

WORKBOOK

GUESTHOLLOW'S PHYSICS WORKBOOK
WEEK 1

Name: _____
Date: _____

Aristotle: A Graphic Guide

1. Aristotle made major contributions to these 5 areas:

2. Circle the city on the map where Aristotle was born.



3. What Academy did Aristotle join in Athens?
a. Plato's Academy
b. Athens University
c. The Academy of Teleology
d. The Athenian Library

4. Aristotle became a tutor to:
a. Philip
b. Alexander
c. Theophrastus
d. Julius Caesar

5. What year did Aristotle die?

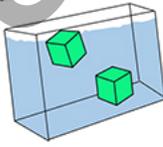
6. Which one of these statements describes epistemology?
a. The extent we can KNOW what exists...
b. WHAT exists... / What something is...

7. The Greeks had a basic knowledge of gravity.
 True False

Basher Science: Physics

8. Mass depends on gravity.
 True False

9. These cubes are the same size. Which one is denser?

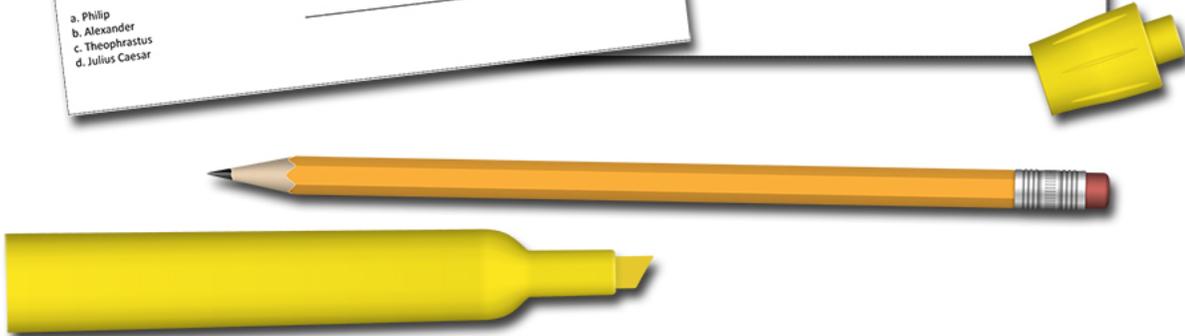


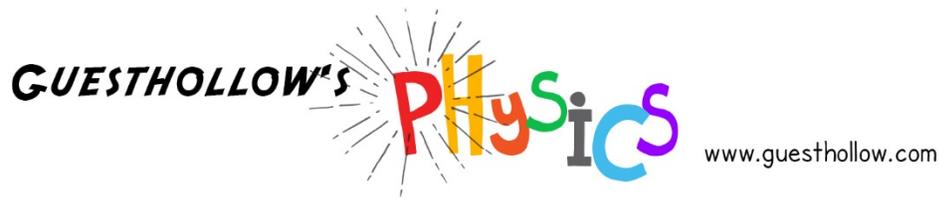
a. The floating cube
b. The cube at the bottom of the tank

10. Who discovered mass?

Name: _____
Date: _____

_____ for reason and language?
_____ following information in your best handwriting.
Syllogism:
_____ have four legs; therefore, all cats have four legs.
_____ syllogism above, are all syllogisms valid conclusions? Yes No
_____ following information in your best handwriting.
_____ the argument:
_____ argues rejected Aristotle's idea of a hierarchy of knowledge.





Note to parents & teachers:

Don't feel like you MUST use the workbook pages. They were created for those of you who wish to assess your student's reading assignments and to help train students to look through a text for information. They are also designed to help students retain what they've read.

Use these materials with discretion. The idea is to help your student pay attention to some of the reading assignments, but NOT to bog him/her down with busy-work. The goal is to find the right balance, without killing the joy of reading. Every family and student is different! If your student balks at this type of assignment (because s/he is a reluctant reader or has special needs), you may want to skip these questions, or you may wish to use them during read-aloud sessions, to assess if your student is comprehending the material and/or paying attention.

This study guide does NOT cover every book. Please see the [books and materials page](#) to see which books are covered in the workbook:

<https://guesthollow.com/high-school-physics-book-and-resource-list/>

I recommend keeping completed workbook pages in a 3-ring binder.

You may wish to instruct students to look over the workbook pages BEFORE reading, so they know what to look for and will be able to more easily fill out the workbook pages as they read.

Write-in-answers don't have to be exact. Just make sure the written answers *mean* the same thing as what is typed in the answer sheet.

Please let me know if you find any mistakes! You can email me at: guesthollow@memorableplaces.com.

Please don't share this workbook with anyone else, unless you are using it for co-op purposes. If you are using this for a co-op, please encourage your students to purchase books and materials through our Guest Hollow links.

The answer key is at the end of this PDF file.

Happy homeschooling!

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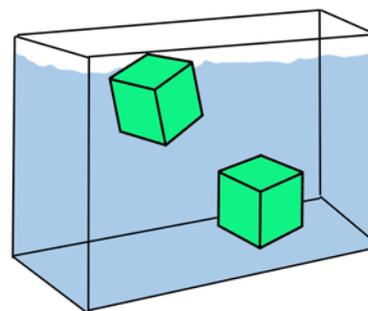
- True
- False

Basher Science: Physics

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10. Who discovered mass?

11. Mass tells you how much matter is in an object, while weight tells you _____

12. Which one of these things does an object have in space?

- a. mass
- b. weight

13. Why does oil float on top of water?

14. Which elements are the densest on earth?

- a. gold and iron
- b. iridium and zinc
- c. osmium and iridium
- d. palladium and indium

15. The formula for speed is: (the symbol / means divided by)

- a. time / distance
- b. distance / time
- c. speed / distance
- d. distance / speed

16. Acceleration is a force.

True

False

Video Questions:

17. On the moon, which will hit the ground first, when dropped?

- a. feather
- b. hammer
- c. both will hit at the same time

Name: _____
Date: _____



Aristotle: A Graphic Guide

1. What is the Greek word for reason and language? _____

2. Copywork: Copy the following information in your best handwriting.

This is an example of a syllogism:
All cats are animals; all cats have four legs; therefore, all animals have four legs.

3. Based on the example of a syllogism above, are all syllogisms valid conclusions? Yes No

4. Copywork: Copy the following information in your best handwriting.

This is an example of an inductive argument:

- 1. Max is a dog.
- 2. Most dogs eat meat.
- 3. Max eats meat.

5. Christian theologians of the Middle Ages rejected Aristotle's idea of a hierarchy of knowledge.

True False

6. Aristotle believed that if you drop 2 balls of different weights at the same time, that the heavier ball will reach the ground sooner. Who disproved this idea nearly 2000 years later?

7. Aristotle believed the brain was a very important part of the human body with many functions.

True False

8. The Greek word for wisdom is _____.

The Greek word for love is _____.

Philosophy means love of _____.

9. Match the definitions to the answers:

monarchy
anarchy
aristocracy
democracy
oligarchy
plutocracy

a. aristos (best) kratia (rule of, power)
b. ploutous (wealth) kratia (rule of, power)
c. demos (the people) kratia (rule of, power)
d. an (without) arkhia (rule)
e. monos (alone) arkho (to rule)
f. oligoi (the few) arkho (to rule)

Basher Science: Physics

10. Force has to overcome:

- a. Newtons
- b. inertia
- c. gravity
- d. acceleration

11. Name 4 fundamental forces:

12. Inertia is measured in:

13. Objects pass their _____ to other objects when they collide.

- a. mass
- b. gravity
- c. momentum

14. What does friction generate in moving parts and electrical components?

15. The gravity of large galaxies can bend light.

True False

16. What do rockets use to escape the force of gravity?

- a. inertia
- b. the Grunfunkl theory of power
- c. flying reindeer
- d. acceleration

Zoom: How Everything Moves

CHAPTER 1

1. The sun and Earth are closer to the middle of the galaxy than to the edge.

True

False

2. Which astronomer found out that a bright elliptical blob in the constellation of Andromeda had billions of suns in it?

3. The space between us and other galaxies is:

- a. deflating
- b. inflating

4. The vacant space contained in an empty mayo jar has enough energy to

- a. boil away the Pacific Ocean in less than a second.
- b. propel a car for only two seconds
- c. fuel 50 rockets for eternity
- d. You said mayo and now I'm hungry.

5. If we could travel at light speed we would be able to reach the farthest visible galaxies.

True

False

6. Who was the first person to say the sun is in the center of our solar system?

7. Which student in ancient Greece said that everything is composed of small particles called atoms?

CHAPTER 2

1. Human hair grows about how many inches a year?

- a. 12
- b. 3
- c. 6
- d. 5

2. Nails grow faster in which season?

3. How many floating landmasses are there (that we know about)?

4. At what temperature do atoms stop moving?

5. When atomic motion stops, matter loses resistance to what?

6. Viscosity is a liquid's (or gas's)

- a. weight
- b. mass
- c. thickness

CHAPTER 3

1. The poles are shifting

True

False

2. Who came within 700 miles of the North Pole in 1607?

3. What is an event that can cause a geographic pole shift?

4. Which generates a stronger magnetic field:

- a. a refrigerator
- b. the Earth's center

5. How far away is the North Magnetic Pole from the pole of rotation?

CHAPTER 4

1. Where is the driest place on earth?

2. Which mountain range causes the dry conditions in the Atacama?

3. An atomic clock is what type of chamber?

4. How many seconds makes up one day?

5. Twilight in the tropics is longer than anywhere else on earth.

- True
- False

6. What gives most locations on earth 7 minutes of extra sunlight each day?

7. Light travels more slowly through colder air.

- True
- False

CHAPTER 5

1. A heavy man weighs a pound more in Quito (a city in Ecuador on the equator) than in Fairbanks, Alaska.

- True
- False

2. Water will go down a toilet in different directions, depending on which hemisphere you live.

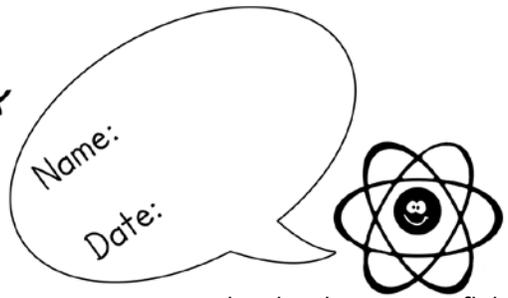
- True
- False

3. Hurricanes always form within 350 miles of the equator.

- True
- False

4. What force explains why winds in most of the U.S. blow from the west?

5. Who made the first accurate determination of the speed of light?



Aristotle: A Graphic Guide

- Which word goes with techne?
 - politics
 - wisdom
 - craft
 - computers
 - I have no idea, so I'm going to get this question wrong.
- Rhetoric is:
 - the art of crafting music
 - politics
 - keeping quiet during a conversation
 - the art of persuasive speaking or writing

3. Arabic scholars took Aristotle's work to

4. Which Dominican priest used Aristotle's work to explain nature?

ZOOM
CHAPTER 6

- Does ice thicken quickly or gradually?
 quickly gradually
- A single molecule can't freeze.
 True False
- What is the most common snowflake "starter"?
 - sand
 - dust
 - germs
 - silver iodide

4. How many water molecules does a snowflake contain?

5. Snow typically falls at:

- 3 mph
- 10 mph

6. What is solar wind?

- aurora
- broken atom fragments leaked from the sun
- a magnetic field pushed out from the sun

7. What type of ejections from the sun can cause damage to our electrical grid?

CHAPTER 7

1. About how fast does a chipmunk's heart beat during hibernation?

2. What is the one place on earth that mosquitoes don't live?

3. What insect can travel at about 40 mpg?
