



Science Home Learning Task

Year 9

The Earth

Name _____

Tutor Group _____

Teacher _____

Given out: Monday 10 February Hand in: Monday 24 February

Parent/Carer Comment

Staff Comment

Target



Investigating science

Welcome to your Science homework booklet. This booklet is designed to give you some extra practise on the key areas in “The Earth” section of the course.

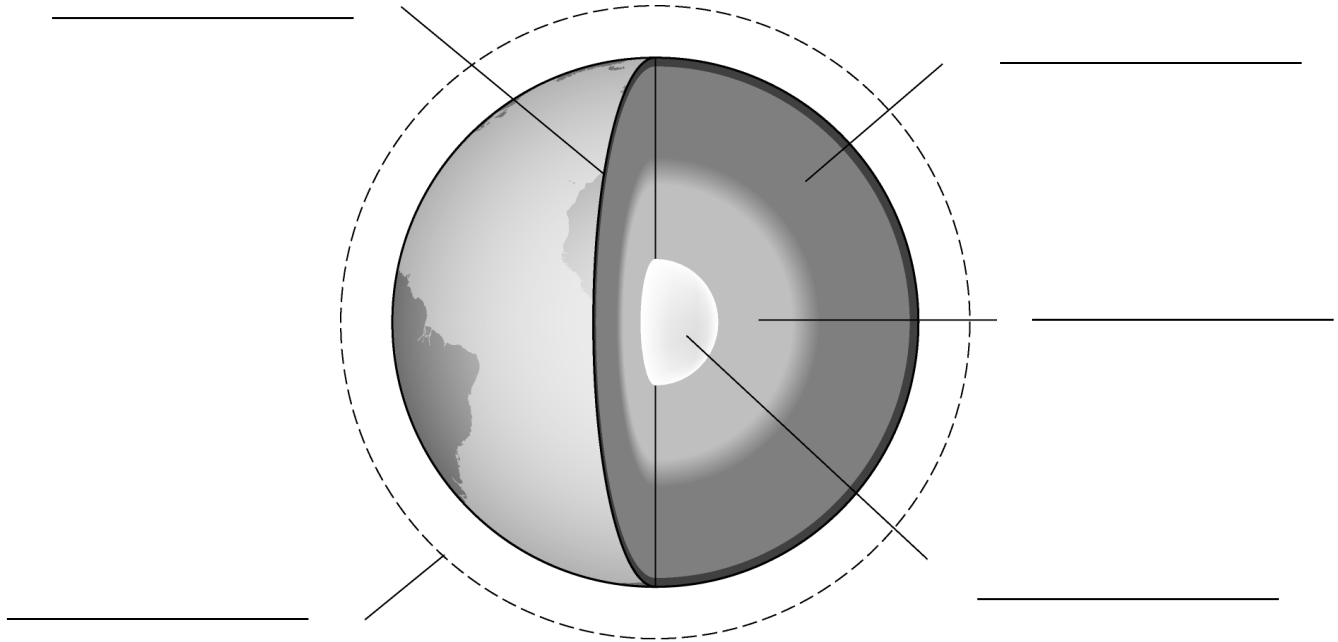
You need to carry out tasks **1, 2, and 3**.

Don't forget to ask a parent/carer to sign the box on the front.

TASK 1- The Earth and its atmosphere

The diagram below shows the different layers of the **Earth**.

1. Label the diagram using the words in the box below.



Inner core	Atmosphere	Crust	Outer core	Mantle
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2. a) Which layer of the Earth contains most of the resources that we use? Use the words in the box above to help you.

b) Which layer of the **Earth** contains a mixture of gases and has a part called the **troposphere**? Use the words in the box above to help you.

c) Which layer of the Earth is made mostly of solid rock but can flow? Use the words in the box above to help you.

3. Draw lines to connect the layer of the Earth to the correct information about that layer.

Outer core	Outer layer of the Earth. Between 8 and 40km thick
Mantle	Makes up part of the core. Is liquid
Inner core	Made of solid rock but can flow. Contains magma
Atmosphere	Solid. Mainly contains iron and nickel
Crust	Contains the troposphere that is 10km thick

4. Our atmosphere is made of several gases, the most common gases being **oxygen**, **carbon dioxide**, **nitrogen** and **argon**. Match each of these 4 gases with the percentage of it in our atmosphere. Use the percentages in the box below.

Oxygen _____
Carbon dioxide _____
Nitrogen _____
Argon _____

0.04%	21%	1%	78%
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TASK 2 – Rocks

1. Scientists classify **rocks** into three groups.
- a) Write down the names of these **three** rock groups.

- b) Each **rock** type has different properties. The table below lists some of these properties. Write the type of **rock** that each statement is describing in the right hand column. **Be careful – some statements may describe more than one rock type.**

Description	Rock type(s)
Soft and easily scratched	
An example is marble	
Contains crystals	
Porous	
Hard and durable	
Contains layers	
Non-porous	
Made up of separate grains	
An example is sandstone	
Reacts with acids	
An example is granite	

2. The three types of rocks are formed in very different ways. Write down how each rock type is formed.

a) **Rock type 1:** _____

Formed by:

b) **Rock type 2:** _____

Formed by:

c) **Rock type 3:** _____

Formed by:

TASK 2 continued

3. All types of rocks can be broken up by **weathering**. There are 3 different types of weathering : **physical (freeze-thaw)**, **chemical** and **biological** weathering. Write down how each type of weathering happens.

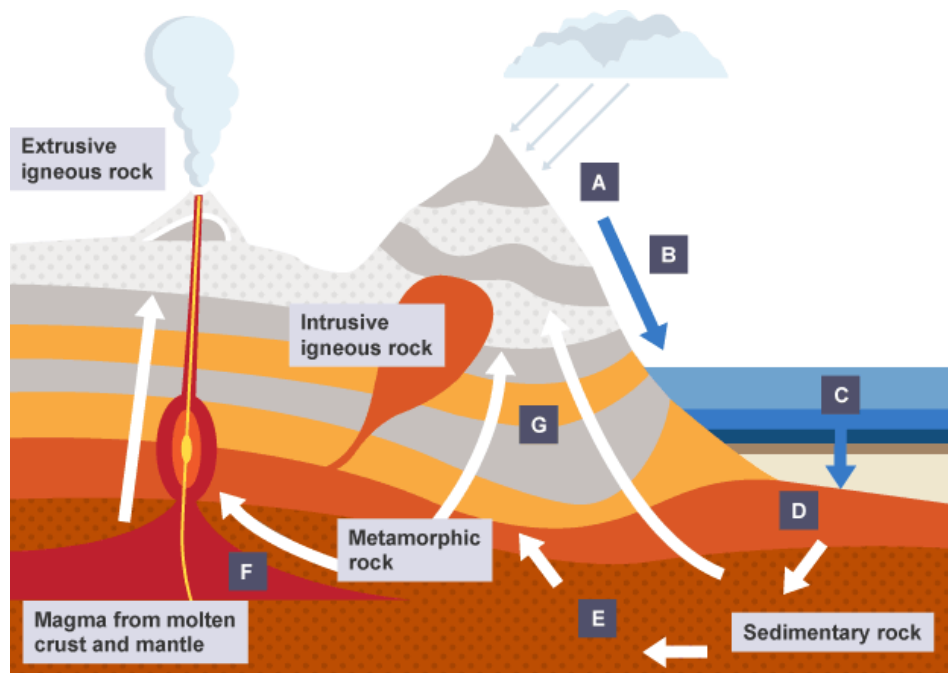
a) **Physical weathering (freeze-thaw):-**

b) **Chemical weathering:-**

c) **Biological weathering:-**

TASK 3 – The rock cycle

The picture below shows the **rock cycle** – how rocks are formed and materials are recycled.



a) Use the labels in the box below to identify the processes shown at A – G in the above diagram.

Deposition	Uplift	High temperature and pressure
Melting	Weathering	Transport
Cementation/compaction		

A _____

B _____

C _____

D _____

E _____

F _____

G _____

b) Rock cycle wordsearch. Solve the clues and then find the answers in the grid below.

S Q B J J C C N O I T A T C A P M O C B S N F E I
 M D O Z Z E K G S T O L C X A F L U C J L Z F I G
 R W K B F M M D S S H E V W E U G K H N A A Y Z N
 D W Z P R E S S U R E I H U L S S H E Z R B Y V E
 L A B Y D N T Q L Y M H C A H E O N M U E H O M O
 T R G I T T A Q N T X N C U D W I G I W N K E E U
 A D N V S A L C H T F I O I H S I E C W I F C A S
 O O I V E T O E J H G B M W C X V F A I M U P N T
 U T R I D I G V P O A E A N E I I T L N E Y P S M
 L H E Q I O V P L S N R O S S D E P O S I T I O N
 Q X H A M N K O N T O I F U G W M C M M C Q U W D
 Z U T T E R I H A F S Z R Y A O E V I S U R T N I
 Q S A G N B G R P O H T R P H Y S I C A L D V X J
 S J E L T E Y V R O X V Q L Z P F S H N Y H L Y W
 C R W C J G K E A E K G X C I H P R O M A T E M T

Clues

1. Small pieces of rock _____
2. Rocks settle in layers and get squashed together _____
3. Small rock pieces stick together _____
4. Needed to melt rocks _____
5. Needed to crush rocks _____
6. Type of rock made by melting and cooling _____
7. Type of rock made by heat and pressure _____
8. Type of rock made by smaller pieces of rock _____

9. The weathering and transport of sediments _____
10. Breaking rock down into smaller pieces _____
11. Breaking down of rock by living organisms _____
12. Breaking down of rocks by acid _____
13. Breaking down of rocks by changes in temperature _____
14. When sediments settle in one place _____
15. Rocks cooled slowly _____
16. Rocks cooled quickly _____