Play Schemas

Understanding the Trajectory Schema

Why kids love knocking towers down (and why magnetic tiles are perfect for it)

If you've ever built a beautiful tower for your child—only for them to knock it down the moment you finish—it can feel a little bit frustrating.

You might even think they're doing it just to be cheeky.

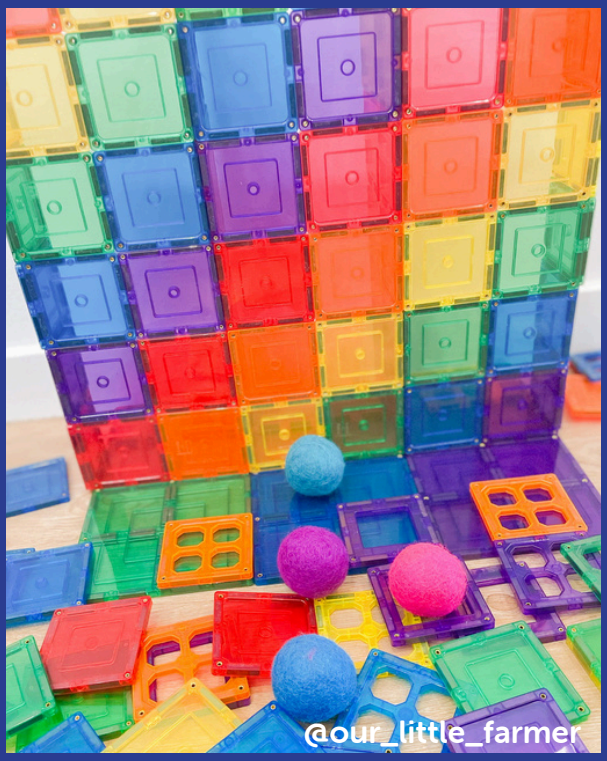
But the truth is, something much more interesting is happening.

Your child is exploring physics.

Yes, really.



When children repeatedly drop, throw, roll, or knock things over, they're exploring what is called the trajectory play schema. It's their way of investigating how things move through space—up, down, across, and everything in between.



And that tower you just carefully built?
Well... your child is conducting a very important experiment to see what happens when a tile is removed from the bottom.
Spoiler alert: the tower still crashes down.
Every time.

TileTek

What is the Trajectory Schema?

Children exploring a trajectory schema are fascinated by movement. They want to see how objects travel, how fast they go, and what happens when they collide with something.

You might notice them:

- Throwing toys
- Dropping objects from the high chair
- Rolling cars down ramps
- Launching balls across the room
- Knocking down towers (again and again)



It can look repetitive, but that repetition is actually where the learning happens.

They're asking questions like:

Hmm... what happens if I pull this tile out?

I wonder if the ball will go faster down this ramp?

What if I make the tower taller?

It's the beginning of scientific thinking.

Ways to explore the Trajectory Schema

with magnetic tiles

Build Towers (and Knock Them Down)

Start by building a tall tower together.

Then step back and let your child test their theory.

What happens if they pull a tile from the bottom?

What if the tower is taller?

What if the base is wider?

Soon enough they'll start experimenting with building their own towers just to see how they fall.



TileTek

Create Rainbow Ramps

Ramps are a fantastic way to explore movement.
Using magnetic tiles, build a simple incline and roll different objects down it. Try:

- toy cars
- balls
- marbles
- small animals

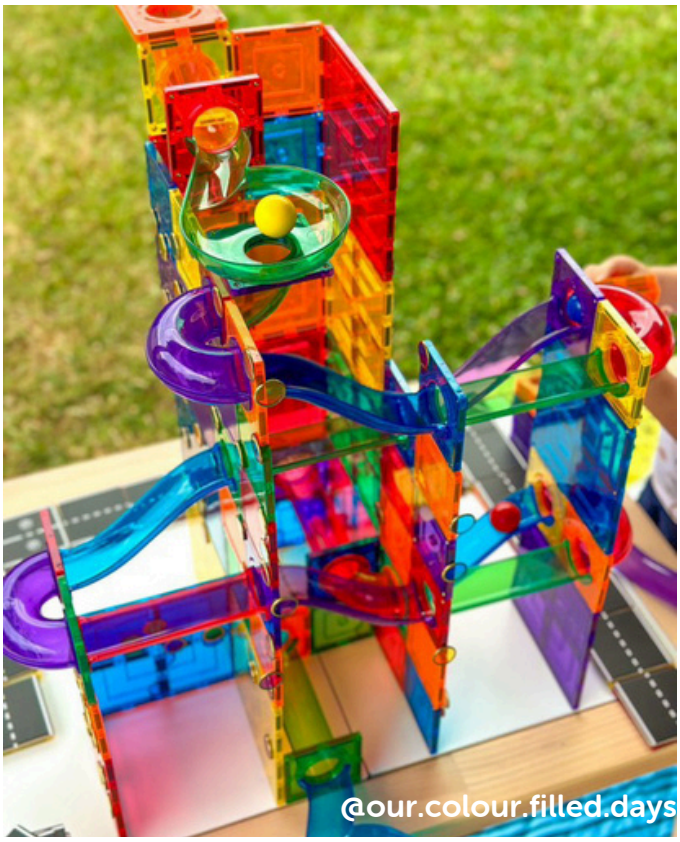
Which one goes fastest?
Does a steeper ramp make a difference?
This kind of play naturally introduces ideas about speed, gravity, and force.



Build a Ball run

Another great activity is creating a simple ball run using magnetic tiles.

Work together to design a path for the ball to travel from the top to the bottom.



If your child is up for a challenge, show them an image of a build and see if they can recreate it themselves. Or even better—encourage them to invent their own design.
Sometimes the most interesting learning happens when the ball gets stuck halfway down and they have to figure out why.



TileTek

It's not just toddlers!

Something really important to remember is that play schemas don't disappear once children grow out of toddlerhood.

Older children continue using these same patterns of play to explore and understand their world. It's where the "hmm..." and "I wonder..." moments come from.



As children get older, their trajectory play simply becomes more complex. Instead of dropping spoons from a high chair, they might:

- Build taller towers to test gravity
- Create ramps to experiment with speed
- Design ball runs or marble tracks
- Compare which structure collapses faster



Magnetic tiles are fantastic for this stage because they let children quickly build, test, rebuild, and experiment again.

Which, as every young scientist knows, is the most important part.



TileTek

Let Curiosity Lead

The next time your child knocks down a tower you've just built, try to see it a little differently.
Instead of frustration, it might just be the start of a fascinating investigation.



Children exploring the trajectory schema are learning about:

- gravity
- force
- speed
- cause and effect

All through play.
And the best part?
They'll happily repeat the experiment as many times as necessary to make sure their results are correct.

Play Schema Series

Play, Learn, Grow!

If you'd like to explore more ways children learn through play, follow along as we continue our Play Schema Series, where we'll be sharing ideas to help you support your child's natural curiosity using magnetic tiles.



Because sometimes the most powerful learning starts with a simple question:

I wonder what happens if...

TileTek