MAGNETISM WORKSHEETS

POLES · FIELDS · GRADES 6-8

ANSWER KEY

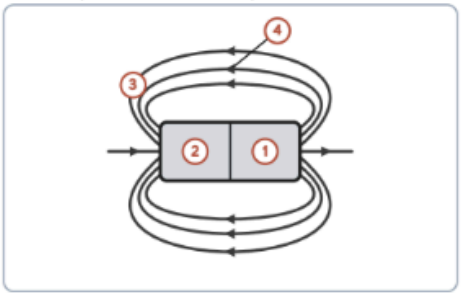


My name _____ Date _____

Label the Magnet

Label the magnet. Use the word box.

Field lines leave the north pole and enter the south pole. The arrows show which end is which.



north pole	south pole	field line	direction of the field

1 = _____ 2 = _____

3 = _____ 4 = _____

5. Where is the field strongest? ☐ near the poles ☐ far from the magnet

Tell how you know which end is the north pole.

Magnetism - Label the Magnet

44 PAGES

Bright Path Sped

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This is a fillable PDF

- Open it in a PDF reader (Adobe Acrobat Reader, Preview, or your browser), click into a line or a box, type, and Save As.
- The name line, every answer box, every ruled work box and every check box on the student pages are type-in fields, and so are the tracker, class grid, team note and family page. You can also print any page and write by hand.
- It works offline. No account, no subscription, no internet connection needed after you download it.

Print at 100 percent

Turn off fit to page and shrink to fit so the ruled lines stay 0.34 inch apart. Every student page is black and white inside a colored border, so it still reads when copied in black and white. The north and south poles are marked with the letters N and S as well as with color.

Student work

A filled-in tracker, class grid or team note carries a real student's name. Keep it in the data folder, and use a first name only on any page that leaves your hands.

Need help?

If a field will not behave or a page will not print the way you expect, use Ask a Question on the product page before leaving a review. Every question is read, and a fix to the file ships as a free update: re-download it any time from My Purchases.

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PREVIEW

How To Read a Page

The parts of a student page, then the page types in the order they come.

The parts of a page

- **The answer box.** A bordered box for one word, a letter or a number. Click it to type, or print and write in it.
- **The ruled work box.** Lines 0.34 inch apart for sentences. Write one idea to a line.
- **The check box.** Attract or repel; true or false; yes or not yet: click or mark.
- **The magnets.** Red with the letter N is a north pole. Blue with the letter S is a south pole. A gray half or a ? is a pole to find.
- **The cut line.** Six pieces in a 3 by 2 grid, each 2.4 by 1.25 inches, edge to edge: one cut across and two down.

Page type	What it looks like	What the student does
Readings	4 pages, 16 questions	Poles, fields, domains, Earth. Each has a picture and a writing box.
Words	2 pages, 16 items	Match eight words to meanings, then use them in sentences.
Attract or Repel	3 pages, 18 items	Drawn magnets: decide the result, or find the missing pole.
Magnetic or Not	2 pages, 18 items	Ten pictured objects, then eight named by material.
Field Lines	3 pages, 17 items	Label, read the arrows, tell strong from weak.
Domains	2 pages, 8 items	Tiny arrows in iron and in a magnet; a magnet cut in half.
Compass and Earth	2 pages, 11 items	Check six needles; label Earth's magnet.
Write and Check	37 items	True or false, short answers, find the mistake, quizzes, exit tickets.

Untimed, unscored on the page

No student page has a timer or a score on it. The keys and the tracker are for you. The answer keys are on pages 35 to 37.

Drawn by us, in a model

Every magnet, field line, compass and domain is drawn for this file. Field lines are a model: they show the direction of the field and, by how close together they are, where it is stronger. Print at 100 percent.

Printing and the type-in fields

Every page prints clean in black and white. The name line, every answer box, every ruled box and every check box are type-in fields in any PDF reader: click one, type, then save.

Room to work

Short-answer boxes hold four lines. If a student needs more room, hand over one page a day or let them say the answer first.

PREVIEW

Preview - Bright Path Sped

My name _____ Date _____

Poles and Forces

Read about it. Then answer the questions.

Poles and Forces

A magnet is an object that attracts iron and a few other metals. Every magnet has two poles, a **north pole** and a **south pole**. The poles are where the magnetic force is strongest. **Unlike poles attract**: a north pole and a south pole pull together. **Like poles repel**: two north poles, or two south poles, push apart. A magnet does not have to touch an object to push or pull it. The magnetic force works across a gap, and it gets weaker as the distance grows.



Unlike poles attract.



Like poles repel.

Check what you read.

1. The two poles of a magnet are the north pole and the _____ pole.

2. Two north poles are held close together. They will:
   ☐ **attract** ☐ **repel**

3. Where is the force of a magnet strongest?
   ☐ **at the poles** ☐ **in the middle**

4. Does a magnet have to touch an object to pull it?
   ☐ **yes** ☐ **no**

Tell what happens when two magnets are held close together. Use the words attract and repel.

PREVIEW

Preview - Bright Path Sped

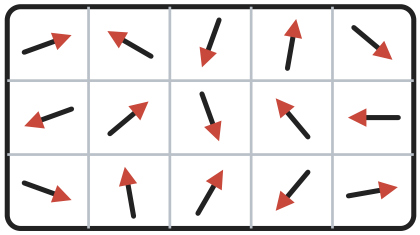
My name _____ Date _____

Domains

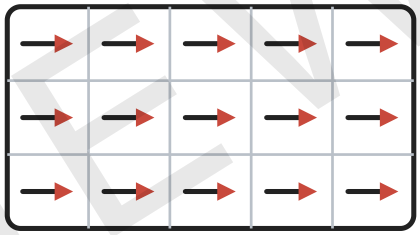
Read about it. Then answer the questions.

Domains

Iron, nickel and cobalt can be made into magnets. Inside them are tiny regions called **domains**. Each domain acts like a very small magnet with its own north and south pole. In a piece of iron that is not magnetized, the domains point in many different directions, so their forces cancel out. In a magnet, most of the domains point the same way, so their forces add up. Stroking an iron nail many times in one direction with a magnet lines up its domains. Heating a magnet or hitting it hard can knock the domains out of line, and the magnet gets weaker.



Iron that is not magnetized



A magnet

Check what you read.

1. Domains are tiny regions that act like small ☐

2. In a piece of iron that is not magnetized, the domains point:
   ☐ **in many directions** ☐ **the same way**

3. How can you magnetize an iron nail?
   ☐ **stroke it with a magnet** ☐ **wash it with soap**

4. What can knock the domains out of line?
   ☐ **heating or hitting it hard** ☐ **setting it on a shelf**

What happens to the domains when an iron nail is stroked with a magnet?

PREVIEW

Preview - Bright Path Sped

My name _____ Date _____

Magnetism Words 2

Fill in each blank with a word from the box.

compass	north	repel	strong	domains	field	attract	poles

1. Unlike poles _____ each other.
2. Like poles _____ each other.
3. The _____ of a magnet are where its force is strongest.
4. The space around a magnet where its force acts is the magnetic _____
5. A _____ needle lines up with a magnetic field.
6. In a magnet, most _____ point the same way.
7. Field lines drawn close together show a _____ field.
8. Outside a magnet, field lines point away from the _____ pole.

Write your own sentence that uses the word domain.

PREVIEW

Preview - Bright Path Shed

My name _____ Date _____

Attract, Repel or No Force

Check what will happen.

A magnet pulls on some objects and not on others. Think about what each object is made of.

1 ☐ attract ☐ repel ☐ no force



How do you know?

2 ☐ attract ☐ repel ☐ no force



iron nail

How do you know?

3 ☐ attract ☐ repel ☐ no force





wooden block

How do you know?

4 ☐ attract ☐ repel ☐ no force



How do you know?

5 ☐ attract ☐ repel ☐ no force





steel paper clip

How do you know?

6 ☐ attract ☐ repel ☐ no force





plastic cup

How do you know?

PREVIEW

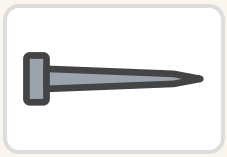
Preview - Bright Path Shed

My name _____ Date _____

Magnetic or Not 1

Check magnetic or not magnetic.

A magnet attracts iron, nickel, cobalt and steel. Steel is mostly iron.

1. 
   iron nail
   - ☐ magnetic
   - ☐ not magnetic

2. 
   wooden pencil
   - ☐ magnetic
   - ☐ not magnetic

3. 
   steel paper clip
   - ☐ magnetic
   - ☐ not magnetic

4. 
   aluminum foil
   - ☐ magnetic
   - ☐ not magnetic

5. 
   steel bolt
   - ☐ magnetic
   - ☐ not magnetic

6. 
   plastic cup
   - ☐ magnetic
   - ☐ not magnetic

7. 
   steel washer
   - ☐ magnetic
   - ☐ not magnetic

8. 
   copper wire
   - ☐ magnetic
   - ☐ not magnetic

9. 
   steel food can
   - ☐ magnetic
   - ☐ not magnetic

10. 
    glass marble
    - ☐ magnetic
    - ☐ not magnetic

Look at the ones you checked magnetic. What do they have in common?

PREVIEW

Preview - Bright Ezee Shed

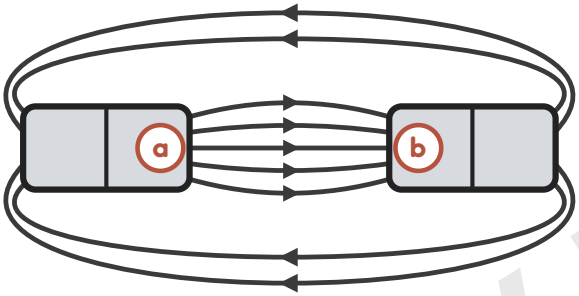
My name _____ Date _____

Attract and Repel Fields

Look at the field lines. Find poles a and b.

Look at the arrows on the field lines. They leave a north pole and enter a south pole. Write N or S.

1



End a is the ☐ pole.

End b is the ☐ pole.

The magnets

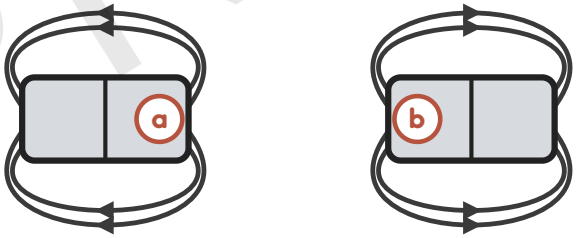
☐ attract ☐ repel

The lines between them

☐ join the magnets

☐ bend away

2



End a is the ☐ pole.

End b is the ☐ pole.

The magnets

☐ attract ☐ repel

The lines between them

☐ join the magnets

☐ bend away

How do the field lines look different when two magnets attract and when they repel?

PREVIEW

Preview - Bright Ezee Shed

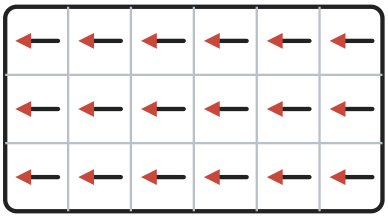
My name _____ Date _____

Domains: Magnet or Not?

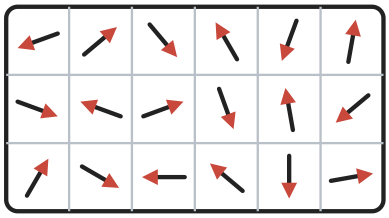
Look at the tiny arrows. Answer the questions.

Each tiny arrow is one domain. The arrowhead is its north pole.

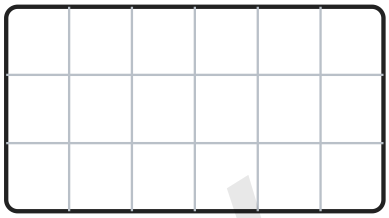
Box A



Box B



Box C (draw here)



1. Which box shows a magnet?
   - ☐ **A** ☐ **B**

2. In box B the domains point:
   - ☐ **in many directions** ☐ **the same way**

3. In a magnet, the forces of the domains:
   - ☐ **add up** ☐ **cancel out**

4. Stroking a nail with a magnet makes its domains:
   - ☐ **line up** ☐ **mix up**

Box C is an iron nail after it is stroked with a magnet. Draw its domains, or tell what they look like.

PREVIEW

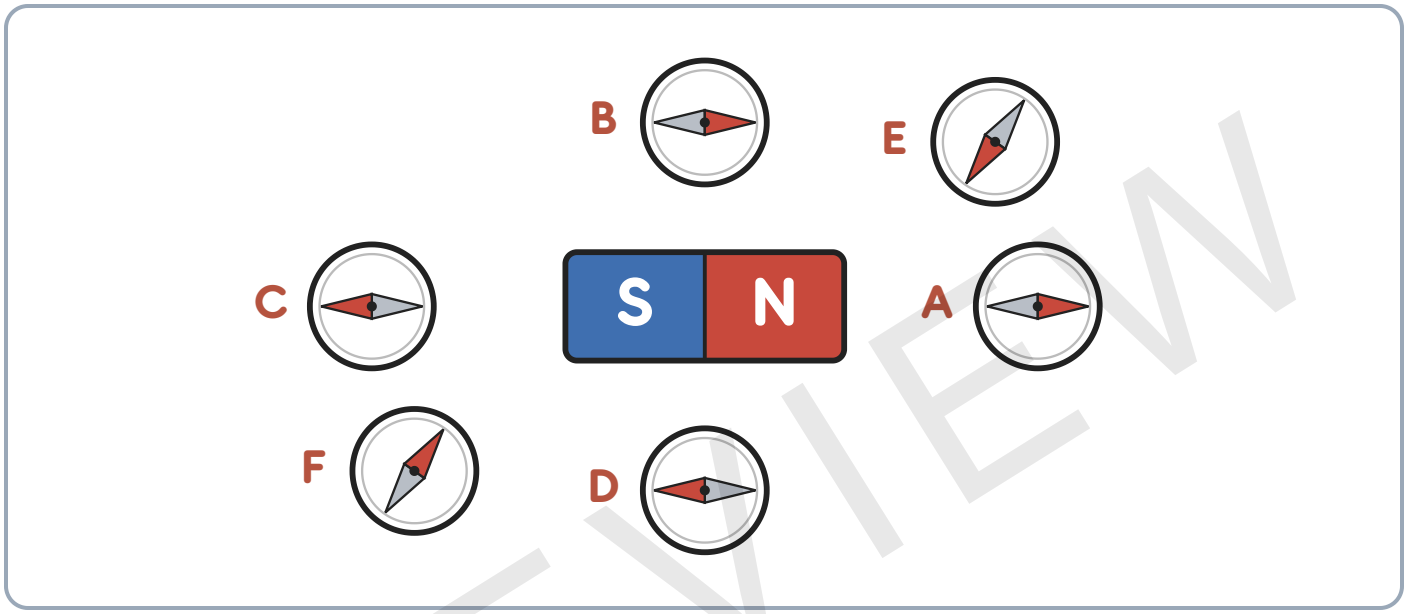
Preview - Bright Ezee Shed

My name _____ Date _____

Compass Check

Is the red end of each needle right? Check one.

The red end of a compass needle points the way the field points: away from the north pole, toward the south pole.



A ☐ correct ☐ not correct	B ☐ correct ☐ not correct	C ☐ correct ☐ not correct
D ☐ correct ☐ not correct	E ☐ correct ☐ not correct	F ☐ correct ☐ not correct

Pick a compass marked not correct. Tell which way its red end should point.

PREVIEW

My name _____ Date _____

True or False 2



Read each sentence. Check true or false.

Think about poles, fields and domains.

1	A copper wire is attracted to a magnet.	☐ true	☐ false
2	A compass needle is a small magnet.	☐ true	☐ false
3	In a piece of iron that is not magnetized, the domains all point the same way.	☐ true	☐ false
4	Heating a magnet can make it weaker.	☐ true	☐ false
5	Earth has a magnetic field.	☐ true	☐ false
6	Magnetic force gets weaker as the distance from a magnet grows.	☐ true	☐ false
7	You can see magnetic field lines floating in the air.	☐ true	☐ false
8	Iron filings can show the pattern of a magnetic field.	☐ true	☐ false

Pick a false sentence. Write it again so it is true.

Pick another false sentence. Write it again so it is true.

PREVIEW

My name _____ Date _____

Short Answers 2

Answer in sentences. Use the lines.

Use full sentences and the words you learned.

4 How are the domains in a plain iron nail different from the domains in a magnet?

5 Why does the needle of a compass point north?

6 Plan a test to sort five objects into magnetic and not magnetic. Write the steps.

PREVIEW

My name _____ Date _____

Quiz A

Answer each one. Show what you know.

Take your time. Use the pictures.

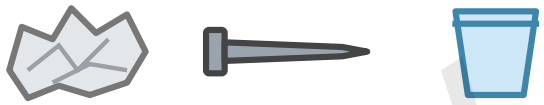
1 **Will these two magnets attract or repel?**



☐ attract ☐ repel

Show what you know.

2 **Which one will a magnet pick up?**



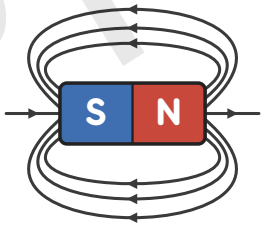
aluminum foil iron nail plastic cup

☐ aluminum foil ☐ iron nail

☐ plastic cup

Show what you know.

3 **Where is the field of this magnet strongest?**



☐ near the poles

☐ near the middle of the side

Show what you know.

4 **Magnetic force gets ____ as the distance from the magnet grows.**

☐ stronger ☐ weaker

Show what you know.

PREVIEW

My name _____ Date _____

Exit Tickets

Answer. Tell how sure you are.

Exit ticket 1 Will these magnets attract or repel?

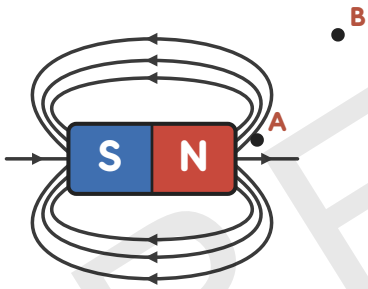


How do you know?

My answer: ☐ attract ☐ repel

How sure am I? ☐ sure ☐ kind of sure ☐ not sure

Exit ticket 2 Which point has the stronger field, A or B?

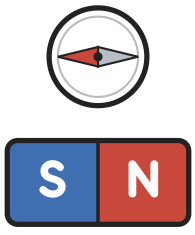


How do you know?

My answer: ☐ A ☐ B

How sure am I? ☐ sure ☐ kind of sure ☐ not sure

Exit ticket 3 Is the compass needle drawn the right way?



How do you know?

My answer: ☐ correct ☐ not correct

How sure am I? ☐ sure ☐ kind of sure ☐ not sure

PREVIEW

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My name _____ Date _____

Cut and Paste 3

Cut out the six pieces. Paste each one in the right box.

Which word does each sentence tell about? Think about the pole, the field or the domain.

Pole	Field	Domain

PREVIEW

Cut on the dashed lines: six pieces, one cut across and two cuts down.

The space around a magnet where its force acts	A tiny region that acts like a small magnet	Where a magnet's force is strongest
Every magnet has two: north and south	Lined up in a magnet, mixed up in plain iron	Drawn with lines and arrows from north to south

Which one did you move? Why?

Answer Key: Readings, Words, Poles, Objects

Every pole answer is computed from the poles that face each other; every object answer from what it is made of.

Readings pages 5 to 8

Page	Answers (the writing box: look for the idea in the passage)
5 Poles and Forces	1 south; 2 repel; 3 at the poles; 4 no
6 Magnetic Fields	1 field; 2 north to south; 3 strong; 4 the pattern of the field
7 Domains	1 magnets; 2 in many directions; 3 stroke it with a magnet; 4 heating or hitting it hard
8 Earth's Magnetic Field	1 iron; 2 magnet; 3 Sun; 4 near the geographic poles

Words 1 page 9

Word	Letter
1 pole	C
2 attract	G
3 repel	E
4 magnetic field	A
5 field line	F
6 domain	H
7 compass	B
8 magnetic force	D

Words 2 page 10

Item	Word
1	attract
2	repel
3	poles
4	field
5	compass
6	domains
7	strong
8	north

Attract or repel pages 11, 12, 13

Item	p.11	p.12	p.13 pole
1	repel	attract	N
2	attract	attract	N
3	attract	no force	S
4	repel	repel	S
5	attract	attract	N
6	repel	no force	S

Magnetic or Not 1 page 14

Object	Answer	Object	Answer
iron nail	magnetic	wooden pencil	not
steel paper clip	magnetic	aluminum foil	not
steel bolt	magnetic	plastic cup	not
steel washer	magnetic	copper wire	not
steel food can	magnetic	glass marble	not

Magnetic or Not 2 page 15

Object	Answer	Object	Answer
a steel screw	magnetic	an aluminum pan	not
a cast-iron pan	magnetic	a plastic ruler	not
a wooden spoon	not	iron filings	magnetic
a glass jar	not	a steel hinge	magnetic

Reading the keys

A magnet attracts a steel paper clip, so "attract" is the answer for a magnet and a steel or iron object at either pole. Wood and plastic feel no force. The writing boxes on the readings are answered from the passage; accept any answer that uses its idea.

PREVIEW

Magnetism Tracker

One student, every scored page. Filled example: page 42.

Student _____ Teacher _____ Month _____

Page	Page type and set	Items	Right	Date	Notes
5	Poles and Forces	4			
6	Magnetic Fields	4			
7	Domains	4			
8	Earth's Magnetic Field	4			
9	Magnetism Words 1	8			
10	Magnetism Words 2	8			
11	Attract or Repel 1	6			
12	Attract, Repel or No Force	6			
13	Find the Pole	6			
14	Magnetic or Not 1	10			
15	Magnetic or Not 2	8			
16	Label the Magnet	5			
17	Attract and Repel Fields	8			
18	Strong or Weak Field	4			
19	Domains: Magnet or Not?	4			
20	Cut a Magnet in Half	4			
21	Compass Check	6			
22	Label Earth's Field	5			
23	True or False 1	8			
24	True or False 2	8			
25	Short Answers 1	3			
26	Short Answers 2	3			
27	Find the Mistake	4			
28	Quiz A	4			
29	Quiz B	4			
30	Exit Tickets	3			
31	Cut and Paste 1	6			
32	Cut and Paste 2	6			
33	Cut and Paste 3	6			

How to fill this in

Write how many items the student got right with no prompt, and the date. A blank means not tried yet, never wrong. There are 159 items on the 29 scored pages. Answer keys: pages 35 to 37. Filled example: page 42.

This month we are working on (your own standard or wording)

PREVIEW

Team Note

Use this page between team meetings or when a student moves classes, to hand off what changed without writing a note from scratch. Everything below is observable, with a blank for the number or the wording your team already uses.

Student _____ Team member _____ Date _____

Page type	Covered since last note (Y/N)	Items right	Still blank
Readings and words			
Attract or repel			
Magnetic or not			
Field lines			
Domains			
Compass and Earth			
True or false and short answers			
Quizzes and sorts			

What I saw (observable, not a conclusion)

- Decided attract or repel correctly on ___ of ___ pairs without a prompt.
- Sorted ___ of ___ objects as magnetic or not (pages 14, 15).
- Labeled ___ of ___ parts of the field drawing (page 16).
- Gave a reason using poles, field lines or domains: yes / no / with a reminder.

Next step

- Next page or set: ___, because ___ (what you saw).
- What to try in another class or at home: ___.
- What to keep doing because it is working: ___.
- Anything for the team meeting to decide: ___ (this page records what happened, never a label or a plan).

Summary, in one or two sentences, for whoever reads this next

A filled-in line, for reference

"Decided attract or repel correctly on 5 of 6 pairs on 10/9. Next step: use the rule box and ask which two poles face each other." That is the level of detail this page is built for. It matches the filled example on page 42.

PREVIEW

Theo's Tracker (Invented Student)

Theo K. is invented; nothing on this page describes a real student. The blank tracker is on page 38.

Student: Theo K. (an invented student)

Teacher: Ms. Alvarez (invented)

Month: October

Page	Page type and set	Items	Right	Date	Notes
5	Poles and Forces	4	4	10/6	-
6	Magnetic Fields	4	3	10/7	Missed north to south
7	Domains	4	-	-	-
8	Earth's Magnetic Field	4	-	-	-
9	Magnetism Words 1	8	7	10/8	Mixed up attract and repel
10	Magnetism Words 2	8	-	-	-
11	Attract or Repel 1	6	5	10/9	Missed a like-poles pair
12	Attract, Repel or No Force	6	6	10/10	-
13	Find the Pole	6	-	-	-
14	Magnetic or Not 1	10	9	10/14	Called aluminum foil magnetic
15	Magnetic or Not 2	8	-	-	-
16	Label the Magnet	5	4	10/15	Arrow label missed
17	Attract and Repel Fields	8	-	-	-
18	Strong or Weak Field	4	4	10/16	-
19	Domains: Magnet or Not?	4	3	10/17	Said forces cancel in a magnet
20	Cut a Magnet in Half	4	-	-	-
21	Compass Check	6	-	-	-
22	Label Earth's Field	5	-	-	-
23	True or False 1	8	7	10/20	One false marked true
24	True or False 2	8	-	-	-
25	Short Answers 1	3	-	-	-
26	Short Answers 2	3	-	-	-
27	Find the Mistake	4	-	-	-
28	Quiz A	4	-	-	-
29	Quiz B	4	-	-	-
30	Exit Tickets	3	-	-	-
31	Cut and Paste 1	6	-	-	-
32	Cut and Paste 2	6	-	-	-
33	Cut and Paste 3	6	-	-	-

How to read it

Theo K. has done **10 of 29** scored pages and got **52 of 59** items right with no prompt. **3** pages were all right and **7** carry a note. Every number comes from the table.

What the table points to

The lowest pages are Magnetic Fields (3 of 4) and Domains: Magnet or Not? (3 of 4). That is where the next practice goes. The 19 pages left blank are not tried yet, never wrong.

PREVIEW