NCA CASI • NWAC • SACS CASI ACCREDITED AdvancED

NEXT GENERATION SCIENCE STANDARDS For States, By States

New Vision International School

interactive SCIENCE

WORKBOOK

Grade 4

SEMESTER 1

Name: _____

Class: _____

Teacher: _____

PEARSON

Table of Contents

GRADE 4

Part 1 The Nature of Science

Part 2 Technology and Design

Chapter 4 Plants and Animals

WORKBOOK CHECKLIST

Name: _____ *Class:* _____

Lesson	Page No.	✓ / X	Teacher's Signature	Parent's Signature
Skills Handbook Part 1: The Nature of Science				
Lesson 1	*pp. 1 – 2*			
Lesson 2	*pp. 3 – 4*			
Lesson 3	*pp. 5 – 6*			
Lesson 4	*pp. 7 – 8*			
Skills Handbook Part 2: Technology Design				
Lesson 1	*pp. 9 – 10*			
Lesson 2	*pp. 11 – 12*			
Chapter 4: Plants and Animals				
Lesson 1	*pp. 13– 14*			
Lesson 2	*pp. 15 – 16*			
Lesson 3	*pp. 17 – 18*			

Part 1

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

Lesson 1: What Questions Do Scientists Asks? (use with pages 304 – 307)

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

Inquiry ***Investigation*** ***Reference Material***

1. _____ *- a careful way of looking for something.*
2. _____ *- the process of asking questions and searching for answers.*
3. _____ *- encyclopedias, books, magazines and the internet.*

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

_____ *4. Scientists **ask questions** about what they observe in the natural world.*

_____ *5. Scientists usually start their investigation with **observation.***

_____ *6. Scientists **don't use** reference materials.*

_____ *7. Scientists **need to record their observations** during experiments.*

Explain: Tell if each statement is true or false. Explain your choice.

8. Scientists can learn from other scientists.

This statement is _____ because_____

_____

_____

9. When working in a team, it is important for everyone to have the same idea.

This statement is _____ because_____

_____

_____

Apply Concepts

10. You want to find out more about how a canyon was formed. How might you start your investigation?

_____

_____

_____

_____

Part 1

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

Lesson 2: How Do Scientists Use Tools? (use with pages 308 – 313)

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

Microscope ***Telescope*** ***Tool***

1. _____ *- a device that helps you see objects in the sky.*
2. _____ *- an object or device used to perform a task.*
3. _____ *- a device that uses several lenses to make small objects appear much larger, so you can see them in detail.*

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

_____ *4. We use graduated cylinder* ***to measure the mass*** *of an object.*

_____ *5. We use a hand lens to make* ***objects appear larger****.*

_____ *6. We use telescope to see objects* ***that are near.***

_____ *7. A microscope use* ***several lenses*** *to make objects* ***appear much larger.***

Explain: Tell if each statement is true or false. Explain your choice.

8. Hand lenses make objects appear smaller than they are.

This statement is _____ *because*_____

_____

9. It is important to wear safety goggles and gloves during science activities.

This statement is _____ *because*_____

_____

_____

Apply Concepts

10. You and your friend both measure the same table. Why is it a good idea for you to compare your measurements?

_____

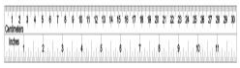
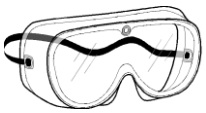
_____

_____

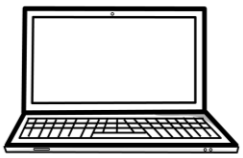
Study each picture closely and classify each science tool.

Measuring	*Recording*	*Safety*	*Magnifying*
_____ _____ _____	_____	_____ _____	_____ _____

Graduated cylinder ***Metric ruler*** ***Goggles*** ***Thermometer***


Microscope ***Computer*** ***Gloves*** ***Hand lens***

Circle the Science safety rules.

- ***Tell your teacher*** *if there is* ***an accident*** *or if you see anything* ***that looks unsafe.***
- ***Read the activity*** *carefully before you start.*
- *Start the activity* ***without listening to the teacher's instructions.***
- ***Tie back*** *long hair.*
- ***Do not wear*** *safety goggles and gloves.*
- ***You can*** *smell or taste any substance.*
- *Use chemicals* ***carefully*** *and dispose them* ***properly.***
- *Keep your work* ***area dirty.***
- *Handle sharp items and other equipment* ***carefully.***

Part 1

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

Lesson 3: How Do Scientists Answer Questions? (use with pages 314 – 321)

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

Evidence ***Two - dimensional*** ***Scientific methods***

1. _____ *- organized ways to answer questions and solve problems.*
2. _____ *- facts gained from observations and experiments.*
3. _____ *- something that has width and height.*

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

_____ *4. Scientists **do not always use** the same method.*

_____ *5. A hypothesis is a **possible answer** to your question.*

_____ *6. **Never communicate** what you found out in your investigation.*

_____ *7. Scientist perform an experiment **once.***

Explain: Tell if each statement is true or false. Explain your choice.

8. A hypothesis is always true.

This statement is _____ because_____

_____

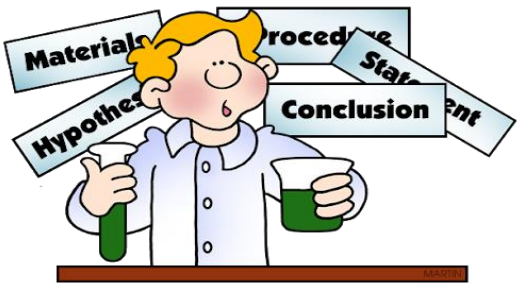
_____

9. You should try experiments more than once.

This statement is _____ because_____

_____

_____



Apply Concepts

10. You want to determine how fast a toy car will travel across different surfaces. Explain the steps you would use to answer this question.

_____

_____

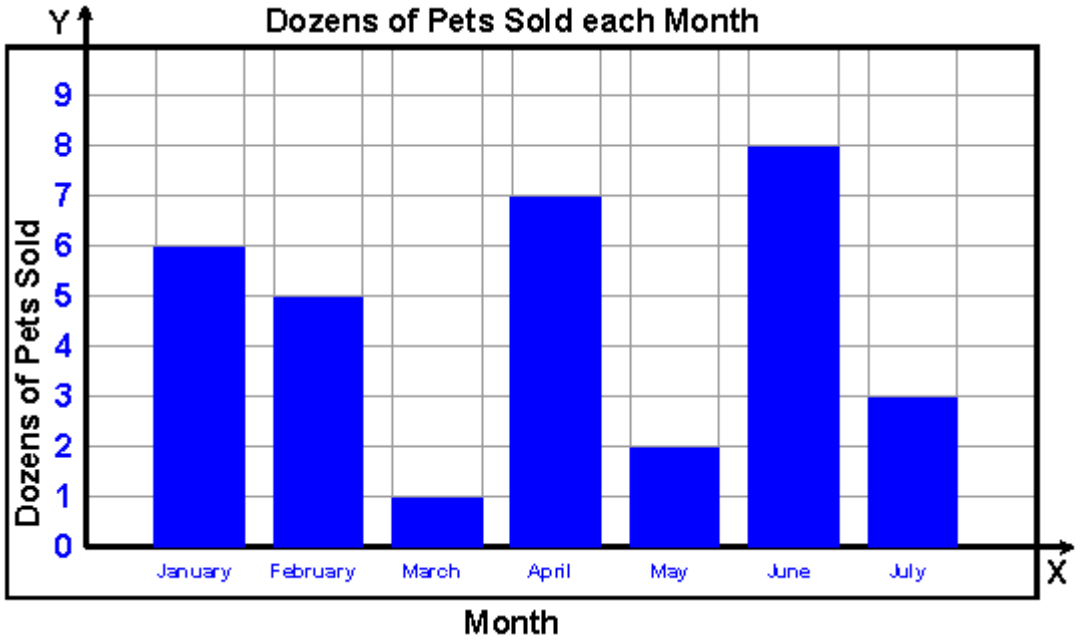
_____

_____

_____

_____

Answer the following questions based on the bar graph.



How many pets were sold in July and April combined? _____

How many more pets were sold in June than in March? _____

How many pets were sold in March, January and June? _____

How many pets were sold in August? _____

Part 1

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

Lesson 4: How Do Scientists Draw Conclusions? (use with pages 322 – 329)

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

Data ***Inference*** ***Procedure***

1. _____ *- a conclusion based on facts.*
2. _____ *- the results gathered in an investigation.*
3. _____ *- a set of step-by-step instructions.*

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

_____ 4. When repeating an experiment, it is important to do a test ***exactly the same way*** each time.

_____ 5. It is ***not possible*** to draw more than one inference from the same data.

_____ 6. Scientist ***never compare*** their results with another group.

_____ 7. Scientists ***keep accurate records*** of their experiments.

Explain: Tell if each statement is true or false. Explain your choice.

8. The results of an experiment become research for the future experiments of other scientists.

This statement is _____ because_____

_____

_____

9. Scientists make evidence based on inferences.

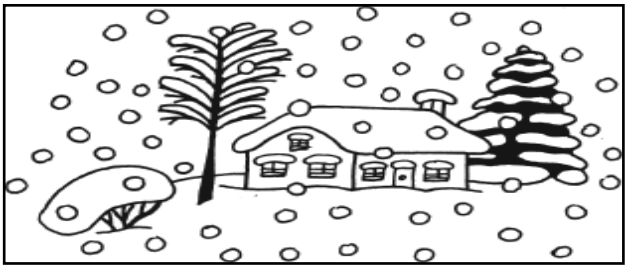
This statement is _____ because_____

_____

_____

Apply Concepts

10. Make an inference about the picture. What evidence supports your inference?



_____

_____

_____

Construct a line graph in the given information.

Year	*Number of Coins Collected*
2010	100
2011	200
2012	100
2013	300
2014	100
2015	400
2016	500

Title: _____

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

Lesson 1: What Is Technology? (use with pages 350 – 355)

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

Satellite ***Technology*** ***Transport***

1. _____ *- to move people or goods from one location to another location.*
2. _____ *- an object orbiting the Earth that can be used to send and receive signals.*
3. _____ *- 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. Scientific discoveries* ***change our lives****.*

_____ *5. Train transportation* ***has changed overtime****.*

_____ *6. Technology can be found at* ***home and in school only****.*

_____ *7. Electronic white boards are* ***used for teaching****.*

Explain: Tell if each statement is true or false. Explain your choice.

8. New technology has made methods of transportation faster.

This statement is _____ *because*_____

_____

_____

9. Technology is used to solve problems in people's homes.

This statement is _____ *because*_____

_____

_____

Apply Concepts

10. Think about the technology in your school. How could you use this technology to help you research and write a report on steam trains?

_____

_____

_____

_____

_____

Part 2

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

Lesson 2: What Is The Design Process? (use with pages 356 – 363)

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

Design process ***Model*** ***Prototype***

1. _____ *- the first fully working product that uses a design solution.*
2. _____ *- a set of steps for developing products.*
3. _____ *- a smaller or simpler version of an object.*

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

_____ *4. There are **nine steps** in the design process.*

_____ *5. Math and Science **will help you develop possible solutions** to your design problem.*

_____ *6. There can be **several factors** that can influence the solution that you use.*

_____ *7. The product **needs to be carefully tested**.*

Explain: Tell if each statement is true or false. Explain your choice.

8. When choosing the solution to a problem, the only factor to consider is whether the solution solves the problem.

This statement is _____ because_____

_____

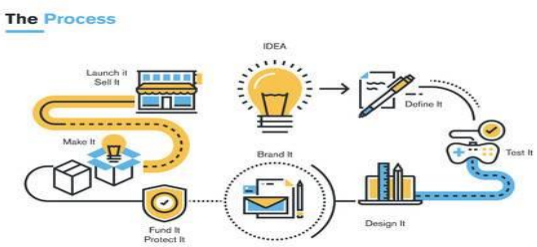
_____

9. During the design process you can use information other people have learned about the topic of a design project.

This statement is _____ because_____

_____

_____



Apply Concepts

10. *Suppose you want to design a lunch bag that keeps yogurt cool and protects it from getting squashed. What is the first step in the design process? Complete the first step of the design process.*

_____

_____

_____

_____

Arrange the design process in order. Use numbers 1-8.

☐ *Design and construct a prototype.*

☐ *Develop possible solutions.*

☐ *Identify the problem.*

☐ *Test the prototype.*

☐ *Evaluate and redesign.*

☐ *Identify the problem.*

☐ *Choose one solution.*

☐ *Communicate results.*

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

Lesson 1: How are Plants and Animals Classified? (use with pages 120 – 127)

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

Classify ***Invertebrates*** ***Vertebrates***

1. _____ *- animals with backbones.*
2. _____ *- to arrange or sort objects or living things according to their properties or characteristics.*
3. _____ *- animals without backbones.*

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

_____ *4. All organisms in the same group* ***have different characteristics****.*

_____ *5. Plants with cones are vascular plants called* ***conifers****.*

_____ *6. Mosses are* ***vascular plants****.*

_____ *7. Mammals are* ***warm blooded*** *animals and* ***do not lay eggs****.*

Explain: Tell if each statement is true or false. Explain your choice.

8. Scientists classify plants based on their height and how they reproduce.

This statement is _____ *because*_____

_____

_____

9. There are more animals that do not have backbones than there are that do have backbones.

This statement is _____ *because*_____

_____

_____

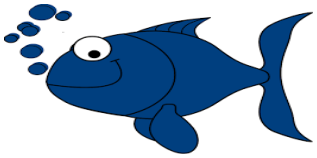
Apply Concepts

10. How would you decide if an unknown animal is a fish or an amphibian?

_____

_____

_____



11. Classify the following animals. Write V for vertebrate and IV for invertebrate.

_____ *birds*

_____ *jellyfish*

_____ *salamander*

_____ *bobcat*

_____ *Sea stars*

_____ *crabs*

_____ *fish*

_____ *earthworm*

_____ *sponges*

_____ *snake*

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

Lesson 2: How Do Plants Reproduce? (use with pages 128 – 135)

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

Fertilization ***Germinate*** ***Pollination***

1. _____ *- to start to grow.*
2. _____ *- the movement of pollen from stamen to pistil.*
3. _____ *- the process in which a sperm cell and an egg cell combine.*

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

_____ *4. Flowers are the organs that* ***make seeds in flowering plants****.*

_____ *5. The scattering of a plant seed is called* ***dispersal****.*

_____ *6. Each seed needs* ***only water*** *to germinate.*

_____ *7. Fruits grow* ***around the seed****.*

Explain: Tell if each statement is true or false. Explain your choice.

8. Colorful petals can be helpful to a flowering plant for pollination.

This statement is _____ *because*_____

_____

_____

Answer the question below.

9. What does a seed need to germinate?

_____

_____

Apply Concepts

10. Study the picture of a hummingbird. Explain how the hummingbird may help the plant.

_____

_____

_____

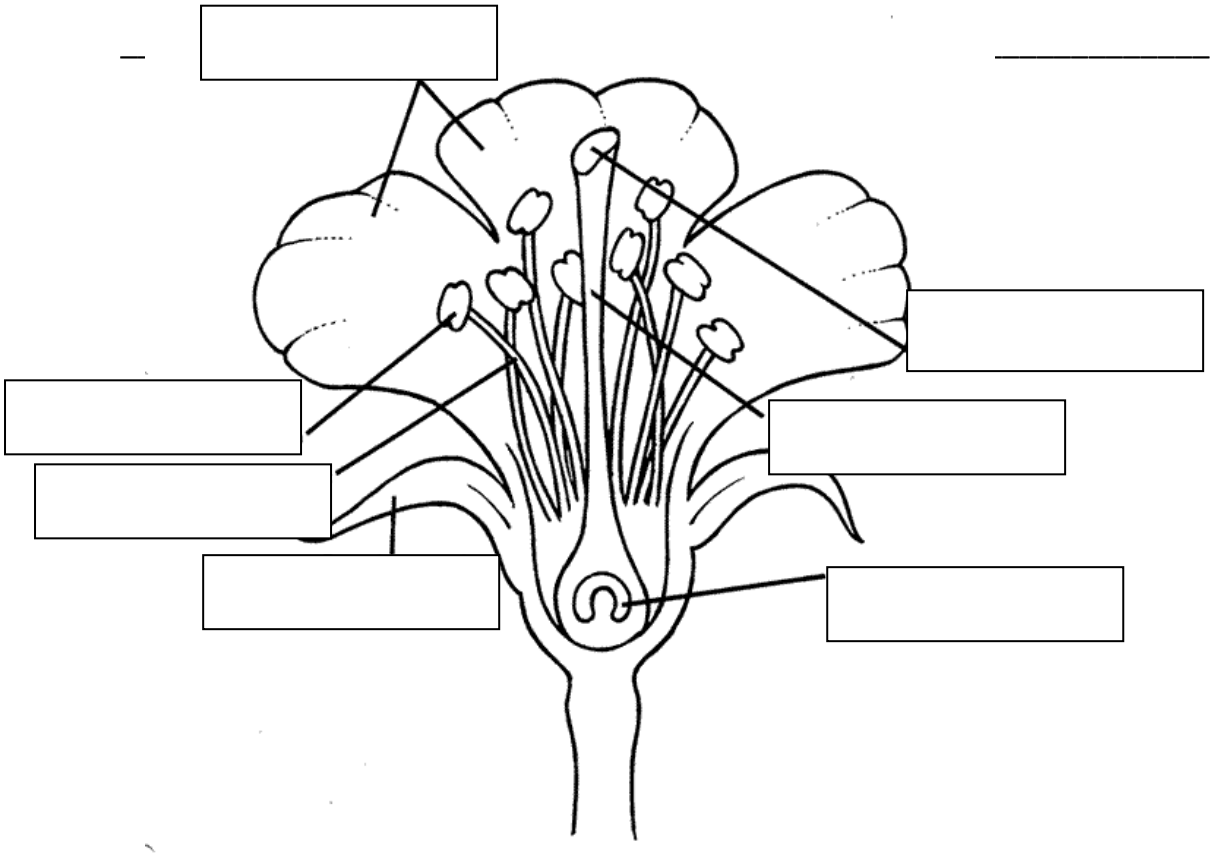
_____

_____

11. Label the parts of the flower. Use the words below.

Petal ***Anther*** ***Stigma*** ***Pistil***

Sepals ***Stamen*** ***Ovary***



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

Lesson 3: How Do Plants Make Food? (use with pages 136 – 141)

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

Chlorophyll ***Chloroplasts*** ***Photosynthesis***

1. _____ - *tiny structures in plant cells where photosynthesis occurs.*
2. _____ - *the substance in plants that make their parts green and captures energy from sunlight.*
3. _____ - *the process of making sugar.*

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

_____ *4. Plants **cannot** make their own food.*

_____ *5. Chloroplasts **contain** chlorophyll.*

_____ *6. Gravity causes roots to **grow down**.*

_____ *7. Most grasses and trees have **taproots**.*

Explain: Tell if each statement is true or false. Explain your choice.

8. A plant's waste products pass into the ground through its roots.

This statement is _____ because_____

_____

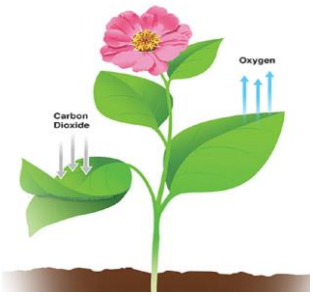
_____

9. A carrot is a root that contains stored food.

This statement is _____ because_____

_____

_____



Apply Concepts

10. A friend tell you that people can survive without plants. Do you agree? Explain.

_____

_____

_____

11. Label the cross section of a leaf below.

Upper layer ***Lower layer*** ***Tiny opening*** ***Tube-like structure***