37.1 Dissection Preparation

Biology

Summarize main points from each video.

Video Title / topic _____

Video Title / topic _____

Video Title / topic _____

Topic Introduction

Summarize your understanding of each paragraph.

Dissection is the dismembering of the body of a deceased animal or plant to study its anatomical structure. Dissection has been used for centuries to explore anatomy. Plant and animal bodies are dissected to analyze the structure and function of its components.

In the USA, dissection of frogs became common in college biology classes from the 1920s, and were gradually introduced at earlier stages of education. By 1988, some 75 to 80 percent of American high school biology students were participating in a frog dissection.

An emerging alternative to actual dissection is “virtual dissection.” In this activity, students engage with an interactive, virtual dissection, allowing the student to learn each of the cuts necessary by “cutting” with a digital scalpel before watching the full-screen video.

Students who cannot perform the actual frog dissection might benefit from such an alternative - to learn the parts of the frog. Many students remember their frog dissection long after they have left school – whether actual dissection, or virtual.

https://en.wikipedia.org/wiki/Dissection

Read/Summarize Text

1. **Read the passage.**
2. **Underline key expressions in each sentence.**
3. **Re-write each word (or expression) you underlined.**
4. **Summarize the passage.**

FAQs.

1

Why do we have to dissect a frog?

The organs present in a frog, and the way they are laid out in the body, are similar enough to humans to provide insight for students about how their bodies work. In addition to learning about themselves, students can learn about ecology and evolution through frog dissection.

2

What do you need to dissect a frog?

To perform an actual dissection, you will need a Dissection Kit: Tray, pins, scissors, scalpel, forceps, goggles, gloves, and probes. And, of course, a Preserved Frog.

http://mentalfloss.com/article/49855/why-do-students-dissect-frogs

Re-write words you underlined

3

_____ _____ _____

_____ _____ _____

Using a complete sentence, summarize or rephrase the passage

4

Read Text for Comprehension

Read this article for deeper understanding. No summary is required, although you may want to circle, underline, or mark key ideas and words.

Frogs

As members of the class Amphibia, frogs may live some of their adult lives on land, but they must return to water to reproduce. Eggs are laid and fertilized in water. On the outside of the frog's head are two external nares, or nostrils; two tympani, or eardrums; and two eyes, each of which has three lids. The third lid, called the nictitating membrane, is transparent. Inside the mouth are two internal nares, or openings into the nostrils. Also inside the mouth behind the tongue is the pharynx, or throat.

In the pharynx, there are several openings: one into the esophagus, the tube into which food is swallowed; one into the glottis, through which air enters the larynx, or voice box; and two into the Eustachian tubes, which connect the pharynx to the ear. The digestive system consists of the organs of the digestive tract, or food tube, and the digestive glands. From the esophagus, swallowed food moves into the stomach and then into the small intestine. Bile flows into a tube called the common bile duct, into which pancreatic juice, a digestive juice from the pancreas, also flows. The contents of the common bile duct flow into the small intestine. Indigestible materials pass through the large intestine and then into the cloaca, the common exit chamber of the digestive, excretory, and reproductive systems.

The respiratory system consists of the nostrils and the larynx, which opens into two lungs, hollow sacs with thin walls. The walls of the lungs are filled with capillaries, which are microscopic blood vessels through which materials pass into and out of the blood. The circulatory system consists of the heart, blood vessels, and blood.

The urinary system consists of the frog's kidneys, ureters, bladder, and cloaca. The organs of the male reproductive system are the testes, sperm ducts, and cloaca. Those of the female system are the ovaries, oviducts, uteri, and cloaca.

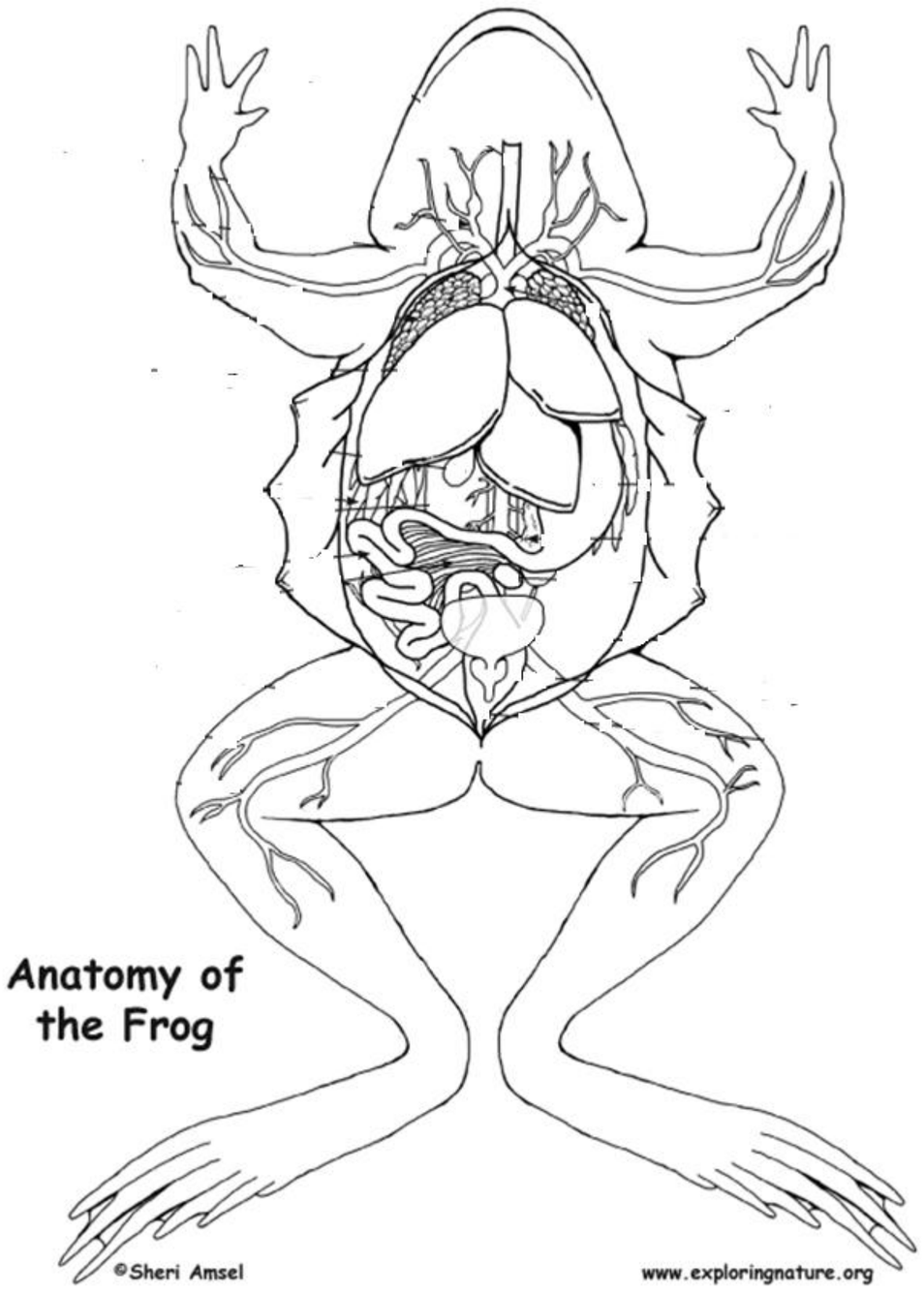
The central nervous system of the frog consists of the brain, which is enclosed in the skull, and the spinal cord, which is enclosed in the backbone. Nerves branch out from the spinal cord. The frog's skeletal and muscular systems consist of its framework of bones and joints, to which nearly all the voluntary muscles of the body are attached. Voluntary muscles, which are those over which the frog has control, occur in pairs of flexors and extensors. When a flexor of a leg or other body part contracts, that part is bent. When the extensor of that body part contracts, the part straightens.

http://www.biologyjunction.com/frog_dissection.htm

Draw Illustration

Copy and Label the Illustration in the Space Provided

Illustration



https://www.exploringnature.org/db/view/Frog-Dissection-Diagram-and-Labeling

Interpret a Graph

Write the title of the graph _____

Circle the type of chart this represents

Bar Chart *Line Chart* *Pie Chart* *Other*

If applicable,

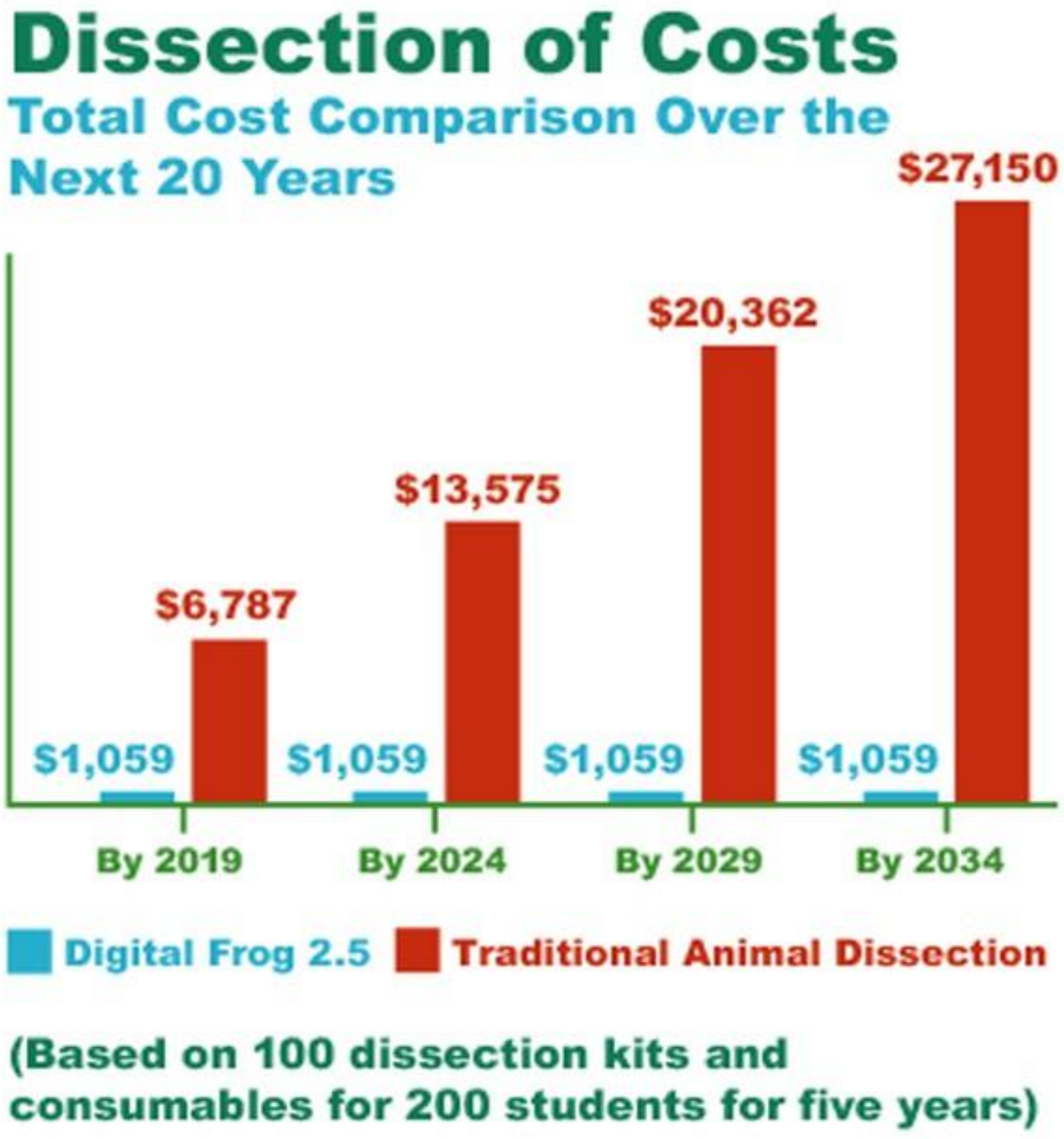
What does the X-axis represent _____

What does the Y-axis imply _____

Summarize what this graph represents or conveys

_____

https://www.petakids.com/save-animals/dissection-guide/



Show-Off Your Smarts!

Instructions

- Complete as an individual or small group.
- Discuss your ideas/answers/responses in a small group.
- Select one person to present your responses to the class.

Q1. How can this information be applied to a young-person's life?

Q2. How does this information apply to (or impact) communities?

Q3. When do scientists need to apply this information? How?

Q4. How would a person from 100 years ago view this information?

Q5. How does this topic connect to other science topics or math?

Write down at least three words introduced or covered by this topic.

1.
2.
3.
4.
5.
6.

Make a Poster

In the space provided here, create/draw a poster which conveys the concepts you have learned on this topic.