
LAB EXAM TOPICS

For the lab exam, you will be required to perform an experiment and write a detailed account of the steps you took, and your results. You will also be asked to consider any experimental problems you may have experienced. Refer to your **soil lab handout** to see a list of potential lab exam questions (the answers are now on the website).

This document will show you a list of topics you are responsible for. Some of them are from this year, and some are from Secondary I.

1. ROCKS AND MINERALS (THIS YEAR)

How can you identify different types of minerals? Remember our different mineral tests:

- What is its hardness (how do you measure hardness)?
- What is its lustre?
- Does it effervesce (release bubbles) when an acid is dripped onto it?
- Does it cleave or fracture (does it have layers)?
- What is its colour?
- Is it magnetic?
- What colour is its streak?

2. DENSITY (THIS YEAR AND LAST YEAR)

The formula for density is:

$$D = \frac{m}{V}$$

where:

- D is the **density** of the substance (in $\frac{\text{g}}{\text{mL}}$ or $\frac{\text{g}}{\text{cm}^3}$)
- m is the **mass** of the substance (in g)
- V is the **volume** of the substance (in L)

You may be asked to explain how to find a substance's mass, volume, and ultimately its density. For example, you could have to explain how to use a scale to record its mass, a ruler or overflow can and graduated cylinder to record its volume, etc.

You may also need to know whether or not the object floats or sinks in water. Remember:

- If a substance has a density greater than $1 \frac{\text{g}}{\text{mL}}$, it **sinks**.
- If a substance has a density less than $1 \frac{\text{g}}{\text{mL}}$, it **floats**.

3. MISCIBILITY (LAST YEAR)

How well does a substance dissolve in water? If it does so completely, making the mixture appear to only be one substance, then the substance is **miscible**. If it cannot dissolve and forms layers in a mixture, the substance is **immiscible**.



Miscible



Immiscible

4. ACIDS AND BASES (LAST YEAR)

How can you tell if a substance is an **acid** or a **base**? You could be asked to explain this, and to show a test involving **litmus paper**.

ACID:	Blue litmus paper turns red	Red litmus paper stays red
BASE:	Blue litmus paper stays blue	Red litmus paper turns blue
NEUTRAL:	Blue litmus paper stays blue	Red litmus paper stays red