

Planning a fair test

Read the model plan first, then plan your own on page 2.



NAME _____ CLASS _____ DATE _____

LEARNING GOAL

Plan a fair test by saying what I change, what I measure and what I keep the same.

SUCCESS CRITERIA

- ☐ I can name the three kinds of variable.
- ☐ I can write a method someone else could follow.
- ☐ I can say how I will stay safe.

ENTRY 1 QUESTION

Model

Does the height a ball is dropped from change how high it bounces?

so →

PREDICTION

I think the higher the drop, the higher the bounce, **because** the ball has more energy to start with.

ENTRY 2 Variables

Word and shape keys

INDEPENDENT VARIABLE
I change it

drop height (cm)



DEPENDENT VARIABLE
I measure it

bounce height (cm)



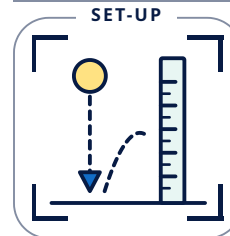
CONTROL VARIABLES
I keep them the same

- same ball
- same floor
- same way of measuring
- same person reading the ruler

ENTRY 3 Method

- ① Hold the ball with its bottom at **20 cm**.
- ② Drop it and watch the bounce against the rule.
- ③ Record the bounce height.
- ④ Repeat three times.
- ⑤ Change the drop height to **40, 60, 80 and 100 cm** and repeat.

ENTRY 4 Equipment



- ☒ BALL
- ☒ METRE RULE
- ☒ FLAT FLOOR
- ☐ WALL OR STAND TO HOLD THE RULE

SAFETY

Follow your teacher's safety rules. Stand with the rule on the floor and never climb on chairs or tables to drop the ball from high. Keep the floor clear. Tell your teacher if anything breaks.

ENTRY 5 Results table

Fill in during the test

DROP HEIGHT (CM)	20	40	60	80	100
Bounce 1 (cm)					
Bounce 2 (cm)					
Bounce 3 (cm)					
Mean bounce (cm)					

My own fair test



NAME _____ CLASS _____ DATE _____

ENTRY 1

My question: tick A, B or C in the help card, or write my own

My prediction: I think ... because ...

ENTRY 2

Variables

INDEPENDENT VARIABLE I change it	DEPENDENT VARIABLE I measure it	CONTROL VARIABLES I keep them the same

ENTRY 3

Is it a fair test?

- | | |
|---|--|
| ☐ I change only one thing. | ☐ I measure one thing. |
| ☐ I keep everything else the same. | ☐ I repeat my measurements. |

ENTRY 4

Method

1

2

3

4

5

6

7

8

ENTRY 5

Results table

I CHANGE	1	2	3	MEAN

Equipment I need

How I will stay safe

VARIABLES HELP CARD

- ☐ **A** Does the length of a pendulum change the time for 10 swings?

Independent

length of string

Dependent

time for 10 swings (seconds)

Control

same mass on the string, same small release angle, same stopwatch

- ☐ **B** Does the temperature of water change how fast sugar dissolves?

Independent

water temperature

Dependent

time to dissolve

Control

same amount of sugar, same amount of water, same stirring

Safety

use warm tap water, never boiling

- ☐ **C** My own safe question. Ask my teacher first.