

# North Dakota Grade 3 to Grade 4 Physical Science Summer Bridge Workbook

*Physical Science: Review, Readiness, and Practice*

**Dr. A. Nazari**

Copyright © 2026 Dr. A. Nazari

Published by View Math Education

ViewMath.com

All rights reserved. No part of this publication may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of the author, except in the case of brief quotations embodied in critical reviews and certain other noncommercial uses permitted by copyright law, including Section 107 or 108 of the 1976 United States Copyright Act.

The information in this book is distributed on an “as is” basis, without warranty. While every precaution has been taken in the preparation of this work, neither the author nor the publisher shall have any liability to any person or entity with respect to any loss or damage caused or alleged to be caused directly or indirectly by the information contained in this book.

*Copyright © 2026*

# *Online Science Resources*

*Scan the QR code to open the matching ViewMath science page for this state. Use it for book links, updates, and extra practice resources.*



*Scan to visit ViewMath Science*

[viewmath.com/ND-G3Sci](http://viewmath.com/ND-G3Sci)

*Free to use • Works on any device • No downloads required*



# How to Use Physical Science Summer Bridge Workbook

3 → 4



## Use the workbook to practice the path from Grade 3 to Grade 4.

This book has more room to work than the bridge review book. Students should write on the page, mark evidence, and correct missed questions. The goal is steady readiness: keep Grade 3 ideas strong while building comfort with Grade 4 energy language.

- Practice days** Read the review or readiness note, study the visual, and complete the workbook questions before checking.
- Writing work** Use short labels, arrows, words, and one-sentence explanations when a question asks for thinking.
- Friday review** Complete the mixed review to bring the week's ideas together. Use the score as information, not pressure.
- Corrections** Fix missed answers and write the science word or clue that would have helped.



### Write

Use the page as a workspace: labels, arrows, short answers, and quick corrections.



### Link

Connect old force and motion ideas to new energy examples.



### Review

Use Friday mixed review to see which ideas need another look.

### For students

- Put a small star by new Grade 4 words.
- Underline the clue before choosing an answer.
- Keep written answers short and specific.
- Correct the page before moving to the next day.

### For adults

- Ask students to point to the clue they used.
- Read hard questions aloud if needed.
- Keep Grade 4 preview pages exploratory.
- Use corrections as the teaching moment.



# My Bridge Workbook Progress

Track Grade 3 review, Grade 4 preview lessons, and each Friday mixed-review score.

5 review weeks

3 readiness weeks

8 Friday reviews

This bridge workbook belongs to:

Week	Focus	Mon	Tue	Wed	Thu	Friday Review
1	Balanced and unbalanced forces	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/> / 10
2	Force evidence and motion patterns	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/> / 10
3	Motion predictions and magnets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/> / 10
4	Electric forces and magnet design	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/> / 10
5	Magnet problems and force review	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/> / 10
6	Grade 4 preview: speed and energy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/> / 10
7	Energy transfer and collisions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/> / 10
8	Energy-device design practice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/> / 10

## Reflection Notes

A Grade 3 idea I strengthened: \_\_\_\_\_

A Grade 4 readiness idea I want to revisit: \_\_\_\_\_



# ★ Table of Contents ★

*Here's what we'll explore together!*

★ Week 1: <i>Balanced and Unbalanced Forces</i> .....	2
★ Week 2: <i>Balanced and Unbalanced Forces and Patterns of Motion</i> ..	12
★ Week 3: <i>Patterns of Motion and Magnetic and Electric Forces</i> .....	22
★ Week 4: <i>Magnetic and Electric Forces and Solving Problems with Magnets</i> .....	32
★ Week 5: <i>Solving Problems with Magnets and Balanced and Unbalanced Forces</i> .....	42
★ Week 6: <i>Grade 3 Review and Grade 4 Preview</i> .....	52
★ Week 7: <i>Grade 4 Preview: Energy Moves from Place to Place and Energy in Collisions</i> .....	62
★ Week 8: <i>Grade 4 Preview: Energy in Collisions and Converting Energy by Design</i> .....	72
★ <i>Answer Key &amp; Explanations</i> .....	82



*Let's learn and have fun!*



WEEK

1

## Balanced and Unbalanced Forces

*Practice this week's science ideas.*

### *This Week's Days*

- |              |                                   |
|--------------|-----------------------------------|
| <i>Day 1</i> | <i>Pushes and Pulls</i>           |
| <i>Day 2</i> | <i>Balanced Forces</i>            |
| <i>Day 3</i> | <i>Unbalanced Forces</i>          |
| <i>Day 4</i> | <i>Planning a Fair Force Test</i> |
| <i>Day 5</i> | <i>Week 1 Mixed Review</i>        |

**Week 1 Day 1** *Pushes and Pulls*

**Big idea:** A force is a push or a pull. Forces explain why objects start moving, stop moving, speed up, slow down, or change direction.

- **Push or pull:** A push moves an object away from the force. A pull moves an object toward the force.
- **Force vocabulary:** The word **force** means any push or pull. Kicking, tugging, lifting, and dragging can all use force.
- **Motion changes:** A force can start, stop, speed up, slow down, or turn an object.
- **Unbalanced force:** A still object starts moving when forces do not cancel. A stronger push usually changes motion more.
- **Picture and examples:** Arrows show force direction. Kicking a ball is a push; tugging a drawer is a pull.



Pushes and Pulls



## Practice

## Bridge Workbook Practice

Choose the best answer.

1 Which action is a push? \_\_\_\_\_

- |  |  |
|--|--|
| <input type="radio"/> A pulling a wagon toward you | <input type="radio"/> C holding a pencil still |
| <input type="radio"/> B kicking a ball away        | <input type="radio"/> D watching a shadow      |

2 Which action is a pull? \_\_\_\_\_

- |  |   |
|--|---|
| <input type="radio"/> A dragging a backpack closer | <input type="radio"/> C pushing a door open |
| <input type="radio"/> B tapping a drum             | <input type="radio"/> D dropping a marker   |

3 A force arrow points to the right. What does the arrow show? \_\_\_\_\_

- |   |   |
|---|---|
| <input type="radio"/> A the color of the object | <input type="radio"/> C the force direction |
| <input type="radio"/> B the object's mass       | <input type="radio"/> D the weather         |

True or false.

4 A push moves an object away from the force. \_\_\_\_\_

True  False



Get Online



Find more at  
[viewmath.com/ND-G3Sci](http://viewmath.com/ND-G3Sci)



# Answer Key & Explanations

Check the answer first, then read the explanation to see the evidence or reasoning.

## Week 1 Day 1: Pushes and Pulls

### Answers

1

B

2

A

3

C

4

True

5

False

6

True

7

force

8

pull

9

gravity

10

yes

11

See Explanation

12

See Explanation

### Explanations

1

Kicking sends the ball away from the foot, so the force is a push.

2

Dragging brings the backpack toward the person, so the force is a pull.

3

A force arrow shows the direction the push or pull acts.

4

A push acts away from the object or person doing the pushing.

5

A force can also start motion, such as a push that starts a still cart moving.

6

Gravity pulls objects toward Earth, so falling down is evidence of that pull.

7

Force is the science word for a push or a pull.

8

Tugging brings the rope toward the student.

9

Gravity pulls the eraser toward Earth, so falling shows the pull of gravity.

10

The ball changed from still to moving, so the kick caused a motion change.

11

A harder push is a stronger force, so it can cause a bigger motion change on the same toy car.

12

Good evidence names the action and motion change, such as someone pulled the backpack and it moved closer.



Find more at  
[viewmath.com/ND-G3Sci](https://www.viewmath.com/ND-G3Sci)



## Week 1 Day 2: Balanced Forces

## Answers

- 1 A   2 C   3 B   4 False   5 True   6 True   7 equal   8 balanced  
9 no   10 opposite   11 See Explanation   12 See Explanation

## Explanations

- 1 Equal arrows in opposite directions show forces that cancel.
- 2 Equal opposite pushes are balanced, so they do not change the motion.
- 3 The book stays at rest because the downward pull and upward push balance.
- 4 Balanced forces cancel, so the motion does not change.
- 5 The object can stay still when the forces are balanced.
- 6 Equal opposite arrows show matching forces that cancel.
- 7 Balanced forces have equal strength in opposite directions.
- 8 Balanced forces cancel and do not change motion.
- 9 A still box remains still when the forces are balanced.
- 10 Balanced forces act in opposite directions.
- 11 A resting book can still have balanced forces. Gravity pulls down while the table pushes up, and the motion does not change.
- 12 Equal arrows show equal strength, and opposite directions show the forces cancel each other.

## Week 1 Day 3: Unbalanced Forces

## Answers

- 1 B   2 A   3 C   4 True   5 False   6 True   7 unbalanced



Get Online

Find more at  
[viewmath.com/ND-G3Sci](https://viewmath.com/ND-G3Sci)

8 stronger

9 yes

10 longer arrow

11 See Explanation

12 See Explanation

**Explanations**

1 A still cart starts moving when the forces do not cancel.

2 The rope moves toward the stronger pull because that side has the unbalanced force.

3 A longer arrow can show that one force is stronger than another.

4 Unbalanced forces can speed up, slow down, or turn an object.

5 Unbalanced forces do not cancel, so one side is stronger and motion can change.

6 Speed is part of motion, so slowing down is a motion change.

7 Unbalanced forces do not cancel, so one side is stronger and motion can change.

8 Motion changes toward the stronger force because that side does not cancel out.

9 Changing direction is a motion change because the path is different after the force acts.

10 The longer arrow shows the stronger force direction.

11 The ball's speed changed. Speed is part of motion, so slowing down is a motion change.

12 Look for unequal arrows or a motion change. If one side is stronger, the forces do not cancel.

**Week 1 Day 4: Planning a Fair Force Test****Answers**

1 A

2 B

3 A

4 True

5 False

6 True

7 variable

8 constants

9 same line

10 strength

11 See Explanation

12 See Explanation

**Explanations**

Find more at  
[viewmath.com/ND-G3Sci](http://viewmath.com/ND-G3Sci)

