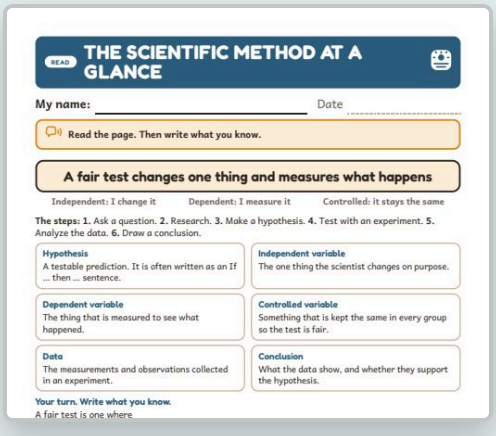
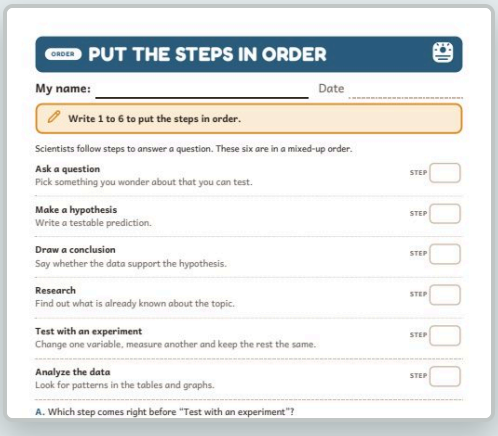
6TH–8TH GRADE · SCIENCE

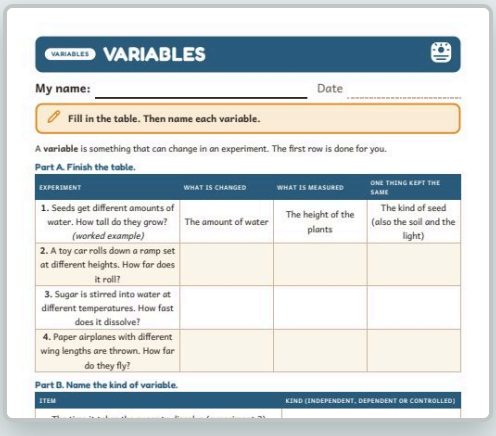
VARIABLES

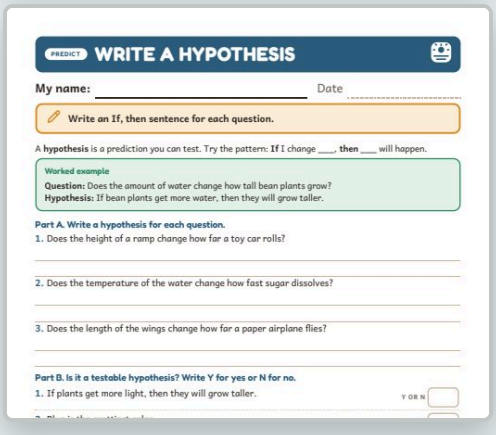
SCIENTIFIC METHOD WORKSHEETS

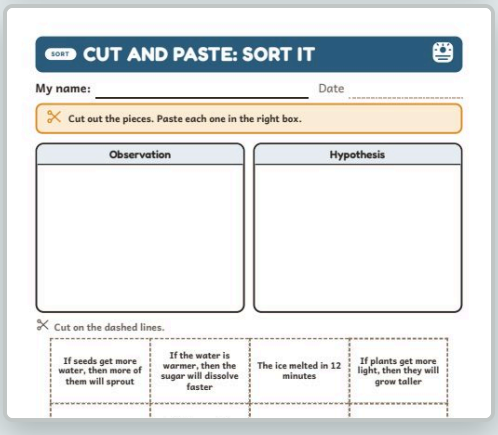
Put the steps in order, fill in the paragraph, sort out the variables, write hypotheses, read data and draw the graph, design a fair test, sort observations from hypotheses and write short answers. Answer keys, a tracker and a family page. Print, or type your answers. PDF.

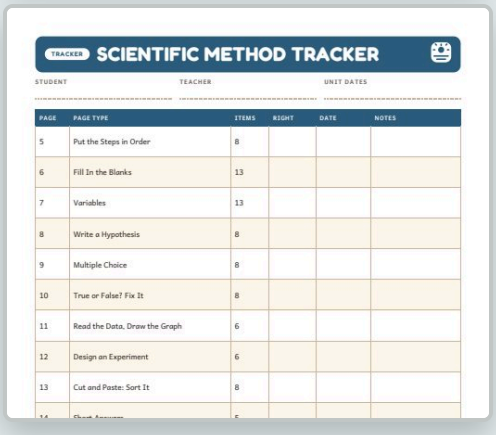












27 Pages | **12 Page Types** | **86 Items** | **3 Answer Keys**

BRIGHT PATH SPED

START HERE

QUICK START

One complete kit for the scientific method in grades 6-8. Students read a reference page, put the steps in order, fill in a paragraph, sort out the variables, write hypotheses, read data and draw a graph, plan their own fair test and write short answers — on pages with room to work.

THREE STEPS

1 Teach or review with the reference page

Page 4 has the steps, the three kinds of variable and the key words, with a place for the student to write what they know. Read it together or hand it out as the first page.

2 Hand over a page

Every student page opens with a name line and one short instruction. Nothing on it is written for you, so the student can start. Short answers have three or more lines and the explanations have five or six, so the page is the whole workspace.

3 Check it, record it, send it home

The answer keys are pages 16, 17 and 18. Record each page on the tracker (page 19), roll a group up on page 20, and send the family page (22). A filled example is on page 23.

WHICH PAGE, WHEN

WHEN…	USE…
Introducing or reviewing the unit	At a Glance, page 4 · Put the Steps in Order, page 5
Checking the vocabulary	Fill In the Blanks, page 6 · Multiple Choice, page 9
Variables and hypotheses	Variables, page 7 · Write a Hypothesis, page 8
Quick check or exit slip	True or False? Fix It, page 10
Reading data and graphing	Read the Data, Draw the Graph, page 11
A lab plan or a hands-on sort	Design an Experiment, page 12 · Cut and Paste, page 13
Writing about science	Short Answers, page 14 · Explain It, page 15

Everything inside (27 pages)

- **12 student pages** in 12 page types: a reference page, the steps in order, fill in, variables, hypotheses, multiple choice, true or false, data and graph, design an experiment, cut and paste and two short-answer pages
- **86 scored items** on 11 pages
- **8 cut-and-paste pieces** on one sort mat
- **3 answer keys, 1 tracker, 1 class grid**, 1 team note, 1 family page, 1 filled example, 1 phrase bank, 1 binder cover and 6 divider tabs

Print or type

Every page prints clean in black and white. The name line, answer boxes, blanks and writing lines are type-in fields in any PDF reader: click one, type, then save. This is a fillable PDF, not a slideshow or a word-processor file. The graph and the cut-and-paste sort are for pencil and scissors.

READ

THE SCIENTIFIC METHOD AT A GLANCE

My name: _____ Date .....

Read the page. Then write what you know.

A fair test changes one thing and measures what happens

Independent: I change it **Dependent: I measure it** **Controlled: it stays the same**

The steps: 1. Ask a question. **2.** Research. **3.** Make a hypothesis. **4.** Test with an experiment. **5.** Analyze the data. **6.** Draw a conclusion.

Hypothesis
A testable prediction. It is often written as an If ... then ... sentence.

Independent variable
The one thing the scientist changes on purpose.

Dependent variable
The thing that is measured to see what happened.

Controlled variable
Something that is kept the same in every group so the test is fair.

Data
The measurements and observations collected in an experiment.

Conclusion
What the data show, and whether they support the hypothesis.

Your turn. Write what you know.

A fair test is one where

One question I could test with things at home

ORDER

PUT THE STEPS IN ORDER

My name: _____ Date .....

Write 1 to 6 to put the steps in order.

Scientists follow steps to answer a question. These six are in a mixed-up order.

Ask a question
Pick something you wonder about that you can test.
STEP ☐

Make a hypothesis
Write a testable prediction.
STEP ☐

Draw a conclusion
Say whether the data support the hypothesis.
STEP ☐

Research
Find out what is already known about the topic.
STEP ☐

Test with an experiment
Change one variable, measure another and keep the rest the same.
STEP ☐

Analyze the data
Look for patterns in the tables and graphs.
STEP ☐

A. Which step comes right before "Test with an experiment"?

B. Why does a scientist analyze the data before drawing a conclusion?

WORDS

FILL IN THE BLANKS

My name: _____ Date .....

Pick a word from the box for each blank.

dependent	**experiment**	**hypothesis**	**conclusion**	**question**	**volume**	**controlled**
observation	**mineral**	**trials**	**data**	**independent**		

A scientist starts by asking a (1) _____. Then the scientist writes a (2) _____, which is a testable prediction. A fair test of it is called an (3) _____. The variable the scientist changes on purpose is the (4) _____ variable. The variable that is measured is the (5) _____ variable. The things that are kept the same are the (6) _____ variables. Measurements and observations together are called (7) _____. After studying the data, the scientist writes a (8) _____. Repeating a test several times is called doing more (9) _____, which makes a result more trustworthy. Something you notice with your senses is an (10) _____.

Write the name of each kind of variable.

The variable I change on purpose is the _____

The variable I measure is the _____

The variables I keep the same are the _____

A. Choose one word from the box that you did not use. Write what it means.

VARIABLES

My name: _____ Date .....

Fill in the table. Then name each variable.

A **variable** is something that can change in an experiment. The first row is done for you.

Part A. Finish the table.

EXPERIMENT	WHAT IS CHANGED	WHAT IS MEASURED	ONE THING KEPT THE SAME
1. Seeds get different amounts of water. How tall do they grow? *(worked example)*	The amount of water	The height of the plants	The kind of seed (also the soil and the light)
2. A toy car rolls down a ramp set at different heights. How far does it roll?			
3. Sugar is stirred into water at different temperatures. How fast does it dissolve?			
4. Paper airplanes with different wing lengths are thrown. How far do they fly?			

Part B. Name the kind of variable.

ITEM	KIND (INDEPENDENT, DEPENDENT OR CONTROLLED)
The time it takes the sugar to dissolve (experiment 3)	
The kind of paper in experiment 4, the same for every airplane	
The height of the ramp (experiment 2)	

Part C. Why should only one variable change at a time?

SORT CUT AND PASTE: SORT IT

My name: _____ Date .....

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

Observation	Hypothesis

Cut on the dashed lines.

If seeds get more water, then more of them will sprout	If the water is warmer, then the sugar will dissolve faster	The ice melted in 12 minutes	If plants get more light, then they will grow taller
The plant has four green leaves	If the ramp is steeper, then the car will roll farther	The ball bounced 30 cm high	The leaf is 6 cm long

1. Write one sentence that tells how an observation is different from a hypothesis.

TRACKER

SCIENTIFIC METHOD TRACKER

STUDENT _____ TEACHER _____ UNIT DATES _____

PAGE	PAGE TYPE	ITEMS	RIGHT	DATE	NOTES
5	Put the Steps in Order	8			
6	Fill In the Blanks	13			
7	Variables	13			
8	Write a Hypothesis	8			
9	Multiple Choice	8			
10	True or False? Fix It	8			
11	Read the Data, Draw the Graph	6			
12	Design an Experiment	6			
13	Cut and Paste: Sort It	8			
14	Short Answers	5			
15	Explain It	3			

How to fill this in

Write how many items the student got right and the date. A written answer counts as one item when it makes every point in the key (pages 16, 17 and 18). A blank means not tried yet, never wrong. There are 86 items on the 11 pages above; the reference page (4) is not scored. Filled example: page 23.

STANDARD OR UNIT GOAL (YOUR OWN WORDING)

EXAMPLE

JORDAN'S TRACKER

Jordan T. is invented; nothing on this page describes a real student. The blank tracker is on page 19.

STUDENT	TEACHER	UNIT DATES
Jordan T. (an invented student)	**Ms. Reyes (invented)**	**October**

PAGE	PAGE TYPE	ITEMS	RIGHT	DATE	NOTES
5	Put the Steps in Order	8	7	10/12	Swapped two steps
6	Fill In the Blanks	13	11	10/13	Used a spare word twice
7	Variables	13	13	10/14	–
8	Write a Hypothesis	8	–	–	–
9	Multiple Choice	8	7	10/15	Missed number 7
10	True or False? Fix It	8	8	10/16	–
11	Read the Data, Draw the Graph	6	–	–	–
12	Design an Experiment	6	–	–	–
13	Cut and Paste: Sort It	8	7	10/19	One piece in the wrong box
14	Short Answers	5	–	–	–
15	Explain It	3	–	–	–

How to read it

Jordan T. has done **6 of 11** scored pages and got **53 of 58** items right. **2** pages were all right and **5** items were missed across 4 pages. Every number here comes from the table above.

The family note this tracker would produce

"This month Jordan finished 6 pages and got 53 of 58 items right. The next thing to practice is telling the independent variable from the dependent variable." — every number in it is a row of the table above.

What the table points to

4 pages carry a note and each one is short of full. Pages left blank (5 of them) are not tried yet, never wrong. The two writing pages, Short Answers and Explain It, are among them, so they are the next step.

THANK YOU

BEFORE YOU GO

THANK YOU FOR USING THIS RESOURCE

Built for the teacher whose students each need a different amount of support reading, writing and reasoning about science. If this helped, leaving feedback on TPT helps other teachers find it.

Everything inside, one more time

- **12 student pages** in 12 page types, **86 scored items**, every answer read from the same lists that draw the pages.
- **8 multiple-choice questions**, **8 true-or-false statements**, **8 cut-and-paste pieces** and **3 answer keys**.
- **1 tracker, 1 class grid, 1 team note, 1 family page, 1 filled example, 1 phrase bank** (15 starters), **1 binder cover** and divider tabs.

No real student anywhere in this file

The filled example on page 23 names "Jordan T.," an invented student used only to show how the tracker fills in. The experiment on page 11 is invented data. No table, note or score anywhere in this resource describes a real child, and nothing here is a clinical judgment, an eligibility timeline, or a medical claim of any kind. Once you fill in a real student's name, the tracker, class grid and team note (pages 19, 20 and 21) do carry real information — keep completed pages secure the same way you would any other record.

Something missing or wrong?

Please use the **Ask a Question** tab on the product page first — every question is read, and a fix to the file is a free update you re-download from **My Purchases**.

WHAT'S NEXT FROM THIS STORE

More science and vocabulary for the same classroom, including lower-reading-level sets for students who need them.



Content Area Vocabulary: Science and Social Studies

Progress-monitoring probes for science and social studies words, grades 4-6.



Push and Pull Worksheets

A lower-reading-level science set: circle push or pull, sort and fill in, K-2.



Landforms and Bodies of Water Worksheets

A lower-reading-level earth science set: anchor chart, circle, odd word, cut and paste, K-2.

Click **Follow** on the store page and TPT will email you when new products go up.

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