

INSIDE CLASSROOMS

Curiosity, Discovery, and Learning through Experience

ISSUE MAY 2026

WHEN AIR
BECOMES MOTION

FROM DESIGN
TO REALITY

COLORS THAT DANCE

Learning in Action

Al-Amjad Magazine



Colors that Dance

First Encounter with Science



A clear bottle. Water and oil, resting side by side. Not mixing. Not becoming one. Simply — *existing apart*, as if they belong to different worlds.

A clear bottle. Water and oil, resting side by side. Not mixing. Not becoming one. Simply — *existing apart*, as if they belong to different worlds.

In a kindergarten classroom at Al-Amjad, this is the first image of science a child encounters. No explanation yet. No terms to copy down. Just a bottle, and something quietly strange happening inside it.

The children lean in.

A few drops of color are added. They spread softly through the water — not into the oil, only the water — deepening the strangeness already present in the bottle.

Then a small tablet is placed inside.

And the room changes.

Bubbles begin to rise. Colored droplets move up and down — floating and falling like tiny lights in motion

Bubbles rise. Colored droplets climb and fall, climb and fall — small, glowing, alive. The bottle becomes something that does not have a simple name yet in a five-year-old's world. But it is beautiful, and it is *moving*, and every pair of eyes in the room is fixed on it.

Smiles appear without anyone deciding to smile. *But beyond the beauty of the moment, something else is happening.*

The children begin to notice. The oil does not go where the water goes. The bubbles appear, travel, and vanish — then appear again. Without a single definition being given, something is being understood:

Not everything mixes. Some things move in patterns. The world has its own quiet rules.

They point. They ask. They wonder aloud. And that is exactly where learning begins.

Throughout, the teacher moves carefully and gently — preparing safe materials, demonstrating each step, staying close. There is no rush to name what is happening. No pressure to arrive at a conclusion. The goal, here, is simpler and more important:

To let the children see. To let them feel. To let the moment be enough.

By the end, the children may not remember what oil and water are called, or why the tablet made the bubbles rise. But they will carry something that cannot be unlearned —

The feeling of watching something surprising happen, and wanting to know why.

“In this classroom, science does not begin with answers. It begins with a bottle, a few drops of color, and the particular silence of a room full of children who have just seen something wonderful — and cannot look away.



Shapes in Small Hands

Learning Geometry Through Creation

Look around. A window. A book. The corner of a door. The edge of a desk.

In a Grade 1 classroom at Al-Amjad, this is where the lesson begins – not with a textbook, but with the room itself. Students are invited to look at what has always been there, and to see it, perhaps for the very first time.

A rectangle here. A triangle there. A square, quietly holding everything together.

The teacher explains, gently, that these shapes are not just drawings on a page. They are the building blocks of the world. Each one has its own character – its own number of sides, its own corners, its own particular way of holding its form.

But the lesson does not stay in observation for long.

It moves into the hands.

Each shape starts as separate pieces – slowly coming together into something whole

Every student receives the same simple materials: toothpicks and small pieces of clay. The toothpicks become edges. The clay becomes the connectors that hold them in place.

And then, quietly, building begins.

A triangle takes form. Then a square. Then a rectangle. Small fingers press clay onto the ends of toothpicks, adjust, press again. Some shapes hold immediately. Others need rethinking – a side that bends, a corner that won't stay. Without being told, students begin to understand something important:

A shape needs every part of itself to be a shape.

The classroom is not loud. It is focused.

Students compare their work with the friend beside them, noticing small differences. They name what they have made. They adjust, rebuild, and try again. And slowly, what was once an unfamiliar word – *triangle*, *rectangle*, *square* – becomes something they can hold in their hands and explain in their own words.

At the end of the lesson, students place their creations together and share. Each shape carries a small story – of how it was built, where it went wrong, and how it finally came to stand.

Throughout, the teacher remains a quiet presence. Not the center of attention, but the steady guide – setting up materials, offering a word of direction, asking a simple question that nudges thinking a little further along.

“In this classroom, geometry is no longer something to be memorized. It is something to be built, to be touched, and slowly, shape by shape – to be understood.





When Air Becomes Motion

A Small Rocket, A Big Idea

A chair being pushed. A door swinging open. A balloon slipping from someone's hand. In a Grade 2 classroom at Al-Amjad Islamic School, learning begins not with explanation — but with movement. These small, everyday moments are not background noise. They are the lesson.

The teacher lifts a balloon, fills it with air, and lets it go. It darts across the room. Laughter. Then quiet. Then — what made it move? The teacher does not answer. Instead, the question is handed back to the room.

Each child receives a balloon, a straw, a length of string, and tape. The string is stretched tightly across the space, becoming a path. The straw slides onto it. The balloon is attached — carefully, with small hands and full concentration.

Simple objects. But they feel like something real.

Then comes the moment. The balloon is inflated. Released.

It shoots forward along the string — swift, surprising, and briefly, magnificently alive. For one second, the classroom is pure motion. But what follows matters even more.

Students begin to notice. A balloon filled with more air travels faster, farther. A smaller one drifts more gently. Without quite realizing it, they are comparing. Questioning. Forming ideas. They are beginning to understand that the air rushing out creates a push — a force strong enough to set things in motion.

What started as play begins to take shape as understanding.

They try again. Adjust. Observe more carefully. They are not just watching anymore — they are learning to notice.

Throughout, the teacher moves quietly among them. Guiding. Encouraging. Asking simple questions that open deeper thinking — without giving the answer away too soon, allowing each child to arrive there on their own terms.

By the end of the lesson, something small but important has settled in.

Air cannot be seen. But it can push. It can move things. And in the right conditions — even a balloon on a string — it can feel like a rocket.

“ *In this classroom, a balloon is no longer just a toy. It becomes a small rocket, and a reminder that even the simplest moments can carry the beginnings of something much larger — the habit of asking why, and the joy of finding out.* ”

Air cannot be seen. But it can be felt — and sometimes, it is strong enough to move things forward





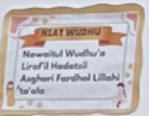
Doa Bercermin

Alhamdulillah, allahumma kamaa
hassanta Khalqil Fahassin Khulqin
Atinya: Segala puji bagi Allah, Ya Allah
Sebagaimana engkau telah memperindah
tubuhku, maka Perindah juga
Akhlakku.

tanggal :
(hari) : 19
Fatih : 20
21 : 11 : 19
129 : 21

Wednesday / Arbia
5 - February - 2024
7 - Ramadhan - 1445 H

KATA TANYA ?



Floating, Sinking, and a Simple Discovery

Learning Through an Orange

Why do some things float while others sink? It is a question children ask without prompting — in bathtubs, at rivers, watching boats move across water. In a Grade 3 classroom at Al-Amjad Islamic School, that everyday curiosity becomes the opening of a science lesson. Students are invited to recall their own observations, and in doing so, they realize: they have already been noticing the world. The classroom simply gives that noticing a name.

The teacher places two oranges on the table. One still wearing its peel. One without. One at a time, they are gently lowered into a container of water.

The room goes quiet. *The orange with its peel floats. The peeled one sinks.*

What seemed like an ordinary fruit now reveals an important scientific idea.



The students lean in. Something they have seen a hundred times — an orange, water — has just surprised them. The teacher explains, in simple terms, what is happening beneath the surface: the peel holds tiny pockets of air, and those pockets are enough to keep the orange afloat. Density. Buoyancy. Big words, but the idea is right there in front of them, wet and real.

An ordinary fruit. An extraordinary lesson.

But the learning does not stop at observation. Students are invited, one at a time, to retrieve the orange from the water — without spilling a drop. What sounds simple quickly reveals itself to be something else entirely. Too fast, and the water moves. Too forceful, and it overflows. The challenge asks for something that science lessons do not always make room for: **patience and precision.**

Each student adjusts. Movements become slower, more deliberate. They are not just watching science now — they are inside it, responding to it, learning its logic through their own hands.

By the end of the lesson, the room is filled with the particular energy of a class that has genuinely discovered something. Not been told something. *Discovered it.*

The teacher draws the threads together — observations, questions, the moment of surprise at the water's edge — and helps students arrive at a conclusion that is simple, but earned:

Whether something floats or sinks depends on its properties, and how it interacts with the water around it.



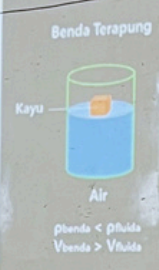
“ In this classroom, two oranges and a container of water become something more. A reminder that science does not always begin in a laboratory. Sometimes it begins with a question a child already carries — and a teacher willing to let the answer reveal itself.

VISI ALAMJAD
Mewujudkan Generasi
Berkarakter dan Berpengetahuan yang
Rahmatan lil 'alamin

Tenggelam (Sinking)

- Pengertian: Benda jatuh ke d
- Penyebab: Massa jenis benda
- Prinsip: Gaya angkat ke atas (berat benda.
- Contoh: Batu, koin, besi, dan piri

Konsep Terapung-Melayang



Opening

A: Hello my friend
B: I'm doing well
T: Do you know
during the
To obey
Fast
Sh



Building Up, Learning Balance

The Tower Egg Challenge

In a Grade 4 classroom at Al-Amjad Islamic School, learning begins with something familiar – tall buildings that students see in their everyday lives.

Towers, bridges, high-rises. What makes them stand? And why do some structures remain strong while others fall? From this curiosity, students are introduced to the basics of force – pushes and pulls – and to gravity, the invisible pull that acts on everything around us. They also begin to discover that certain shapes, especially triangles, offer greater strength and stability than others.

From observation, a question. From a question, a challenge.

Every decision matters – how to keep the structure upright, how to distribute weight, and how to prevent it from leaning or collapsing.



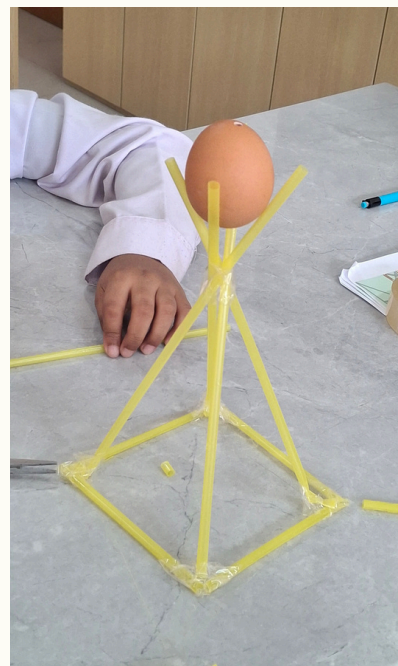
The lesson then transforms into something hands-on: the Tower Egg Challenge. Using simple materials, students work in small groups to design and build a tower that is not only as tall as possible, but strong enough to support an egg placed at its peak. Before a single piece is assembled, each group sits down to plan – discussing shapes, debating approaches, and thinking through what balance actually requires.

As the building begins, the classroom fills with collaboration and focus. Students test ideas, adjust their structures, and carefully assemble each part. Through this process, they begin to understand that strength is not only about height – it is about balance, and the thinking behind every joint and angle.

Then comes the most anticipated moment.

One by one, eggs are gently placed at the top of each tower. A quiet pause falls over the room. Will the structure hold, or will it give way?

Some towers stand firm. Others begin to sway, or collapse entirely. Yet in every outcome – success or failure – there is something to learn. Students reflect quickly, rebuild, and strengthen the weaker parts of their designs. Each setback becomes a chance to try differently.



At the end of the activity, students gather to share their experiences and insights. They begin to recognize that shape and balance are not just design choices – they are what determine whether a structure survives. What started as a simple classroom task becomes a genuine encounter with how the built world works.

Throughout, the teacher is present not as a lecturer, but as a guide – connecting concepts to real-life examples, asking questions that push thinking further, and creating a space where curiosity and teamwork are as valued as the right answer.

“In this classroom, a tower is more than something built from simple materials. It becomes a lesson in balance, resilience, and the understanding that sometimes, the strongest foundations are built through trial, reflection, and the courage to try again.



A Bubble That Tells a Story

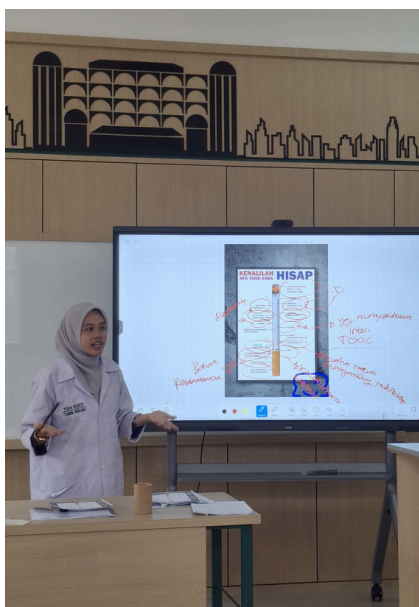
Seeing What Smoke Leaves Behind



In a Grade 6 classroom at Al-Amjad Islamic School, a lesson on health and environment unfolds through a simple yet meaningful experience.

The learning begins with a familiar reality — students reflecting on the presence of smoking in their surroundings, and its impact on both health and the environment. From this discussion, the lesson moves into the science behind addictive substances: the harmful components found in cigarettes — nicotine, tar, and carbon monoxide — and what they do to the respiratory system and other organs.

But rather than stopping at explanation, the lesson takes a different turn.



Using simple materials — a plastic bottle, a soap solution, and a small source of smoke — students work in groups to make the invisible visible. Smoke is directed into the bottle. A thin layer of soap solution is applied at its opening. When the bottle is gently pressed, a bubble forms — capturing the smoke inside.

As students observe closely, something shifts. They begin to notice subtle changes in color. A residue, faint but present, appears within the bubble — traces of what smoke leaves behind.

And in that moment, the lesson becomes real.

Students discuss their findings, record their observations, and connect what they see to how the lungs might be affected over time. The classroom atmosphere reflects both curiosity and excitement — a process that is as enjoyable as it is thought-provoking.

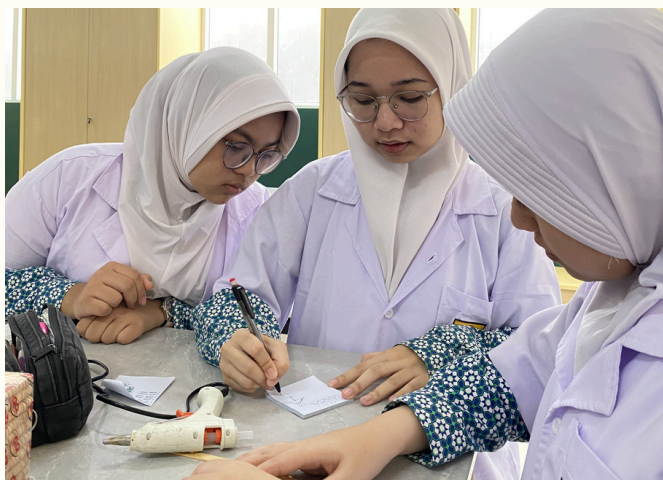
At the end of the session, reflection becomes an essential part of learning. Guided by the teacher, students draw conclusions from their observations and relate them to the broader impact of smoking on health. Throughout, the teacher plays a crucial role as facilitator — ensuring safety, guiding discussion, and reinforcing that the purpose of the activity is to build awareness, not to normalize harmful behavior.

“In this way, a simple bubble becomes more than just an experiment. It becomes a window into understanding — showing that sometimes, the most meaningful lessons are the ones students are able to see for themselves.

Students do not simply hear about the dangers of smoking — they begin to understand it through observation and experience.



From Design to Reality



When a Bridge Becomes More Than a Structure

A bridge is never built instantly. It is the result of calculation, experimentation, and the courage to try.

In Grade 11 at Al-Amjad Islamic School, this idea is not confined to formulas on a whiteboard. Instead, it comes to life through experience — when students are challenged to design and build their own bridges.

The lesson begins with a simple question: why are bridges important? From there, the discussion unfolds into how structures stand, carry loads, and maintain balance. Concepts such as force, stress, strain, moments, and equilibrium gradually shift from abstract ideas into something tangible — something the students will soon put to the test.

Each group begins their journey with a design. Some choose simple frameworks, while others explore more complex structures. They discuss, debate, sketch, and refine. At first, not everything is fully understood — but that is precisely where learning begins. Slowly, piece by piece, ideas take form.

"Will the bridge hold? Or will it give way?"

When the bridges finally stand, the next phase begins — testing. One by one, each group presents their design, explaining the reasoning behind their choices. Then, the load is applied, gradually increasing.

There is a moment of anticipation. Will the bridge hold? Or will it give way?

At certain points, some bridges begin to show signs of strain. Others remain steady longer than expected. In one of the tests, the structures are challenged with loads of up to **8 kilograms** — revealing not just the strength of the materials, but the depth of understanding behind each design.

In these moments, learning becomes visible.

Students are no longer simply recalling concepts of force and structure. They **see** them. They **experience** them. They begin to understand why certain designs succeed, and why others must be improved.

Throughout the process, the teacher serves as a guide — offering direction, asking questions, and encouraging deeper thinking. Rather than providing answers, the teacher helps students connect their hands-on experience with the principles they have learned.

“By the end of the activity, what remains is not just a model bridge, but a shift in perspective.

That understanding the world does not always begin with answers — but with the courage to design, to test, and to learn from every outcome.





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STEM ACTIVITIES

AL-AMJAD MAGAZINE

Perguruan Islam Al-Amjad

