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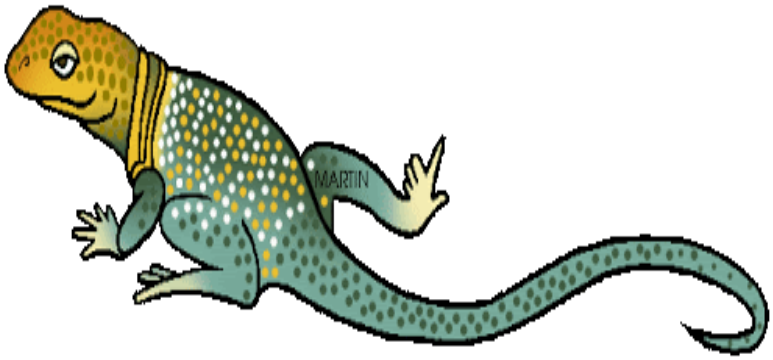
NEXT GENERATION SCIENCE STANDARDS For States, By States

New Vision International School

interactive SCIENCE

WORKBOOK

Grade 5



SEMESTER 1

Name: _____

Class: _____

Teacher: _____

PEARSON

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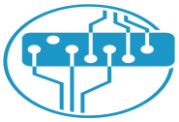
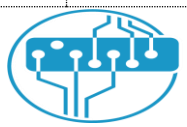
GRADE 5

Part 1 The Nature of Science



Part 2 Design and Function



Chapter 3 Growth and Survival

WORKBOOK CHECKLIST

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Skills Handbook Part 1: The Nature of Science				
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Part 1

Name: _____ ***Date:*** _____

Lesson 1: What Questions Do Scientists Do? (use with pages 322 – 327)

Words to Know: Write the word next to the description it matches.

Hypothesis ***Observation***

1. _____ *is something you find out about objects, events, or living things by using your senses.*
2. _____ *is a statement of what you think will happen during an investigation.*

True or False: Write T if the statement is correct and F if not.

_____ *3. Scientific investigation begins with a* ***testable question****.*

_____ *4. Scientists* ***do not use*** *a variety of appropriate reference materials to do research.*

_____ *5. Scientists* ***use experience*** *and* ***what they have found in their research*** *to predict what they think will be a solution to the problem.*

_____ *6. When scientists draw a conclusion,* ***they summarize what they have learned*** *by analyzing their observations.*

Tell if statement is TRUE or FALSE. Explain your choice.

7. A scientist's opinion is a valid source of information in a scientific investigation.

This statement is _____ *because* _____

_____

_____

8. Scientists make observation very carefully.

This statement is _____ *because* _____

_____

_____

Apply Concepts

9. Suppose a scientist wants to begin an investigation about water pollution is. What resources should the scientist use to research water pollution? What are some examples of reliable resources?

_____

_____

_____

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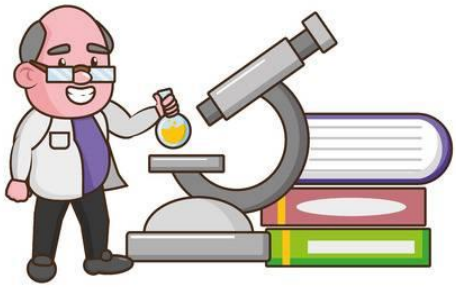


Part 1

Name: _____ ***Date:*** _____

Lesson 2: How Do Scientists Investigate? (use with pages 328 – 335)

Words to Know: Write the word next to the description it matches.

Models ***Experiment*** ***Control group***

1. _____ *is s standard against which change can be measured.*
2. _____ *is the use of scientific method to test your hypothesis.*
3. _____ *are objects or ideas that represent things.*

True or False: Write T if the statement is correct and F if not.

_____ *4. There is* ***no single scientific method*** *for finding answers.*

_____ *5. Scientists* ***do not use*** *survey to investigate.*

_____ *6. Scientists* ***might not use all the steps*** *in the scientific method.*

_____ *7. For a fair test, choose* ***just one variable*** *to change and keep all of the* ***other variables the same.***

Tell if statement is TRUE or FALSE. Explain your choice.

8. The only way to test a scientific hypothesis is to perform an experiment.

This statement is _____ *because* _____

_____

_____

9. The steps used in scientific methods must always be performed in the same order.

This statement is _____ *because* _____

_____

_____

Apply Concepts

10. Suppose two scientists perform the same experiments separately, but their results are very different. What could they do to find out why this happened?

_____

_____

_____

_____

_____

Part 1

Name: _____ ***Date:*** _____

Lesson 3: How Do Scientists Collect and Interpret Data? (use with pages 336 – 343)

Words to Know: Write the word next to the description it matches.

Data ***Accuracy*** ***Precision***

1. _____ *is when measurements are consistently repeated.*
2. _____ *are information from which a conclusion can be drawn or a prediction can be made.*
3. _____ *is when measurements are close to a known measurement.*

Tell if statement is TRUE or FALSE. Explain your choice.

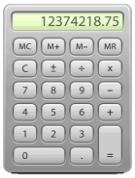
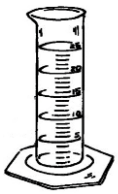
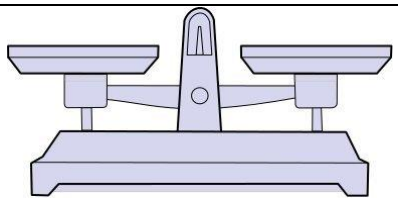
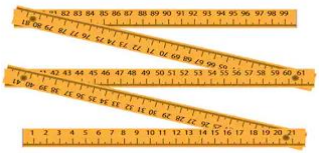
4. *If you collect, organize or interpret your data properly, you will always be able to draw a logical conclusion.*
   This statement is _____ *because* _____
   _____
   _____
5. *As long as you read carefully through the instructions for a science activity, you will be safe.*
   This statement is _____ *because* _____
   _____
   _____

Apply Concepts

6. *Name another tool scientists use that performs a similar function as the microscope. How is the tool different from the microscope?*

_____
_____
_____
_____

Complete the table below.

	Name	Use / Function
		
		
		
		
		
		
		

Part 1

Name: _____ Date: _____

Lesson 4: How Do Scientists Support Their Conclusions? (use with pages 344 – 347)

Words to Know: Write the word next to the description it matches.

Evidence ***Inference*** ***Procedures***

1._____ *facts that make you believe that something is true.*

2._____ *a conclusion based on evidence.*

3._____ *step by step instructions for completing a task.*

True or False: Write T if the statement is correct and F if not.

_____ *4. Scientists **do not defend** their conclusions during an investigation.*

_____ *5. Scientists **do not share** their results with others.*

_____ *6. During a scientific investigation, evidence may **show results that are unexpected.***

_____ *7. In Science, communication is **important.***

Tell if statement is TRUE or FALSE. Explain your choice.

8. If you replicate another scientist's investigation, and come up with very different results, it means you performed the experiment incorrectly.

This statement is _____ because _____

_____

_____

9. A scientist can only replicate a scientist's investigation if he has watched someone else performed it.

This statement is _____ because _____

_____

_____

Apply Concepts

10. *Suppose a friend wants to find out how many cute pets live in her neighborhood. Could this information be used in a scientific investigation? Why or why not?*

_____

_____

_____

Determine whether each statement is a fact or opinion. Color the box opposite your answer.

STATEMENTS	*FACT*	*OPINION*
a. Bird's beak have different functions.		
b. Gathering scientific data can be easy.		
c. Mammals are more interesting than fish.		
d. Evidence is more important than any other part of science.		
e. Mass is the amount of matter in a solid, a liquid or a gas.		
f. A graduated cylinder is used to measure the volume of solid and liquid.		

Name: _____ ***Date:*** _____

Lesson 1: What Is Technology? (use with pages 368 – 373)

Words to Know: Write the word next to the description it matches.

Microchip ***Technology*** ***World Wide Web***

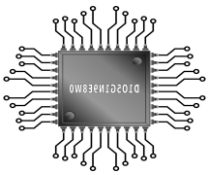
1. _____ *is a small piece of a computer that contains microscopic circuits.*
2. _____ *is a computer – based network of information sources.*
3. _____ *is the knowledge, processes, and products that solve problems and make work easier.*

True or False: Write T if the statement is correct and F if not.

_____ *4. Technology has* ***improved people's lives.***

_____ *5. Technology* ***has contributed*** *to the scientific knowledge of medicine.*

_____ *6. The development of microchips made computers process information more quickly, but* ***made its cost much lower.***



Tell if statement is TRUE or FALSE. Explain your choice.

7. A microchip lets computers process information very quickly.

This statement is _____ *because* _____

_____

_____

8. MRI scans, X – rays and tomography help doctors see the bones inside a person's body.

This statement is _____ *because* _____

_____

_____

Apply Concepts

9. How are stone tools or sharp sticks technology?

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Part 2

Name: _____ Date: _____

Lesson 2: How Does Technology Mimic Living Things? (use with pages 374 – 379)

Words to Know: Write the word next to the description it matches.

Muscular System ***Prosthetic Limbs*** ***Skeletal System***

1._____ *is the body structure that includes the bones connected by joints.*

2._____ *is a body system that uses energy from the food to move the body.*

3._____ *is an artificial hand, arm, foot or leg that replaces the missing hand, arm, foot or leg.*

True or False: Write T if the statement is correct and F if not.

_____ *4. Scientists use robotic animals to* ***study the behavior of real animals****.*

_____ *5. Development of nanobots* ***will not improve*** *the current medication.*

_____ *6. Airplane's wings and tail were developed copying the functions of the* ***bird's wings and tail.***

Tell if statement is TRUE or FALSE. Explain your choice.

7. A prosthetic hand looks just like the hand it replaces.

This statement is _____ *because* _____

_____

_____

8. A modern prosthetic leg can mimic the actions of a real leg.

This statement is _____ *because* _____

_____

_____

Apply Concepts

9. Explain how the prosthetic limbs mimic the human muscular and skeletal systems.

_____

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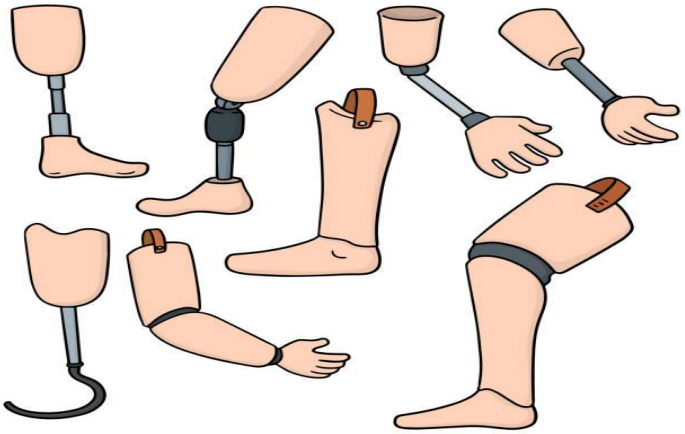

Part 2

Name: _____ ***Date:*** _____

Lesson 3: What Is Design Process? (use with pages 380 – 387)

Words to Know: Write the word next to the description it matches.

Design Process ***Prototype***

1._____ *an early version or model of a product.*

2._____ *is a set of steps for developing products and processes that solve problems.*

True or False: Write T if the statement is correct and F if not.

_____ *3. The **first step** in the design process is to identify a need or problem.*

_____ *4. Scientific journals, magazines, the internet, informational books and encyclopedia **cannot be helpful** as you study ways to solve a design problem.*

_____ *5. Throughout the design process **it is important** to document your work.*

Tell if statement is TRUE or FALSE. Explain your choice.

6. The testing step in the design process of a new product make sure that everyone can use the product.

This statement is _____ because _____

_____

_____

7. Engineers and scientists redesign a prototype if it does not work correctly.

This statement is _____ because _____

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Apply Concepts

8. In the design process, why you might need to repeat some steps in the process?

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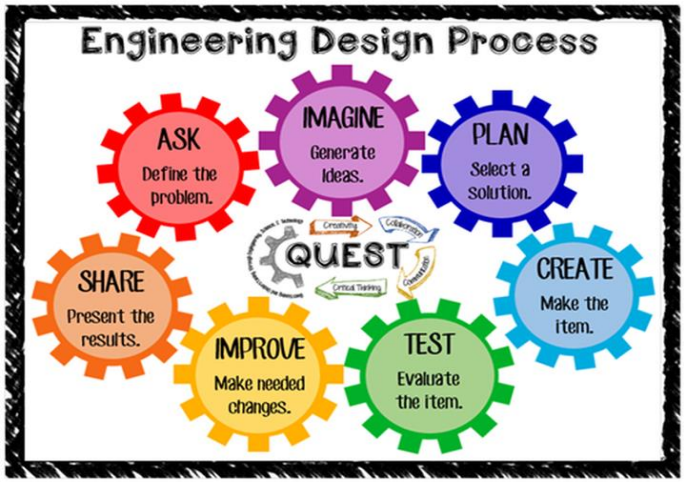

Name: _____ ***Date:*** _____

Lesson 1: What Are Some Physical Structures In Living Things? (use with pages 109 – 113)

Words to Know: Write the word next to the description it matches.

Exoskeleton ***Spiracles*** ***Stomata***

1._____ *are holes on the surface of plant's leaf through which gases pass.*

2._____ *are hard skeletons on the outside of the body.*

3._____ *are air holes on the skin of insect's body.*

True or False: Write T if the statement is correct and F if not.

_____ *4.* ***All living organisms*** *have structures that help them grow, get energy, and stay healthy.*

_____ *5. Reproduction is the process by which living things can make other living things* ***not similar*** *to themselves.*

_____ *6. Plants that have circulatory system is called* ***vascular plants.***

Tell if statement is TRUE or FALSE. Explain your choice.

7. An exoskeleton's only purpose is to support the body.

This statement is _____ *because* _____

_____

_____

8. Plants can have a circulatory system.

This statement is _____ *because* _____

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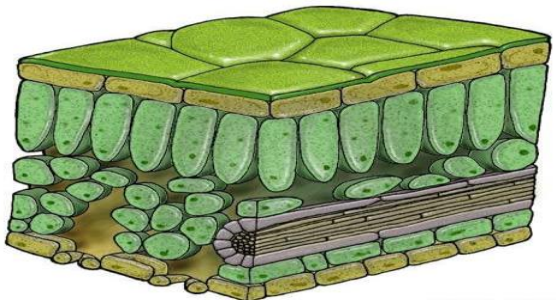

Apply Concepts

9. How are the parts of birds and fish similar in structure and function?

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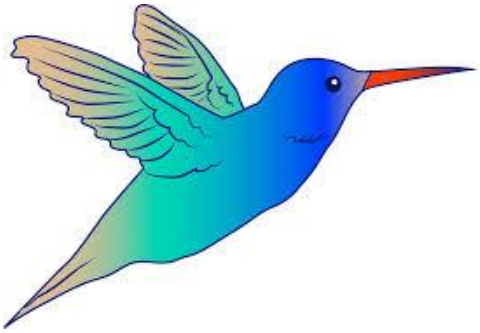
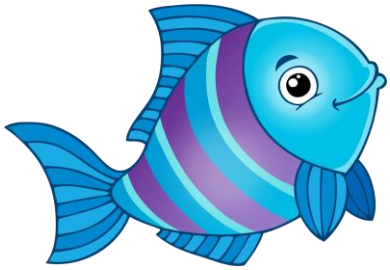




Name: _____ ***Date:*** _____

Lesson 2: How Do Adaptations Help Plants? (use with pages 114 – 119)

Words to Know: Write the word next to the description it matches.

Adaptation ***Mutation*** ***Succession***

1. _____ *is the characteristics that allow an organism to survive better in its environment.*
2. _____ *is a random change in a gene.*
3. _____ *is the predictable order of changes in communities after a change occurs.*

True or False: Write T if the statement is correct and F if not.

_____ *4. Adaptations develop over* ***many generations.***

_____ *5. Different combinations of genes* ***may cause a plant to be a bit different****.*

_____ *6. Plants that are able to adapt to the environment are* ***more likely to die or be extinct.***

Answer the question below and explain.

7. What adaptation might help a plant survive in an environment with cold winters?

_____

_____

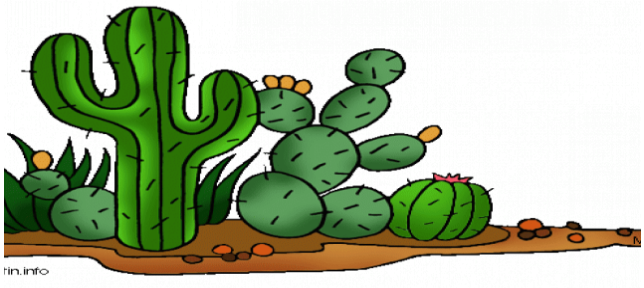
_____

8. Why might a plant that normally grows in one environment not grow well in a different environment?

_____

_____

_____



Apply Concepts

9. What might happen to a plant that has a genetic mutation that results in shorter roots?

_____

_____

_____

_____

Name: _____ ***Date:*** _____

Lesson 3: How Do Adaptations Help Plants? (use with pages 120 – 125)

Words to Know: Write the word next to the description it matches.

Extinct species ***Instincts*** ***Structural adaptations***

1._____ *are animals which have no members left that are alive.*

2._____ *are behavioral adaptations or inherited behaviors that help animals survive.*

3._____ *are useful changes in the body parts of animals.*

True or False: Write T if the statement is correct and F if not.

_____ *4. Animal species develop their physical characteristics* ***like plants.***

_____ *5. Some behaviors are* ***learned by trial and error*** *as a result of training.*

_____ *6. A specie* ***can't survive*** *if it does not adapt to changes or move to a new environment.*

Answer the question below and explain.

7. A long neck is a physical adaptation that helps giraffe survive in its environment.

This statement is _____ *because* _____

_____

_____

8. The dog's ability to sit or roll over on command is an instinct.

This statement is _____ *because* _____

_____

_____

Apply Concepts

9. How can people help protect animals from extinction?

_____

_____

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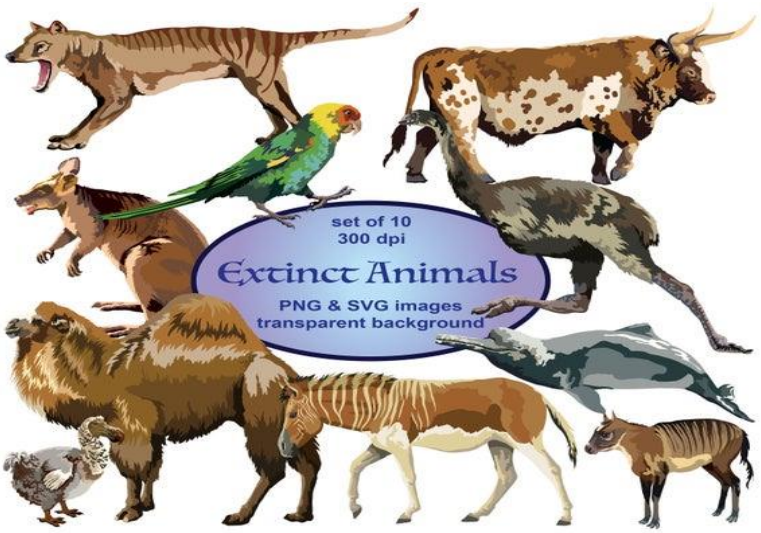


Name: _____ ***Date:*** _____

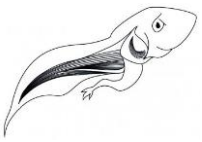
Lesson 4: What Are The Life Cycle of Some Animals? (use with pages 127 – 133)

Words to Know: Write the word next to the description it matches.

Life cycle ***Metamorphosis*** ***Molting***

1. _____ *is the process by which animal changes in form during its life cycle.*
2. _____ *is the process by which animals shed off its outer covering.*
3. _____ *is a pattern of birth, growth and death that all animals share.*

True or False: Write T if the statement is correct and F if not.



_____ *4. The young tadpole grows legs and its tails* ***grow longer****.*

_____ *5. A chrysalis or pupa* ***provides protection and a place to change*** *for a growing butterfly.*

_____ *6. Insects that have* ***four stages*** *of development go through* ***incomplete metamorphosis.***

Tell if statement is TRUE or FALSE. Explain your choice.

7. All animals go through metamorphosis during their life cycle.

This statement is _____ *because* _____

_____

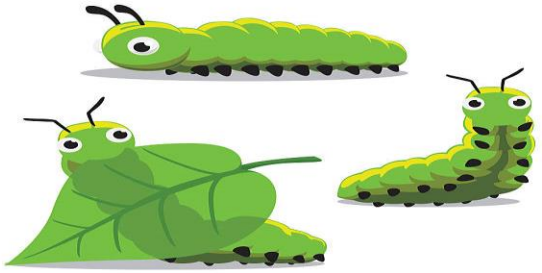
_____

8. Caterpillar is the pupa in the life cycle of butterfly.

This statement is _____ *because* _____

_____

_____



Apply Concepts

9. How are the metamorphosis of amphibians and reptiles alike? How are they different? Give examples.

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_____

_____

_____

_____