

GET geeked!

**Answer Key:
FOR 3RD – 5TH GRADE ACTIVITIES**



**DETROIT SCIENCE CENTER
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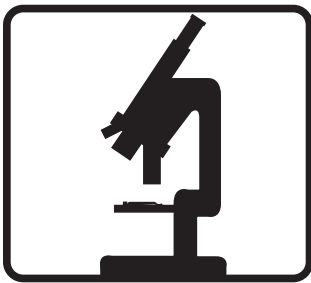
This educational support material is sponsored by the Clarence and Grace Chamberlin Foundation.

Scientists and Their Equipment

Instructions: In the following pictures you will see examples of tools and objects that different kinds of scientists might use. Use the list below to match each scientist with the correct picture. Write down the list number below each picture.

Choose from the following kinds of scientists:

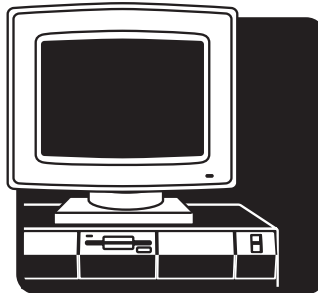
- 1. Medical Doctor** – a scientist who can prescribe medicine and treats ill or injured patients
- 2. Chemist** – a scientist who studies atoms, molecules, mixtures and reactions
- 3. Automotive Engineer** – a scientist who works with automobiles
- 4. Computer Engineer** – a scientist who works with computers
- 5. Mechanical Engineer** – a scientist who works with machines and tools
- 6. Physicist** – a scientist who works with matter, forces, and energy
- 7. Astronomer** – a scientist who studies outer space
- 8. Biologist** – a scientist who studies living things from cells to complex organisms.



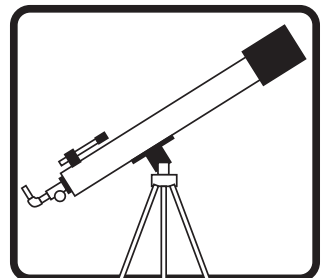
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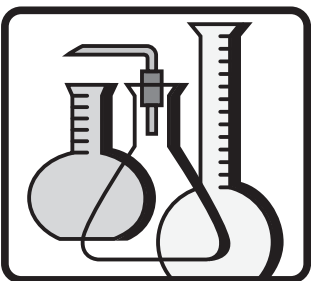
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4



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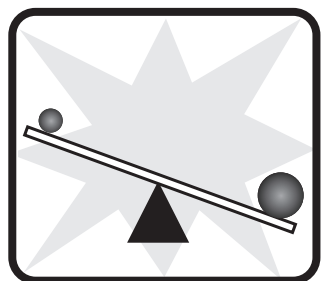
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3



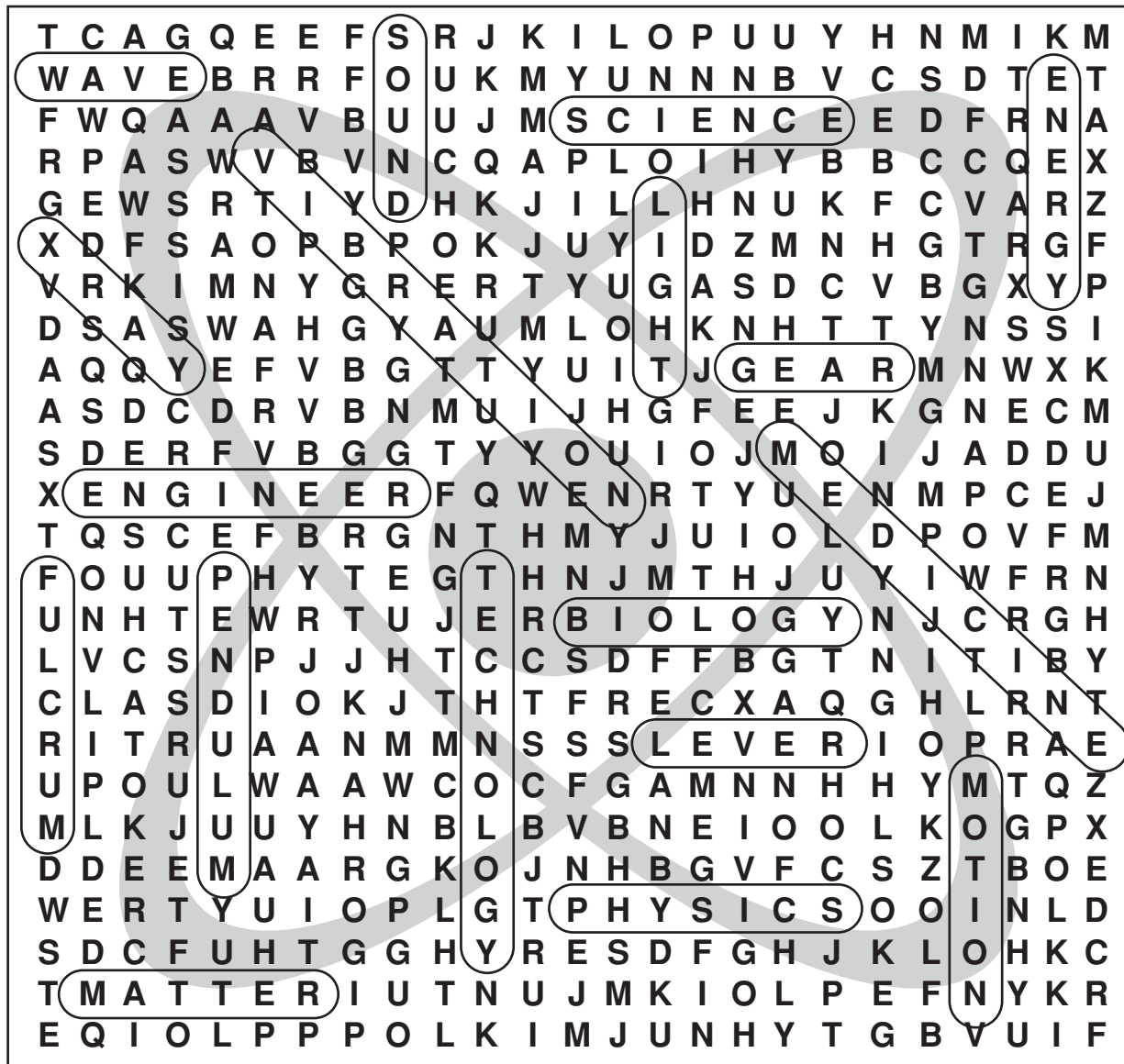
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6

Discovering The Detroit Science Center

The words at the bottom of this page are words you will hear about when you visit the Science Center. Look for these words across, down, and diagonally.



Wave Vibration Energy Science

Technology Engineer Medicine Gear

Lever Motion Pendulum Fulcrum Xray

Matter Light Sound Physics Biology





Detroit Science Center **SCIENCE HUNT** GRADES 3 - 5



WELCOME TO THE DETROIT SCIENCE CENTER.

Within the galleries, you will find the answers to our Science Hunt questions by exploring the laboratories and interacting with the exhibits.

****NOTE TO CHAPERONES AND ADULTS:** You may need to help the children read the questions and exhibit signs and also write the answers. You may choose to fill out one sheet as a group.

1 DTE Energy Science Sizzle & Spark

If you could make a tornado big enough to rip the bark off of trees, what would its Fujita rating be? How many mph would its winds be going?

F5, 261 – 318 mph

Read the exhibit signs to find: What is a fulcrum? Where is a fulcrum in this gallery?

The pivot point or support point of a lever – in the Giant Lever and Lever exhibits

Find the giant *Foucault Pendulum*. Look for the arrow that shows which direction it was swinging when it was started. What has happened?

The Earth has spun since this morning – out from underneath the pendulum. So, compared to the ground, the pendulum is swinging in a different direction.

Shorter tubes make _____ pitched sounds?

Which exhibit helped you to answer the previous question?

higher - Sliding Pipe, Pythagorean Tubes, or Seashell Pipes

Which exhibit uses light to carry sound?

Laser Radio

List two exhibits in which white light is split into a rainbow.

Prism and Diffraction Grating

Using the *Hand Generator*, which takes more force to run?

REGULAR BULB ~~fluorescent bulb~~

Therefore, which bulb takes more energy and money to run?

REGULAR BULB ~~fluorescent bulb~~

Describe how two types of energy are used in the Matter and Energy gallery.

Answers will vary. Could include heat, electricity, motion, light, sound.

Name one exhibit that heats something. What happens when it is heated?

Convection, Thermocouple, Hot Air Balloon, $PV=nRT$, Plasma Globe, Jacob's Ladder, or the hair dryer in Electricity Users.

2 Medical Exhibits

Look at the *X-rays*. Find two broken bones. Tell which bones are broken and make up an explanation of how you think the breaks might have happened.

answers will vary

How many chambers does a human heart have? **FOUR**

In *TAM*, list an organ that lights up red, one that lights up yellow, and one that lights up green.

Red – diaphragm, lungs, heart, pancreas, kidney, appendix, liver, larynx, uterus, tonsils

Yellow – pancreas, esophagus, trachea, small intestine, ascending colon, transverse colon, descending colon, bladder, stomach

Green – gall bladder

Remembering Your Visit

Detroit Science Center

Directions: Answer the following questions related to what you may have seen at the science center. When you have filled in each answer, write the circled letters in the correct spaces to answer the final question.

1. What type of scientist studies stars, planets, and other objects in space?

 A S T R O N O M E R

2. What kind of tool does an astronomer use to see objects in space?

 T E L E S C O P E

3. What kind of scientist diagnoses and treats illnesses?

 D O C T O R

4. What form of energy allows us to see?

 L I G H T

5. What kind of scientist designs or builds engines and machinery?

 E N G I N E E R

6. What kind of science describes the study of life?

 B I O L O G Y

7. What is the object in figure A?

 L E V E R

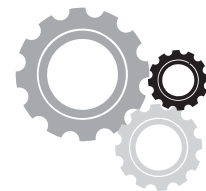


8. What kinds of waves are caused by vibrations that you can hear?

 S O U N D W A V E S

9. What is the object in figure B?

 G E A R



10. What science deals with matter and energy?

 P H Y S I C S

Figure B

What helps us to solve problems using science everyday?

 T E C H N O L O G Y
1 2 3 4 5 6 7 8 9 10