

Week of April 20-24, 2020

Junior High Science

Debra Welch

Hello students! I hope all of you are staying healthy. I just want everyone to know that I am thinking of you and miss having school as normal. Remember to keep your immune systems strong! Basic directions are: You need to complete one lesson a week for only the class you were currently enrolled in and choose from the 3 choices. Choices 1 & 2 are for review of material we have already covered this year. I will start at the beginning and go through the year's material. Choice #3 will always be new work using your textbook or other handouts I include. I will make every effort to keep your work simple to do, considering that we are not learning together in the classroom. Your work should be turned in as a hard (paper) copy to the office or through email in a word or google document. My email is: debra.welch@oakland5.org. Please be sure all work has your name! If you have not turned in the assignment by the following Monday, I will need to email your parents and/or place a phone call home. Please be diligent to turn work in on time. I suggest you set up a schedule just as if you were at school and allow for the normal time period. Most assignments I send you will take less time than our normal 40 minutes. Comments will be made on paper copies and returned to you. If you send in homework answers as an email I will reply to your email and give my comments/reflections of your work. I will be supplying you with the necessary notes or you will need to use your book to find the answers. If you have any questions feel free to email me and I will get back to you by email during my office hours. If you can't email feel free to call the office and leave me a message. Good Luck and stay healthy!

See Assignments on following page:

Class	Choice 1	Choice 2	Choice 3 (Enrichment)
8th Grade Life Science	<p>Read the notes provided on the Scientific Method.</p> <p>Do The Case of the Polluted Stream p29. Write in complete sentences using proper spelling, grammar & punctuation.</p>	<p>Refer to text Ch 1 or the Scientific Method notes provided.</p> <p>Directed Reading worksheet p17.</p>	<p>Viruses: Use your notes from last week & Chap 2-3 in text to fill out worksheet.</p> <p>Do: Enrichment p32 "The size of Viruses"</p>
6th Grade General Science	<p>Use the notes provided on scientific method terms.</p> <p>Do p1 Experimenting to Find Answers & Cause & Effect Match.</p>	<p>Use Notes provided on Scientific Method.</p> <p>Do 1-16 using the word bank on bottom of page.</p>	<p>Refer to the powerpoint notes provided last week and textbook: Do Weather Instruments p101. Match up picture from word bank</p>

Chapter One – 8th Grade

Lesson One:

Science – process of trying to understand the world. Organized way of studying things and finding answers to questions.

Many scientific fields of science – physical, earth, and life sciences.

Technology – the use of knowledge gained through science to make new products or tools people can use.

Scientific Method

- step-by-step procedures to solve a scientific problem.

1. Identify the Problem

A scientific problem is a question that can be answered using scientific methods.

2. Gather Information

- research topic

- observations – gathering information with our senses

- inferences – conclusions about an observation

3. Form a Hypothesis

A statement to be tested, based on prior knowledge, research, and observations.

4. Test the Hypothesis

Form an experiment.

Variable – items within an experiment

Independent Variable – the one factor that is changed in an experiment.

Dependent Variable – the factor or outcome that is measured in the experiment.

Constants – factors that stay the same.

Control – standard used for comparison.

5. Observe and Record Data

Record experimental methods.

Collect information gathered from experiment – measurable # or terms, or observations with senses

6. Draw Conclusions and Communicate

Statements based on what is observed.

Repeat Experiment

Publish and communicate results

Peer review

Terminology

Hypothesis: statement tested by experiments.

Theory: explanations supported by results of experiments.

Law: Describes the behavior of something in nature. Laws predict or describe what will happen in a given situation.

Law of Gravity

SI – International System of Units

Metric system – record data

Section 2 – Characteristics of Living Things

Organism – any living thing (bacteria, plant, animal, fungi, etc.)

Living things have an organized structure.

1. Cell – smallest unit of an organism, carries on functions of life
 - Orderly structure, contains hereditary info
2. Respond to stimuli
 - Stimulus – causes change
 - External stimuli – light, noise, heat, touch, etc.
 - Internal stimuli – temperature, hunger, water level, etc.
 - Response – reaction to stimulus – often movement

Homeostasis – regulate proper balance in the body – temperature



Enrichment

The Case of the Polluted Stream

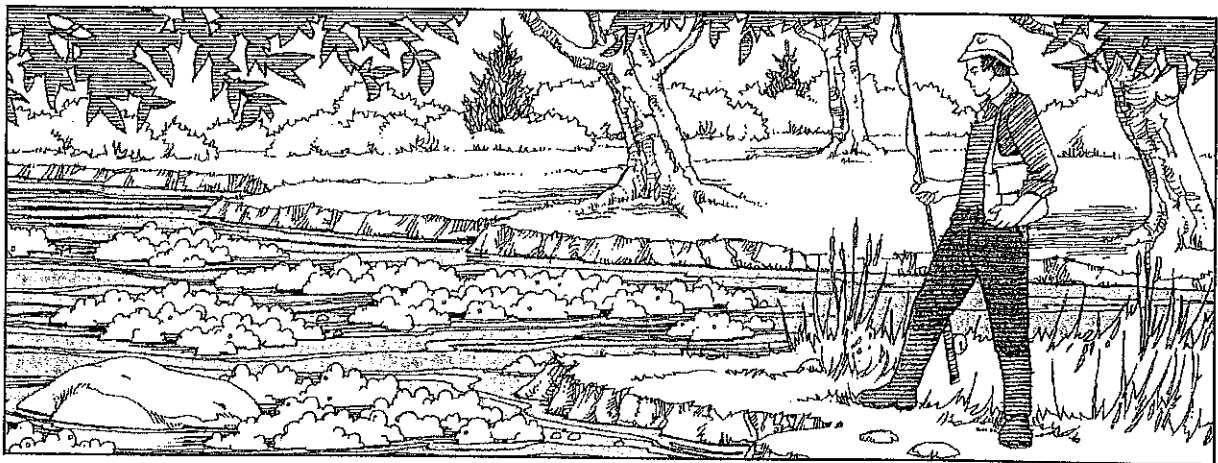
Scientists are often thought of as detectives who investigate natural things. Detectives are often thought of as scientists who investigate crime. The reason why the two are compared is because each goes about investigating in much the same way—both scientists and detectives use scientific methods.

These are steps that are usually followed in scientific methods.

1. State the problem.
2. Gather information.
3. Form a hypothesis.
4. Test the hypothesis with an experiment.
5. Analyze data.
6. Reach a conclusion.
7. Report results.

Directions: Use these steps to finish the following detective story. The detective is you. In this story, you should solve the case by using scientific methods. Use your imagination for the details. You may begin your story at the bottom of this page and continue it on another sheet of paper.

Everyone loves a secluded stream, with clear water and overhanging trees. That was what brought Jackie Shavers to Clear Creek on Thursday, July 2, at seven o'clock in the morning. He often fished in Clear Creek at that time of day. But on this day, Shavers was horrified to find the creek full of soap suds—his lovely stream had been polluted the night before. At least, that is what he thought. Shavers ran back to his house and called the police station. The sergeant put me on the case. The first thing I did was to head for Clear Creek.



Name _____

Date _____

Class _____



**Directed Reading for
Content Mastery**

Overview

Exploring and Classifying Life

Directions: Complete the diagram using the phrases in the list below.

state the problem

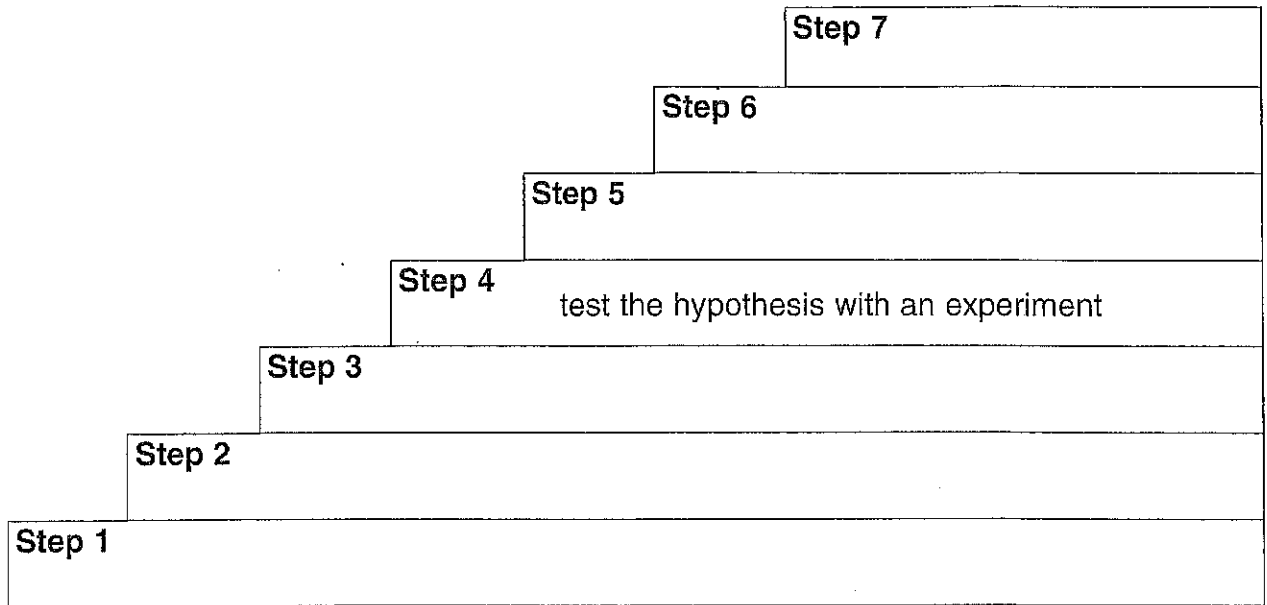
form a hypothesis

report results

gather information

draw conclusions

analyze data



Steps of Scientific Methods

Directions: Complete the following sentences using the terms in the list below.

genus

biogenesis

cell

organism

nomenclature

1. Any living thing is called a(n) _____.
2. In the mid-1800s, scientists developed the theory of _____, which states that living things come only from living things.
3. Binomial _____ is the system developed by Carolus Linnaeus in the late 1700s for naming living things.
4. A(n) _____ is the smallest unit of an organism that carries on the functions of life.
5. The first word of the two-word naming system identifies the _____ of the organism.



Enrichment

The Size of Viruses

Directions: Study the following diagram. It shows the sizes of viruses, bacteria, and blood cells. The largest is a red blood cell. Then answer the questions that follow.

Cells	Largest diameter in (micrometers)	
Red blood cells	7500	
Bacteria <i>Streptococcus</i>	750	
Herpes simplex virus	130	
Rabies virus	125	
Flu virus	85	
Polio virus	27	
Virus that affects plants	15	
Red blood cell molecule	15	

Meeting Individual Needs

- How large is the smallest virus on the diagram that affects plants? _____
- What is the smallest thing shown on the diagram? _____
- The smallest virus on the diagram attacks what kinds of organisms? _____
- How do the rabies virus and the polio virus compare in size? _____
- How large is the *Streptococcus* bacteria? _____
Red blood cell molecules? _____
- Generalizing from this diagram, infer which are larger, viruses or bacteria _____