inquisitive

GRADE 3 · PHYSICAL SCIENCES · FAST PATH

Unit: Forces and Interactions

Lessons in unit: 8 · 23 teaching days · sessions up to 30 min · ★ Individual checkpoint · ↳ Time-saving teaching move

1. Move It!	DAY 1 · 30 MIN	DAY 2 · 30 MIN	DAY 3 · 30 MIN
PHENOMENON QUESTION **How can a dog ride a skateboard?** **OUTCOME** **I can use arrows to show the strength and direction of a force.** **TIME** **3 days · 30 min per day** **90 min total**	5 MIN Activity 1	**PREP** Inflate balloons.	10 MIN Activity 7
	10 MIN Activity 2	10 MIN Activity 4 Play Force Charades.	5 MIN Activity 8
	10 MIN Activity 3	10 MIN Activity 5	10 MIN Activity 9 ★
	5 MIN Activity 4 Read about contact forces; choose a push or pull to act out tomorrow.	10 MIN Activity 6	5 MIN Activity 12

2. Falling With Style!	DAY 4 · 30 MIN	DAY 5 · 30 MIN	DAY 6 · 30 MIN
PHENOMENON QUESTION **How can you skydive safely?** **OUTCOME** **I can describe the force of gravity on an object.** **TIME** **3 days · 30 min per day** **90 min total**	**PREP** Cut strings about 1 ft long and plastic squares about 16 in across; no exact measuring. Set out toy figures for pairs.	10 MIN Activity 2 Drop the parachute and record how the figure falls.	**PREP** Set out two identical sheets of paper per pair.
	15 MIN Activity 1	5 MIN Activity 3	25 MIN Activity 5 ★
	15 MIN Activity 2 Drop the figure and record how it falls; then build the parachute.	15 MIN Activity 4	5 MIN Activity 8

3. Balancing Forces

PHENOMENON QUESTION
Can a game of tug-of-war end in a draw?

OUTCOME
I can explain how balanced and unbalanced forces affect an object's motion.

TIME
3 days · sessions up to 30 min
80 min total

DAY 7 · 30 MIN

- 15 MIN — Activity 1
- 10 MIN — Activity 2
- 5 MIN — Activity 3

DAY 8 · 25 MIN

- **PREP** Set out one hair dryer and one Ping-Pong ball.
- **SAFETY** Use hair dryers on the cool setting.
- 5 MIN — Activity 4
- 10 MIN — Activity 5
  ↳ Demonstrate with one hair dryer; invite students to try.
- 10 MIN — Activity 6
  Draw and label the results.

DAY 9 · 25 MIN

- 10 MIN — Activity 6
  Complete the four explanation sentences.
- 10 MIN — Activity 7 ★
- 5 MIN — Activity 10

4. Forceful Friction

PHENOMENON QUESTION
Can sledding on grass be fun?

OUTCOME
I can describe how friction affects the motion of an object.

TIME
4 days · sessions up to 30 min
95 min total

DAY 10 · 25 MIN

- **PREP** Prepare ramps with three equal-sized surfaces; set out blocks and measuring tools.
- 10 MIN — Activity 1
- 15 MIN — Activity 2 · Parts 1–2 ★
  ↳ Preview Part 3 and write Part 4's prediction for tomorrow.

DAY 11 · 25 MIN

- 25 MIN — Activity 2 · Parts 3–5 ★
  Start testing; complete results and the fair-test chart.

DAY 12 · 30 MIN

- 10 MIN — Activity 3
- 10 MIN — Activity 4
- 10 MIN — Activity 5 ★

DAY 13 · 15 MIN

- **PREP** Set out two thick paperback books per pair.
- 5 MIN — Activity 6
- 5 MIN — Activity 7
- 5 MIN — Activity 10

5. Patterns in Motion

PHENOMENON QUESTION
Can we predict how an amusement park ride will move?

OUTCOME
I can describe the pattern of an object's motion.

TIME
2 days · 30 min per day
60 min total

DAY 14 · 30 MIN

- 5 MIN — Activity 1
- 5 MIN — Activity 2
  ↳ Act out all four rides together; scribe students' comparison as a class.
- 15 MIN — Activity 3
- 5 MIN — Activity 4
  ↳ Operate the three rope lengths for the class; students discuss all four prompts.

DAY 15 · 30 MIN

PREP Tie strings to washers; set out pencils for pairs.

- 15 MIN — Activity 5 ★
- 10 MIN — Activity 6
  ↳ Use pre-tied weights; pairs finish assembly, test and explain.
- 5 MIN — Activity 9

6. Hair Raising!

PHENOMENON QUESTION
Can an object start moving all by itself?

OUTCOME
I can show how a static electric force can move an object without touching it.

TIME
3 days · 30 min per day
90 min total

DAY 16 · 30 MIN

PREP Inflate one balloon per student; prepare tissue-paper pieces.

- 5 MIN — Activity 1
- 10 MIN — Activity 2
- 15 MIN — Activity 3 · Parts 1–2

DAY 17 · 30 MIN

- 5 MIN — Activity 3 · Part 3
- 10 MIN — Activity 4
- 15 MIN — Activity 5 ★

DAY 18 · 30 MIN

PREP Set out wool or nylon cloth and balloons.

- 10 MIN — Activity 6
- 15 MIN — Activity 7 ★
- 5 MIN — Activity 10

7. It's Magnetic!

PHENOMENON QUESTION
What force can push and pull from a distance?

OUTCOME
I can show how magnetic force can move an object without touching it.

TIME
3 days · sessions up to 30 min
80 min total

DAY 19 · 25 MIN

PREP Set out magnets for the scavenger hunt.

10 MIN — Activity 1

15 MIN — Activity 2

DAY 20 · 25 MIN

PREP Set up both centers: magnets, paper clips, plates, toy cars, tape and track paper.

10 MIN — Activity 3

15 MIN — Activity 4
Read Part 1, then complete either challenge (Part 2 or 3) and its record.

DAY 21 · 30 MIN

PREP Reset both challenge centers.

15 MIN — Activity 4
Complete the remaining challenge and its record.

10 MIN — Activity 5 ★

5 MIN — Activity 8

8. What's the Problem?

PHENOMENON QUESTION
Can we use magnets to solve a problem?

OUTCOME
I can design a solution to a problem using magnets.

TIME
2 days · 30 min per day
60 min total
Assessment: Anchor Maps and Autogradable Summative Assessments are not included within this pacing guide.

DAY 22 · 30 MIN

5 MIN — Activity 1

5 MIN — Activity 2
↳ Partners discuss both questions; skip the class report.

15 MIN — Activity 3
↳ Demonstrate both pole arrangements; students predict, observe and explain levitation.

5 MIN — Activity 4
↳ Match all three solutions together; students explain each before you connect it.

DAY 23 · 30 MIN

5 MIN — Activity 5

20 MIN — Activity 6 ★

5 MIN — Activity 9