# Name:

Date:

Period:

Density and Structure Study Guide

# (2 points)I have studied and gone over this study guide with my student for at least 15 min.

Parent Signature

**Density**

1. What is density? Give at least two definitions.

# What is the equation used to find density?

# Which two instruments/tools do you need in order to find the density of an object?

# What is the unit for measuring density?

# If an object has a mass of 15 g and a volume of 3 mL, what is its density? **Include the units.**

1. If an object has a mass of 5 kg and a volume of 500 cm3 what is its density? **Include the units.**

# What is the density of water?

1. Why do things sink or float?
2. Why does an egg sink in water and float in salt water?
3. Are heavier things always denser than lighter things?

# Would slicing an object in half change its density? **Explain.**

# How does temperature affect the density of an object?

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# Why does hot air/water rise?

# What substance is the exception to the fact that things contract/get more dense when they freeze?

# **Density and Sorting**

1. Which two things affect how substances in streambeds, lakes, beaches etc. naturally sort themselves?

# If you were to put a scoop full of gravel, sand, and topsoil into an empty jar and shake it for a while, where would you expect things to end up?

# If you were to put a scoop full of gravel, sand, and topsoil into a jar of water and shake it up, where would things land?

# How could you possibly predict where a solid object would land if it were dropped into a density column?

# **Studying the Earth**

# What does it mean to say that we must use “indirect observation” to know what the interior of the Earth is like?

# Name at least two things that help scientists infer what the interior of the Earth is like.

# How can volcanoes help us know what the Earth’s interior is like?

# Name three things that increase as you travel toward the center of the Earth.

#  **Earth’s Layers**

1. What are the seven layers of the earth from least dense to most dense?

# Which layers of the earth are completely solid?

# Which specific layer of the Earth is plastic?

# Which layer of the Earth is liquid?

# Why is the outer core a liquid?

# Why is the inner core solid even though it is the hottest?

# Why is the core of the earth made of iron and nickel and not materials like aluminum and silicon?

# Why is the bottom of the mantle solid and not plastic?

# What does it mean to say that a layer of the earth is plastic?

# Which layer of the Earth is thickest? Thinnest?

# If the Earth has mountains, canyons, hills, etc. why does it appear so round from outer space?