Lab Experiment - Measuring ‘g’

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Parts of an experiment

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- Data collection

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- Data transformation

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- Data collection
- Data transformation
- Data combination

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- Data analysis and interpretation

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Only the first part happens in the labs.

Research questions

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   This has a *qualitative* answer.

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   This has a *quantitative* answer.

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2. Can we see the effects of air resistance?

   This has a *qualitative* answer.

   We’ll want to *discuss* how this fits with our expectations.

There may be others that will come up along the way.

Why this experiment?

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1. Simple physics

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2. Simple equipment

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1. Simple physics
2. Simple equipment

Since the physics and equipment are familiar, only the *process* is new.

Equipment

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- Falling objects

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- Falling objects
- Instrument for measuring time

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- Instrument for measuring height

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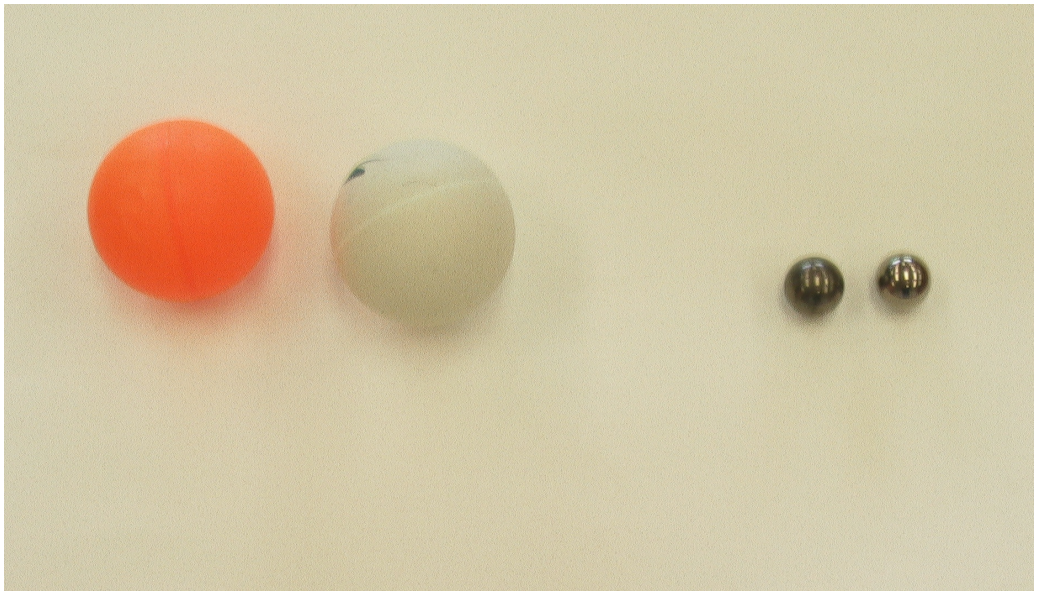
There are a few other pieces as well.



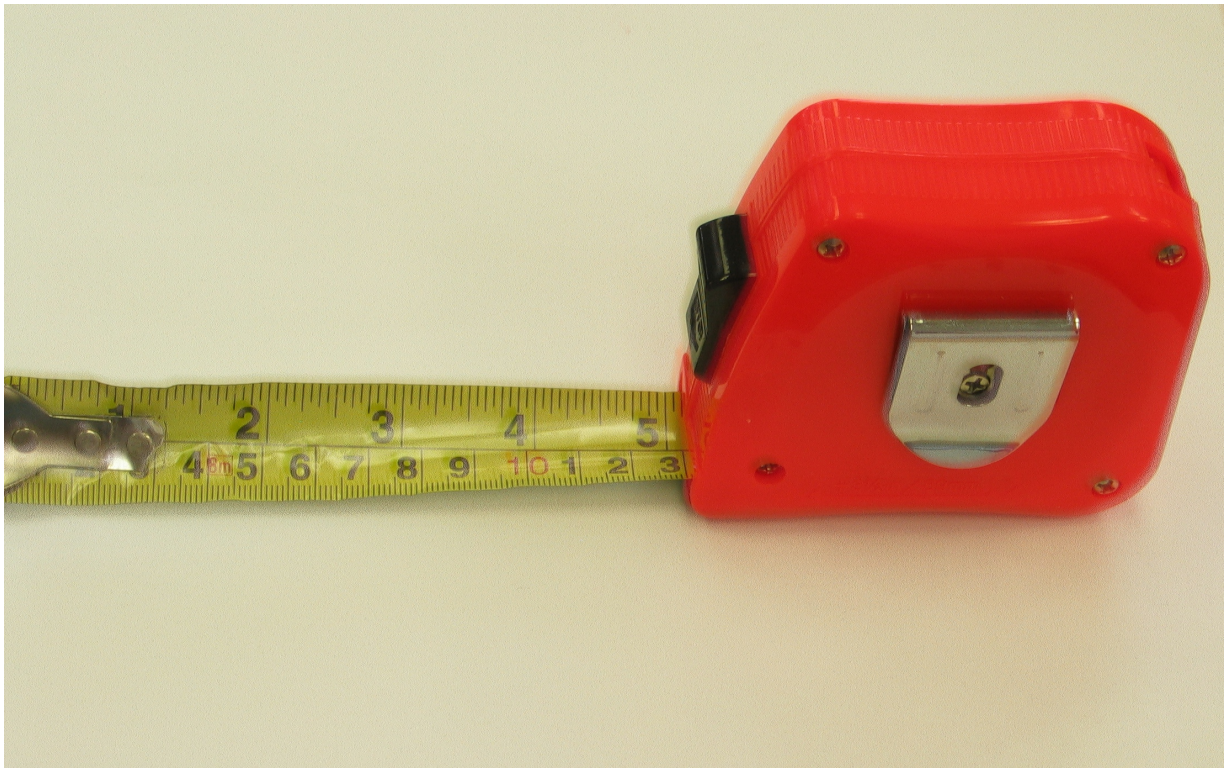
Falling bodies

The target

The target (falling object’s eye view)

Time measurement (one option)

Time measurement (another option)



Height measurement

The “laboratory”

Method

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  Determine which seems “best”.
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Often technique matters *a lot*.

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- Two roles, ‘dropper’ and ‘gofer’. Either one can be the timer.

  Either person can be the timer in either role.

This makes four possibilities of technique.

How do you determine the “best” technique?

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- Precision

How do you determine the “best” technique?

- Precision
- Accuracy

How do you determine the “best” technique?

- Precision
- Accuracy

These may not both indicate the same technique as “best”.

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Before your next lab, you’ll only have pre-lab requirements to complete.

Next lab exercise

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  You can do it entirely on your own ahead of the lab

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  You can do it entirely on your own ahead of the lab
- **If so, you’ll just need to hand things in during your lab period**