



Push and Pull! Year 1 Science at Home

You can help! Every time your child pushes open a door or pulls out a chair, they are doing science. You can help them notice forces everywhere!

Why are we learning this? Forces are everywhere up here

Pushes and pulls are part of everything we do every day. Paddling a dinghy or canoe uses push and pull forces to move through the water. Throwing a fishing line, kicking a footy, opening a heavy gate — these are all forces. Understanding how pushes and pulls work helps your child make sense of the physical world around them, and gives them the language to describe and predict what will happen when they move things.

My child will learn to:

✓ What is a force?

Know that a force is a push or a pull that can make things move, stop or change shape.

✓ Direction of a force

Describe which way a force acts — pushes move things away, pulls bring them closer.

✓ Strength of a force

Describe whether a force is gentle or strong, and explain what difference that makes.

✓ Predict what happens

Guess what will happen to an object before applying a push or pull — then test it!

Big ideas to know:

What is a force?

A force is a PUSH or a PULL. Forces can make things start moving, stop moving, go faster, go slower, change direction, or change shape. You cannot see a force — but you can see what it does! Every time something moves, changes shape or stops, a force caused it.

Strength

Forces can be GENTLE (like softly blowing on a feather) or STRONG (like kicking a football hard). Stronger forces cause bigger changes — a gentle push might nudge a ball, but a strong push sends it flying across the yard. The strength of the force AND the weight of the object both matter.

Direction

Every force acts in a DIRECTION. A push moves things away from you. A pull moves things towards you. Changing the direction of a force changes where things go — tap a rolling ball from the side and it changes direction!

Push and Pull

PUSH

A push moves something away from you.



Examples:



kicking a ball



pushing a rubbish bin



pushing a gate open

PULL

A pull moves something closer to you.



Examples:



pulling in a fish



pulling a wagon of wood



pulling up a bucket of water



Pushes and Pulls! Year 1 Science at Home

What forces can do

Effect	What it looks like	Try this at home
Make things MOVE	Kicking a ball makes it roll. Pushing a trolley makes it move forward.	Push a toy car along the floor and watch it go!
Make things STOP	Catching a ball (pulling it) makes it stop. Brakes stop a bike by pushing on the wheel.	Grab a rolling ball with both hands.
Change DIRECTION	Tapping a rolling ball from the side changes which way it goes.	Gently tap a rolling ball sideways — where does it go?
Change SHAPE	Squishing playdough (a push) changes its shape. Stretching a rubber band (a pull) changes it too.	Push playdough flat! Stretch a rubber band and let go!

Think Like a Scientist — Force Explorer

Find 5 objects around the home. For each one, try pushing it and pulling it. Talk about: does it move? Does it change shape? Which way does it go?

Ask your child to PREDICT first — "What do you think will happen?" Then try it! Being wrong is great for learning — it means there is something new to discover together!

You will need: (Materials)

- Playdough or bread dough
- A ball or rolled-up sock
- A full water bottle
- A toy car (optional)
- Paper and pencil for predictions

Objects to try:

1. A pillow or cushion — push it! Pull it!
2. A full water bottle — push it along the floor
3. Playdough or bread dough — push, pull, squish!
4. A ball or rolled-up sock — push, then catch it (a pull!)
5. A door or drawer — does it push or pull to open?

Questions to ask your child

1. Is that a push or a pull? (Ask this any time your child moves something!)
 2. Can you push it gently? Now push it hard — what is different?
 3. Which way did it move? Can you make it go the other way?
 4. Can you find 3 pushes and 3 pulls in our house right now?
 5. What would happen if we pushed it with more strength?
 6. Can you change its shape? Is that a push or a pull?
 7. How do you think we could make that ball stop rolling?
- Let your child test their prediction — even if they are wrong! Being wrong and then working out why is exactly what scientists do. Celebrate the "wrong" answers and work out together what really happened.*

Key words to know:

Force	A push or a pull — forces cause objects to move, stop, change direction or change shape
Push	A force that moves an object away from you
Pull	A force that moves an object towards you
Strength	How hard a force is — a gentle force or a strong force
Direction	Which way a force acts — left, right, up, down
Predict	To make a guess about what will happen before you try it — a key science skill!
Observe	To look carefully at what actually happened — then compare it to your prediction

Key words to look up

Force · Push · Pull · Strength · Direction · Predict · Observe

What school will check

By the end of Year 1, your child needs to describe everyday pushes and pulls, compare the effects of different strengths and directions, and predict the effect of a force before testing.

Try it at home!

Next time you are at the playground, name all the pushes and pulls together. Swings use pull (gravity) and push (you push them). Slides use pull (gravity). Climbing uses push (legs) and pull (arms). Forces are everywhere!

