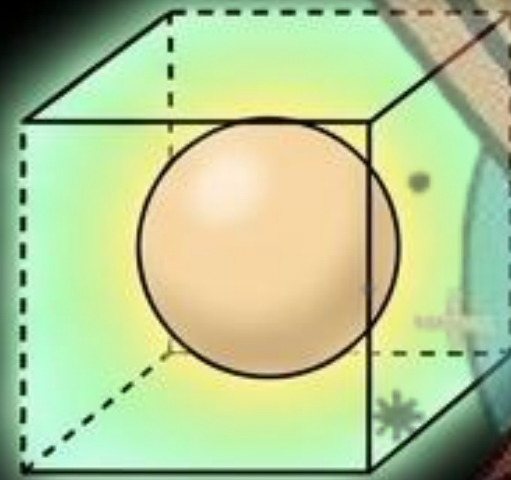
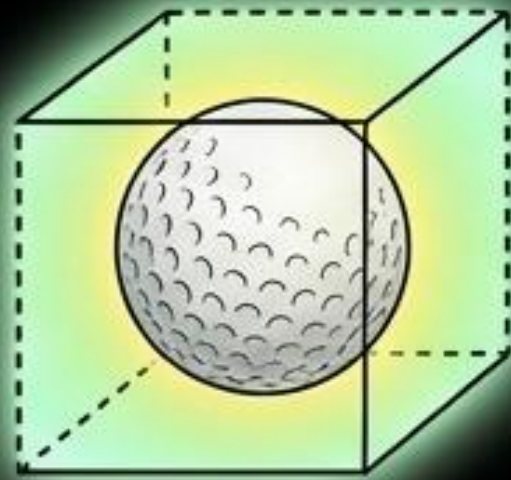
2. Volume

The amount of **SPACE** an object takes up.
Describes how large or small an object is.

Mass vs. Volume: Let's Compare!

Lab Scale

Same Volume, Different Mass ✕



They take up the **same space** (Volume), but the golf ball has **more** particles (**Mass**)!

Lab Scale

Different Volume, Different Mass



The balloon has **more Volume** (takes up more space), but the marbles have **more Mass** (heavier)!

Physical Properties: What can we observe?



Physical Property: A characteristic you can observe **WITHOUT** changing what the material is made of!



Conductivity: How energy (heat or electricity) moves through a material. Metals like iron and copper are great conductors!



Magnetism: The ability to be attracted to a magnet without needing to be a magnet itself.

Science zone

Physical Properties: Light & Liquid!

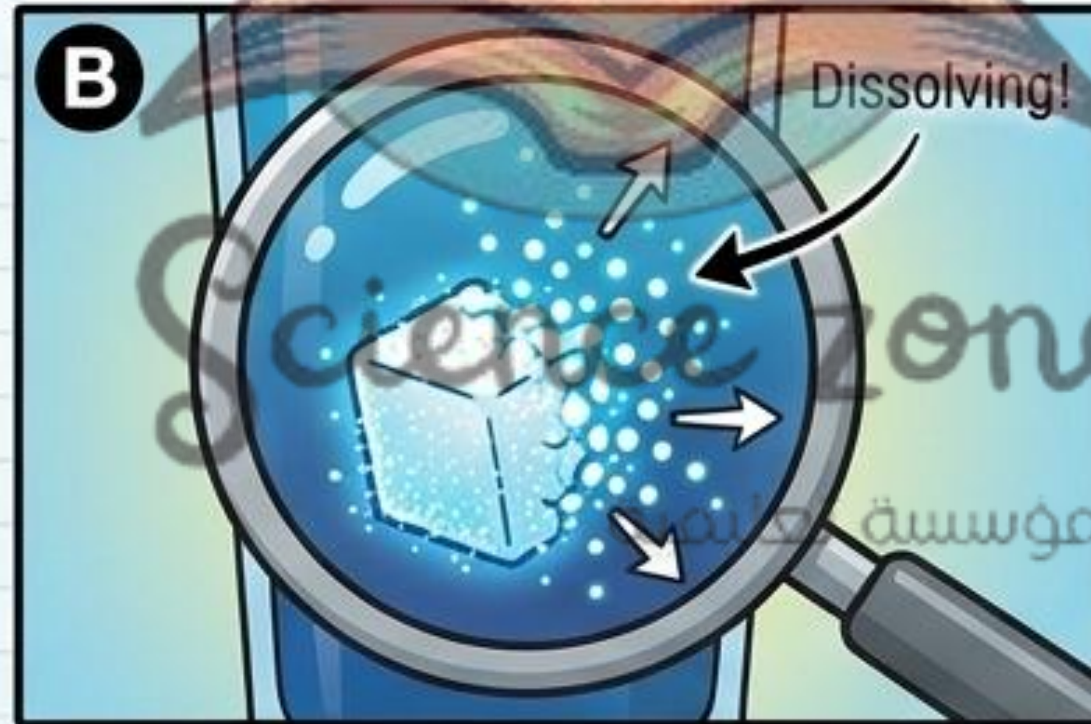


Reflectivity



Reflectivity: How light bounces off an object. Smooth, flat surfaces reflect light evenly.

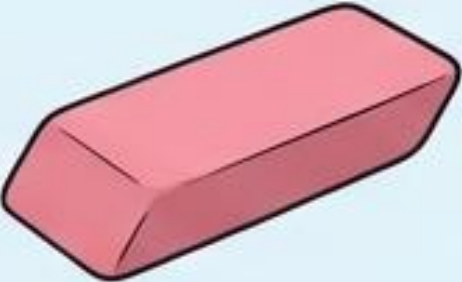
Solubility: What happens to sugar in iced tea?



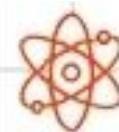
The ability to dissolve in a liquid. Did it disappear? No! It's still there, just spread out evenly.

Virtual Lab Activity: Test the Matter!

Predict! Then click the objects to test them!

Object	Does it bend?	Magnet stick?	Is it shiny?
	✓	✓	✓
	✓	✗	✗
	✓	✗	✓

Great job! You just identified physical properties!



Chemical Properties: The Transformers!



Chemical Property: A characteristic that can ONLY be observed when there is a change in the TYPE of matter.

Combustibility



Combustible: Being able to burn. The wood changes into something entirely new (ash)!

Corrosion

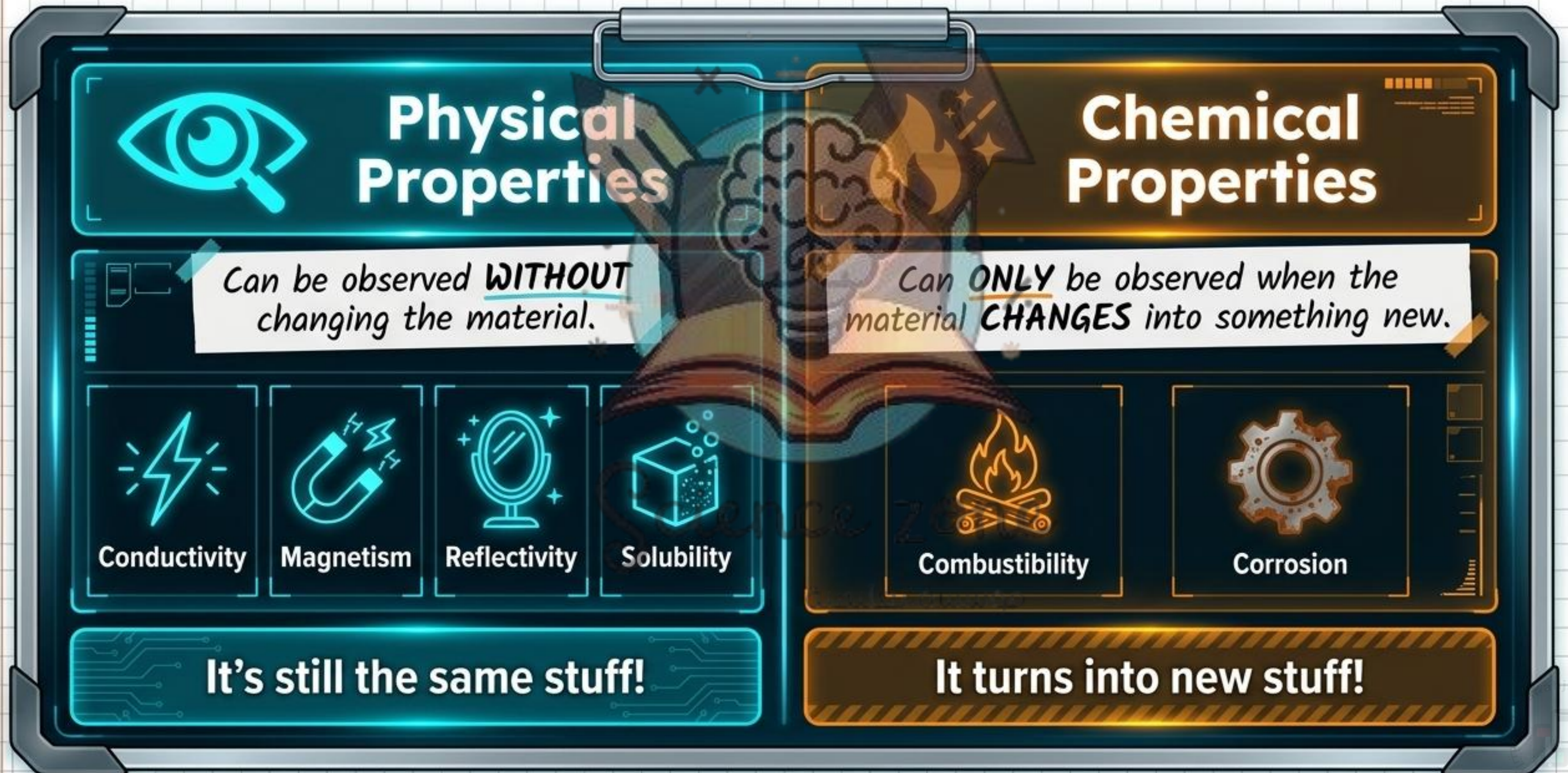


Corrosion: Metals reacting with air over time to create rust or tarnish.

Invisible air
reacting with
the materials!



The Detective's Matrix: Physical vs. Chemical



Science Challenge: Spot the Property!

Are these Physical or Chemical changes?



PHYSICAL (Still water!)



CHEMICAL (Turns to ash!)



CHEMICAL (New rust material!)

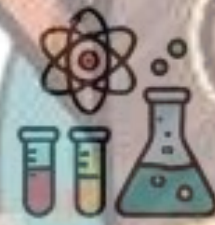


PHYSICAL (Still paper!)

Meet the Materials Scientist!



Job Title: Materials Scientist



What do they do? They test how different materials can be used together! They combine matter to invent **NEW** materials with super-useful properties.



Environmental Connection: They have a big responsibility to make sure the materials they invent are safe for our environment.

مواسسة تعليمية
Materials scientists need to know physical and chemical properties to invent everything from spacecraft heat shields to... perfect pancakes!

The Pancake Revealed!

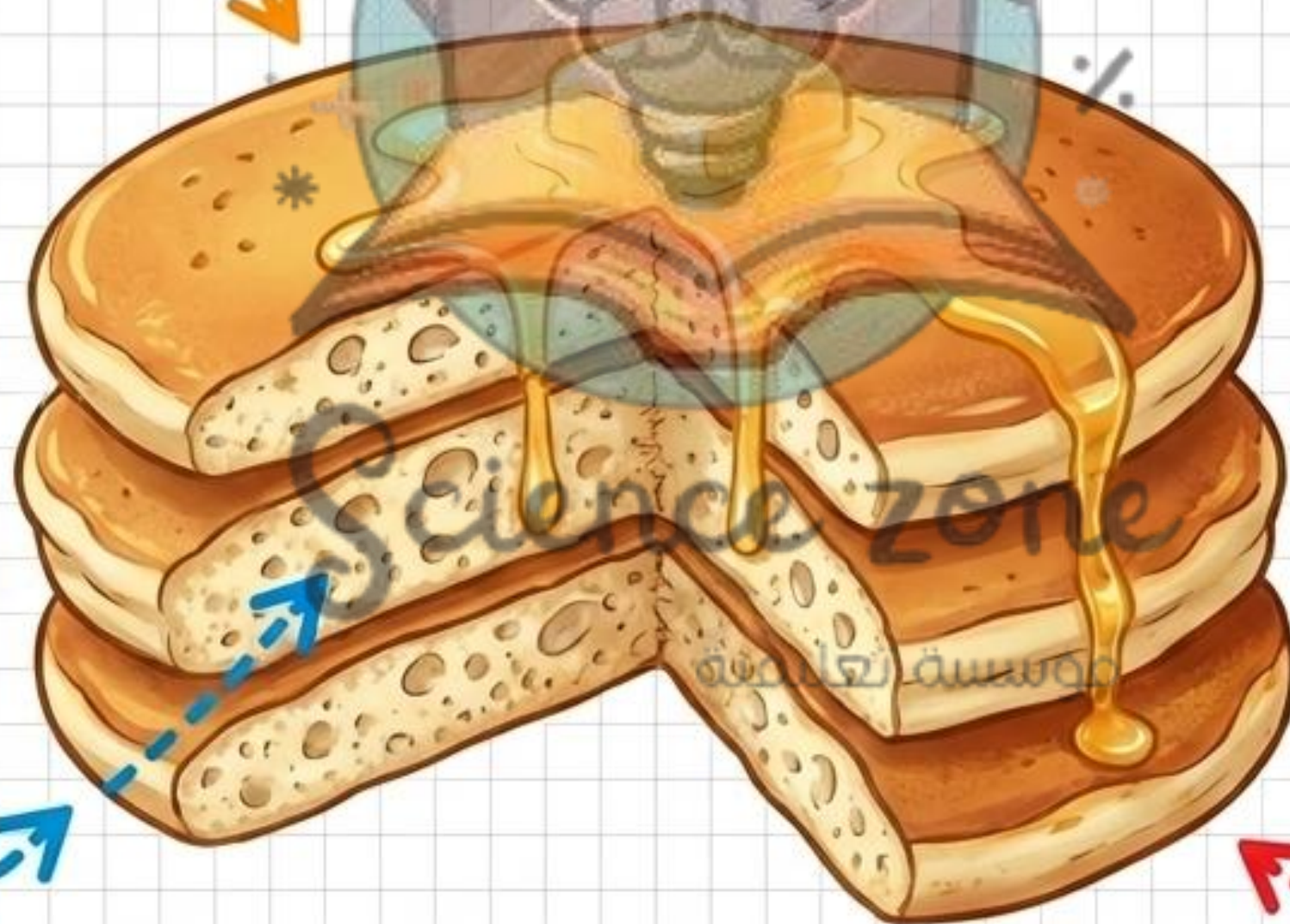
How scientists design the perfect breakfast

Volume & Mass: Need the exact right amount of baking powder so it takes up more space (fluffy!) without getting heavy.

Solubility: Sugar and salt must completely dissolve into the wet batter!

Conductivity: The griddle must be made of metal so heat moves quickly to the batter.

Combustibility: Keep an eye on it—we want a cooked pancake, NOT an ash pancake!



The Final Lab Quiz!

Q1: What describes how **much** SPACE an object takes up?

(A) Mass

(B) Volume! ✓

Q3: True or False: You can observe a chemical property without changing the material.

FALSE! The material must change (like wood burning).

Q2: If sugar mixes into tea until you can't see the grains, what property is this?

(A) Reflectivity

(B) Solubility! ✓

مؤسسة تعليمية

Scientist Status: UNLOCKED!

- ✓ Mastered Mass & Volume
- ✓ Explored Physical Properties
- ✓ Discovered Chemical Changes
- ✓ Engineered the Perfect Pancake



Great job in the lab today! Keep exploring the matter around you!





Teacher Rania Adel