Biology A · Unit 0 · Level 2 (modified)

Science Starts: Safety & Lab Skills



TODAY'S PLAN

- 🥽 Safety rules
- 👀 Observations
- 🤔 If… then… because…
- 🔀 Variables + conclusions

Review · 5 minutes

Quick Review



🧬 Biology = the study of **living things**.

🔬 Scientists **observe**, **test**, and **share** what they find.

❓ What is one living thing you see from your seat?

Words to Know

Words to Know



Goggles

Safety glasses. Wear them any time there are chemicals, heat, or glass.



Observe

Use your five senses to describe what is really there.



Hypothesis

A testable guess: If… then… because…



Experiment

A test to find out if a hypothesis is right.

Words to Know

More Words to Know



🔀 **Variable**: Anything in an experiment that can change.

📏 **Data**: The numbers and observations we record.

📝 **Conclusion**: What the data shows, and if the hypothesis was supported.

🚨 **Code one**: Yell “Code one!” to get the teacher fast if someone is hurt.

Learn

Top Safety Rules



🥽 **Goggles** on any time there are chemicals, heat, or glass.

🚫 **No** food, drinks, or gum in the lab.

👂 Follow **all** directions. Ask if you are not sure.

🚨 Report **any** accident or injury right away. Yell “Code one!” if someone is hurt.

Learn

Dress for Lab



Long hair
tie it back



Shoes
cover the whole foot



Baggy sleeves
roll up or secure



Dangling jewelry
take off or tuck in

🃏 Check 1 of 3



Hot glass looks the same as cool glass. You should…

Hold up 1, 2, or 3:

1️⃣ Pick it up fast

2️⃣ Let it cool and use tongs

3️⃣ Blow on it and grab it



Let it cool and use tongs

Hot glass looks cool. Wait and use tongs or mitts.

Learn

Observation vs Guess

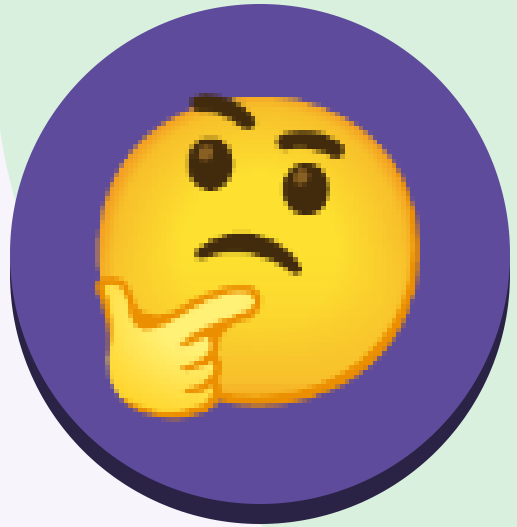


👀 **Observation**: uses your 5 senses. “Blue, small, smells sweet.”

🤔 **Inference/guess**: what you think. “It will be delicious.”

Learn

Writing a Hypothesis



🤔 **If** (what I change), **then** (what will happen), **because** (my reason).

🍭 If I suck on the lollipop, then it will dissolve in 8 minutes, because it is small.

🃏 Check 2 of 3



Which is an observation?

Hold up 1, 2, or 3:

1️⃣ The lollipop will taste great

2️⃣ Everyone will like it

3️⃣ The lollipop is red and round

✅ Answer · Card 2 of 3



The lollipop is red and round

You can see red and round.

Compare

Two Kinds of Variables

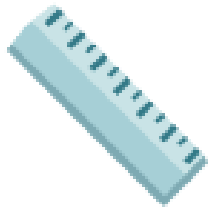


Independent



What the scientist **changes**
Example: amount of light

Dependent



What the scientist **measures**
Example: time to dissolve

🃏 Check 3 of 3



In the lollipop lab, what did we measure?

Hold up 1, 2, or 3:

1️⃣ Time to dissolve

2️⃣ Lollipop color

3️⃣ The wrapper

✅ Answer · Card 3 of 3



Time to dissolve

Time is the dependent (measured) variable.

Learn

Conclusions



📝 Was the hypothesis **supported** or **not supported**?

📏 Use your **data** as evidence.

✅ A wrong hypothesis is **not** a failed experiment. You still learned something.

Wrap-Up

Recap



Safety

goggles, no food, report it



Observation

5 senses



Hypothesis

If… then… because…



Variables

change vs measure

Wrap-Up

Exit Ticket



1️⃣ Name 3 lab safety rules.

2️⃣ Write one observation of your pencil.

3️⃣ What is the dependent variable?