ASSESSMENT CHART FOR INVESTIGATIONS 1 AND 2

STUDENT NAME	1.1 define living things (OW)	1.2 investigation set up (TO)	Mid-summative Exam 1	2.1 Microscope images (SS)	2.2 Focal Plane (SS)	2.3 microscope use (TO)	2.3 size estimates (TO)	Mid-summative Exam 2	informal notes
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ASSESSMENT CHART FOR INVESTIGATIONS 3 AND 4

STUDENT NAME	3.2 Microscopic Life (RS)	3.3 Self-Assess (RS from 3.2)	Mid-summative Exam 3	4.1 wet mounts (TO)	4.2 Ribbon of Life (SS)	Mid-summative Exam 4	informal notes
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ASSESSMENT CHART FOR INVESTIGATIONS 5 AND 6

STUDENT NAME	5.1 Seed Dissection (SS)	5.2 lab procedures(TO)	5.2 Roots and Shoots (SS)	5.2 Seeds of Life (RS)	5.3 Self-Assess (RS)	Mid-summative Exam 5	6.1 Celery-Inv. Plans (SS)	6.1 Celery-Inv. Results (SS)	6.2 Leaf and Stem Obs. (SS)	6.2 metaphor. story (SJ)	Mid-summative Exam 6	informal notes
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ASSESSMENT CHART FOR INVESTIGATIONS 7 AND 8

STUDENT NAME	7.2 Plant Reproduc. (RS)	7.3 Self-Assess (RS)	Mid-summative Exam 7	8.2 Snail-Inv. Plan (SS)	8.2 Snail-Inv. Results (SS)	8.3 Venn Diagram (SS)	Mid-summative Exam 8	informal notes
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ASSESSMENT CHART FOR INVESTIGATIONS 9 AND 10

STUDENT NAME	9.2 detailed observations (TO)	9.2 Roach-Inv. Plan (SS)	9.2 Roach-Inv. Results (SS)	9.3 Insect Mysteries (SS)	Mid-summative Exam 9	10.1 inoculation procedure (TO)	10.1 Observing Bacteria (SS)	10.1 Observing Fungi (SS)	10.1 Unknown World (SS)	Mid-summative Exam 10	Final Summative Exam	informal notes
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Name _____

Period _____ Date _____

MID-SUMMATIVE EXAM 1

1. **Directions:** Write the letter L next to each object listed below that is living. Write the letter N next to each object listed below that is nonliving.

___ mushroom	___ waterfall	___ pine tree
___ robot	___ fire	___ cactus
___ moss	___ snail	___ tomato seed
___ Sun	___ bicycle	___ hermit crab

2. Make a list of the things you would look for to determine if something is living.

3. a. What is meant when you say something is dormant?

   b. What is meant when you say something is dead?

4. Sabrina found an interesting object when she was out on a walk. She wondered if it was alive. She put it on a windowsill to see if it would grow. After 3 weeks, it looked just the same. Sabrina decided that the object was not living.

   Do you think this is a good decision? Explain why it is or is not.

Name _____

Period _____ Date _____

MID-SUMMATIVE EXAM 2

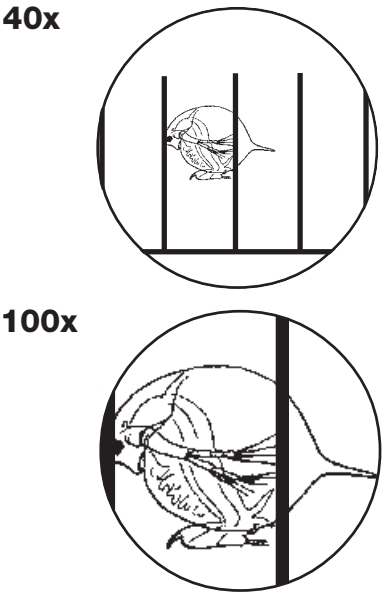
1. If you use a microscope that has an eyepiece that is 10x and an objective lens that is 10x, what is the optical power (magnification)? How do you know?

_____

_____

_____

2. Ray used a microscope to look at a *Daphnia* and a millimeter ruler. First he used 40x magnification, then he turned the objective lens and used 100x magnification.



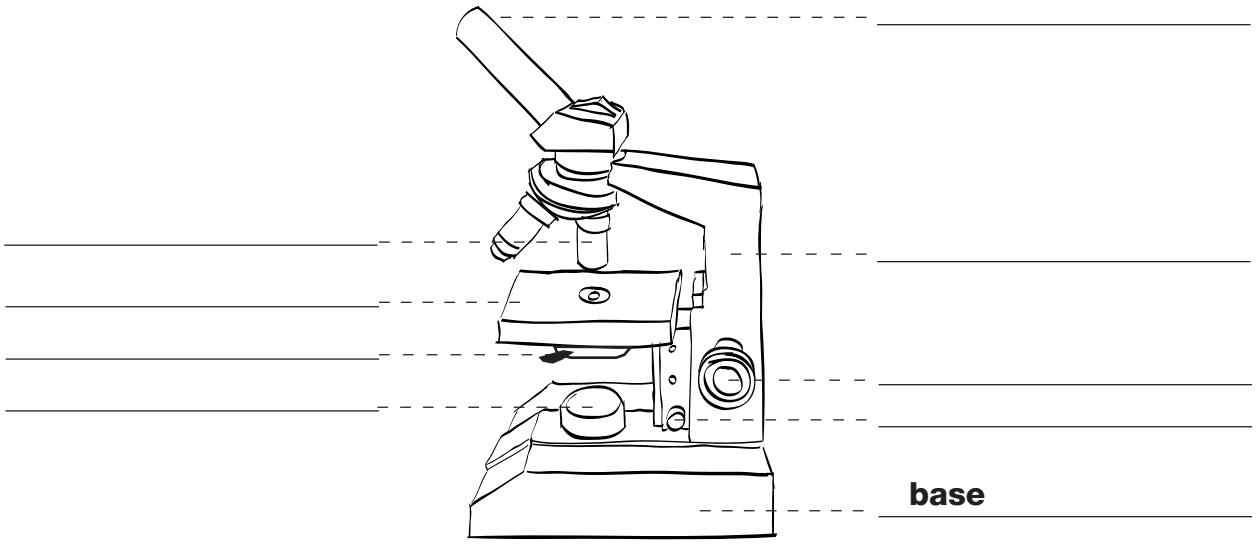
   a. At 40x magnification, how wide is the field of view? _____

   b. How big is the *Daphnia?* _____

   c. At 100x magnification, how wide is the field of view? _____

   d. How big is the *Daphnia?* _____

3. Label the parts of the microscope.



Name _____

Period _____ Date _____

MID-SUMMATIVE EXAM 3

1. The _____ is the basic unit of life.

2. Write an S next to the words below that tell what single-celled organisms can do. Write an M next to the words that tell what cells in more complex multicellular organisms can do. Write S/M next to words that apply to both single-celled and multicellular organisms.

   _____ use energy from food

   _____ eliminate waste

   _____ reproduce

   _____ grow

   _____ exchange gases

   _____ need water

3. Explain the similarities and differences between a paramecium cell and an *Elodea* cell.

4. Describe the difference between living cells that *are* organisms and living cells that *are not* organisms.

Name _____

Period _____ Date _____

MID-SUMMATIVE EXAM 4

1. Rewrite the list of words on the lines at the right from least complex to most complex. Start with the least complex organization on the bottom line.

organelles	_____
molecules	_____
cells	_____
animals	_____
organs	_____
atoms	_____
organ systems	_____
tissues	_____ (Least organized)

2. Describe the most important difference between prokaryotic cells and eukaryotic cells.

_____

_____

3. Write a P next to the structures found in prokaryotic cells. Write E next to the structures found in eukaryotic cells. Write P/E next to the structures found in both prokaryotic and eukaryotic cells.

_____ nucleus	_____ cell wall	_____ endoplasmic reticulum
_____ chloroplast	_____ cytoplasm	_____ ribosomes
_____ mitochondrion	_____ cell membrane	_____ vacuole

4. Aquatic organisms live in water. Terrestrial organisms live on dry land. Some people say that all cells are aquatic, even those in terrestrial organisms. Explain why a person might say all cells are aquatic.

_____

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Name _____

Period _____ Date _____

MID-SUMMATIVE EXAM 5

1. Why can a seed be considered a living organism?

_____

_____

_____

2. When seeds start to grow, we say they have
   A. generated.
   B. germinated.
   C. granulated.
   D. graduated.

3. In which order do the parts of a plant appear when seeds start to grow?
   A. Shoot, root, then leaves
   B. Root, leaves, then shoot
   C. Leaves, shoot, then root
   D. Root, shoot, then leaves

4. The first part of the plant to appear on a sprouting seed is the _____.
   Why is it important that this part grows first?

_____

_____

5. What is the primary source of energy for seedlings in the early days of growth?
   A. The Sun
   B. The cotyledon
   C The embryo
   D. The shoot

6. There are two categories of seeds, monocots and dicots. Explain the difference between the two.

_____

_____

_____

_____

Name _____

Period _____ Date _____

MID-SUMMATIVE EXAM 6

1. _____are openings on leaves that let gases in and out.
   A. Guard cells
   B. Xylem
   C. Root hairs
   D. Stomates

2. _____control the size of the openings on leaves.
   A. Guard cells
   B. Xylem
   C. Root hairs
   D. Stomates

3. Describe the process of transpiration, from water entering a plant to leaving the plant.

4. Why is transpiration an important process in a plant?
   A. It keeps the plant from taking in too much water and drowning.
   B. It gets rid of unusable water in the plant.
   C. It delivers water to every cell in the plant at all times.
   D. It helps plants get water from other plants.

5. If you place a plastic bag over the foliage of a plant during a drought, would you expect to see a lot of water condensing in the bag or just a little? Explain why you think so.

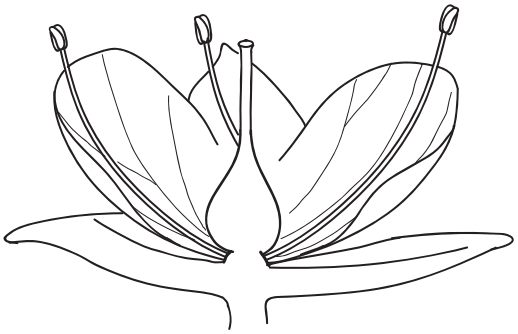
Name _____

Period _____ Date _____

MID-SUMMATIVE EXAM 7

1. The function of a flower is
   A. coordination.
   B. respiration.
   C. reproduction.
   D. transpiration.

2. Label the structures of the flower in the diagram below.



3. Describe pollination. _____

4. Plants reproduce sexually. Explain the process. _____

5. Why is it usually important for seeds to be dispersed away from a parent plant?

Name _____

Period _____ Date _____

MID-SUMMATIVE EXAM 8

1. An organism's habitat is
   A. how it adapts to changes in the environment.
   B. the other plants and animals in the area.
   C. the place where it lives and gets what it needs for life.
   D. structures and behaviors that keep it alive.

Directions: Fill in the missing word.

2. The _____ is the muscular main part of the snail's body on which it glides.

3. A snail has four _____ that are feelerlike structures that can retract into the snail's head.

4. The hard protective case the snail can withdraw into is called the _____ .

5. If you shine a light on a snail, you can see its pulsing _____, the structure that pumps blood throughout its body.

6. If you want to create a habitat for an organism, what things should you consider before setting it up? _____

_____

_____

_____

7. A group of students wanted to find out if beetles preferred a light or dark habitat. They set up a terrarium so there were three different light conditions: full light, filtered light, and a dark area. They put dry paper towels in the full-light area, moist paper towels in the filtered-light area, and very wet paper towels in the dark area. Then they put eight beetles in the terrarium and left them for 2 hours. When they returned, all of the beetles were in the full-light area. The students concluded that beetles prefer the light.

   Do you think these students set up a good experiment? Explain what they did well and what they could improve. Use the back of this page if you need more space.

_____

_____

_____

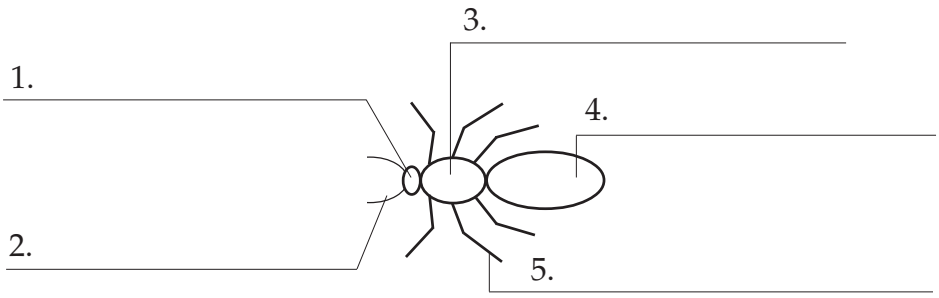
_____

Name _____

Period _____ Date _____

MID-SUMMATIVE EXAM 9

Directions: Label the insect below.



Directions: Read the description below. Use it to infer where this insect might live, its feeding habits, and its defense against predators. Give evidence for your inferences.

This insect has a large soft abdomen and short legs with little hooks at the ends. It has broad wings with two big round spots. Its head has a coiled proboscis, compound eyes, and large comblike antennae.

6. Where do you think this insect spends most of its time? Include the evidence from the description that supports your idea.

_____

_____

7. What type of food does it probably eat? How do you know?

_____

_____

8. What must be its defense against predators? What is your evidence?

_____

_____

9. On another sheet of paper, or on the back of this sheet, explain how you would set up an experiment to find out whether isopods (roly-polies or pill bugs) prefer moist or dry places.

   Be sure to include
   - The materials you would need
   - Step-by-step procedures for setting up the experiment
   - How you would collect data
   - How you would decide which condition the isopods prefer

Name _____

Period _____ Date _____

MID-SUMMATIVE EXAM 10

1. Describe where bacteria and fungi are found.

2. Describe the procedure you should use when inoculating a dish of agar.

3. Give an example of the role of microbes in transforming foods or recycling nutrients through decomposition.

4. Explain why bacteria and fungi are considered living organisms.

Name _____

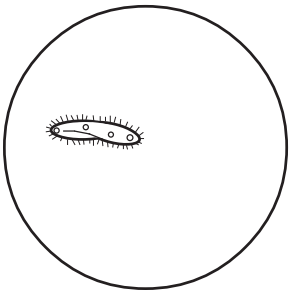
Period _____ Date _____

FINAL SUMMATIVE EXAM

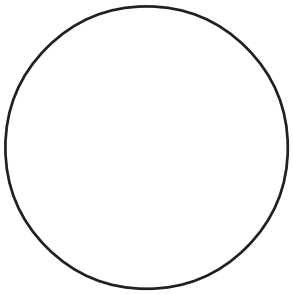
1. Which statement about a microscope is true?
   A. Compound microscopes have one lens.
   B. The position of the focal plane is fixed.
   C. A light source is needed to see the objects.
   D. Objects to be observed are placed on the objective lens.

2. If the magnification of a microscope's eyepiece is 10x and the magnification of the objective lens is 40x, the optical power is _____.

3. The circle on the left contains a sketch of a paramecium seen at 40x. In the circle on the right, draw a similar sketch to show what that same paramecium would look like at 100x.



40x



100x

4. A student found a little pile of material that looked like tiny beads near a tree on her street. She wondered if the little beads were organisms. What investigations could she do to find out if the beads are living organisms?

Name _____

Period _____ Date _____

5. An *Elodea* cell is not considered an organism, but a paramecium cell is.

   Explain why this is true.

6. Why do you think scientists call the cell the basic unit of life?

7. Which of the following is NOT a structure found in eukaryotic cells?
   A. Nucleus
   B. Ribosome
   C. Mitochondrion
   D. Stomate

8. Draw a sketch of a seed in the box. Be sure to label the following parts of the seed in your sketch:

   - Seed coat
   - Cotyledon
   - Embryo

Name _____

Period _____ Date _____

9. Seeds germinate and start to grow in the dark. Why don't they need light right away?
   A. The embryo provides the nutrients and energy the plant needs to start growing.
   B. The cotyledon provides the nutrients and energy the plant needs to start growing.
   C. The roots provide the nutrients and energy the plant needs to start growing.
   D. Seeds need only water to grow.

10. The system that transports water from the roots to the other structures of a plant is the
   A. xylem.
   B. meristem.
   C. stomates.
   D. veins.

11. The openings in the leaves of plants that regulate gas exchange are called
   A. stomates.
   B. water vapor.
   C. leaf peel.
   D. foliage.

12. Write a T next to each statement below that is true about transpiration. Write an F next to each statement that is false.

   ___ Transpiration is the process through which water flows through a plant.
   ___ The xylem transports water from the roots to other structures in the plant.
   ___ Water flows from the roots to other plant structures, then back down to the roots.
   ___ Stomates open and close to regulate the rate of transpiration.

13. Explain the function of flowers in plant reproduction.

_____

_____

_____

_____

_____

_____

_____

_____

14. Molly said, "That snail is really depressed!" Molly's statement is an example of
   A. metamorphism.
   B. anthropomorphism.
   C. imagination.
   D. adaptation.

Name _____

Period _____ Date _____

15. Mark an X next to each sentence that describes something you would want to know about an organism if you were setting up a habitat for it.

___ What it eats.
___ How much it rains in its natural habitat.
___ If it prefers light or dark.
___ The temperature range in which it can survive.

16. Briefly explain how you would design an investigation to determine the food preferences of a guinea pig.

17. Circle each characteristic that is common to ALL insects.

6 legs	exoskeleton	2 antennae
wings	aquatic larvae	3 body parts

18. Microbes in the natural environment are mostly
A. consumers.
B. decomposers.
C. parasites.
D. producers.

Name _____

Period _____ Date _____

19. Describe the role of microorganisms in transforming foods and recycling nutrients.

20. Richard's class took a field trip to the zoo. Richard was fascinated by a bird he saw in one of the enclosures, and he observed it carefully. A sign in the enclosure noted that this was not the bird's natural habitat, but one was being constructed and the bird would be moved there soon. From Richard's notes on the bird's characteristics, describe what you think are its natural habitat and feeding behavior.

- Large bird with long legs and pretty big feet.
- Long neck and small head.
- Very long, sharp pointed beak.
- Stands for long periods of time without moving.