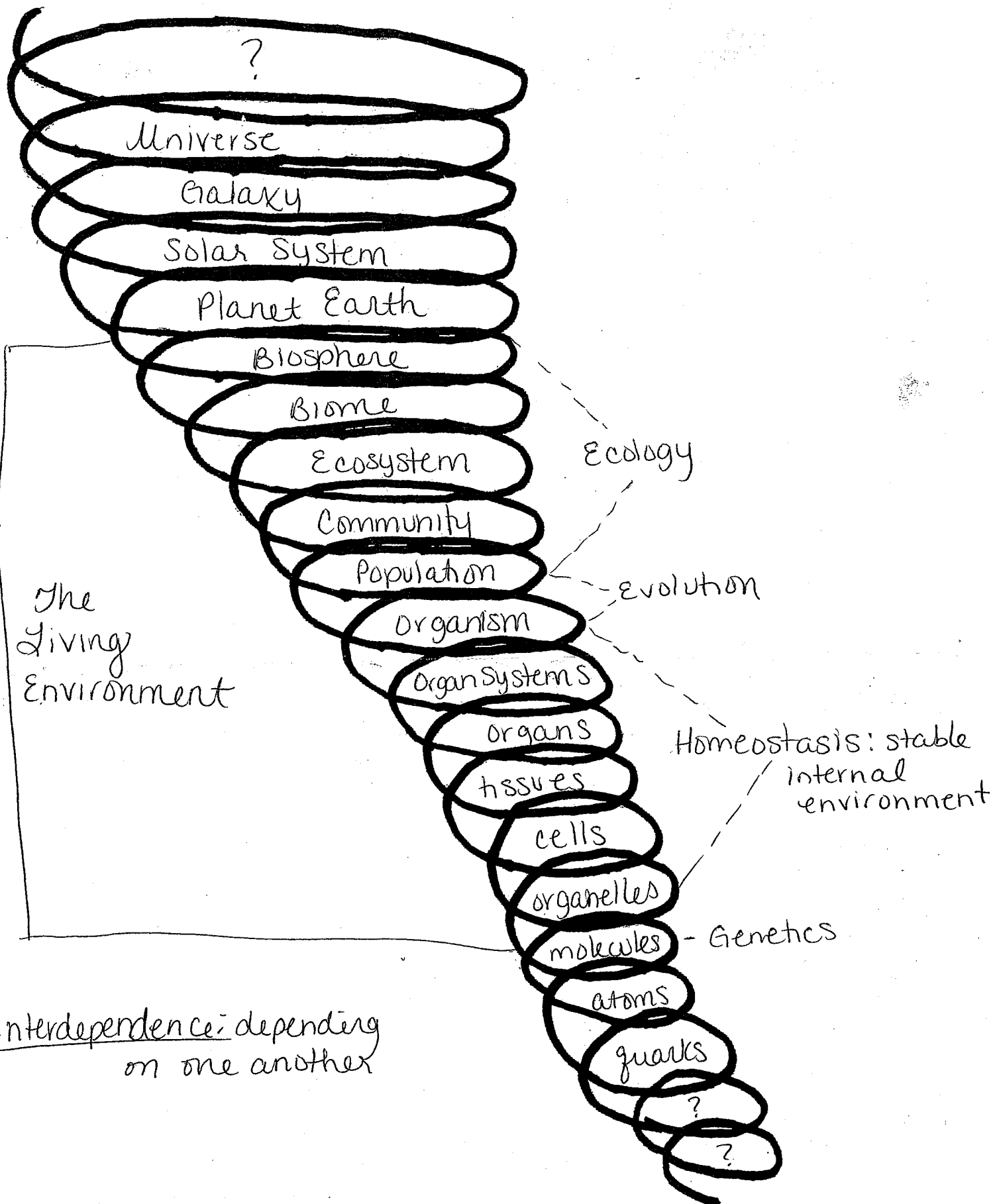


Levels of Organization



The Living Environment

Ecology

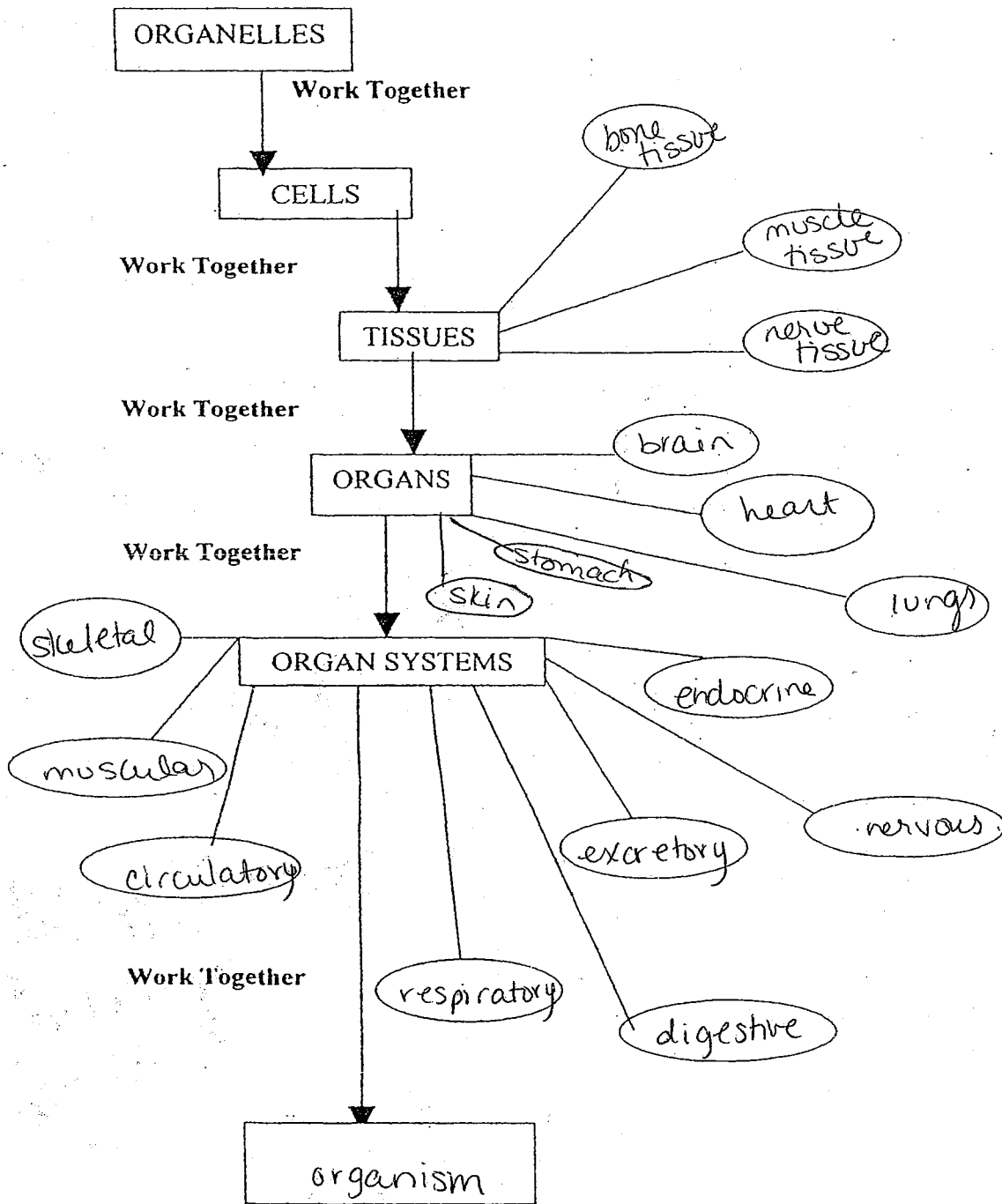
Evolution

Homeostasis: stable internal environment

Genetics

Interdependence: depending on one another

Cell Organization



Cell Theory Rap-

"Science World" 1990

Listen close to the story I tell.
It's the rapping story of the living cell.
It's a happy tune that's sort of cheery.
About a real tough topic called the cell theory.

→ cells are the smallest living thing
→ everything living is made of cells

Where did the first cell come from?

All animals, plants, and protists too,
Are made of cells with different jobs to do.
They're the basic units of all organisms,
And I hope by now you got the rhythm.

→ all cells come from preexisting cells

cells can have different jobs but all have same DNA

It all started with one dude named Hooke.

Who at some cork cells took a look.

→ discovered first cell

He used a scope and took his time.

→ light

'Cause a cell is small and thinner than a dime.

microscope

Say 1, 2, 3, 4,

Are you ready to learn some more?

The animal cell has many parts,

And you must know each one by heart.

Like the farmer man in the dell.

The nucleus controls the cell,
its gives the orders -- kind of like a brain.

→ Regulates the cell DNA

And it's protected by a nuclear membrane.

protects DNA & nucleus

Around the cell, you'll find another "skin,"

The cellular membrane holds the whole cell in

But its job isn't simple there's no doubt,

It lets some particles go in and out.

Regulation

• Controls & Coordinates what enters & exits

transport

Now please don't lose your science enthusiasm,

Listen to the story of the cytoplasm. → structural support

All around the cell this thick fluid does go,

But in the nucleus it will not flow.

And don't forget those ribosomes - → synthesis

This is where proteins come from. small building blocks

These protein factories are so small, you'll agree, to large

You need an electron microscope to see.

Just when you thought you weren't having any fun,

Along comes the endoplasmic reticulum.

These tubelike structures serve as a track,

To carry stuff to the membrane and back.

} transport
absorption
circulation
& distribution

Now have you ever seen any doughnuts without holes?

In a cell, they're called vacuoles.

They're filled with stuff like H₂O

And they carry food so the cell can grow.

} nutrition
↳ food &
H₂O storage

Last of all, but not the very least,

Mitochondria - mighty cellular beasts,

Since they turn sugars into energy so well,

We call them the powerhouse of the cell.

} respiration
food →
energy

Now my friend, you know it well,

The unforgettable story of the living cell