

# Raw and Synthetic Materials

YEAR THREE

AUTUMN 2



# LESSON THREE

*How can synthetic materials be made from raw materials?*



### Do Now – Retrieval practice

- 1) **What is a synthetic material?** A synthetic material is made from a r\_\_\_\_\_ material that has been ch\_\_\_\_\_.
- 2) **What are some examples of synthetic materials?** Some examples of synthetic materials are p\_\_\_\_\_, p\_\_\_\_\_, g\_\_\_\_\_ and b\_\_\_\_\_.
- 3) **Match up each synthetic material with the raw material that it is made from:**

Plastic

Sand

Paper

Clay

Glass

Wood

Brick

Oil, natural gas or coal

***From last half term:***

***Match to the correct definition***

Independent variable ...

...the thing you observe to see  
how it is affected

Dependent variable ...

... the things you have to keep  
the same to make  
sure it is a fair test.

Control variables...

... the thing that you change



**How many objects can you think of that are made from the material glass?**

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_



Watch the video to show how glass is made from sand

HOW GLASS IS MADE





## Read about changing raw materials

Last lesson, we learned that synthetic materials are made from raw materials that have been changed by humans to make a new material. Examples of how this change takes place can involve heating, mixing with other raw materials and reacting with chemicals.



**What are 3 examples of how raw materials can be changed to synthetic materials?**

**1) H\_\_\_\_\_**

**2) M\_\_\_\_\_ with other raw materials**

**3) R\_\_\_\_\_ with  
ch\_\_\_\_\_**





## Read about making glass

Glass is a synthetic material that is made with sand. First, the sand is often mixed with some other raw materials before it is heated to a very high temperature. The

temperature is so hot that the sand becomes a liquid.

This liquid can then be pushed and knocked into whatever shape is needed. When the liquid glass cools down, it becomes a solid glass object that stays in the required shape – you will have made glass!



**What happens to the sand to make it into glass?**

**First, sand can be m\_\_\_\_\_ with some other materials.**

**Then, the mixture is h\_\_\_\_\_ until it gets very hot and becomes a liquid.**

**The liquid glass is pushed or knocked into the right sh\_\_\_\_\_.**

**Finally, the liquid c\_\_\_\_\_ down to become solid**



**Watch the video to show how glass can be made into different shapes**





## Why is glass used in each of the following cases?

Add each of the properties of glass into the right box below

- Transparent
- Strong
- Will stay in the same shape
- It be made into lots of shapes

What glass is used for?	Which properties make it good for this use?
Windows	
Glasses to drink from	
Decorations and jewellery	
Glasses to help people to see better	



Look at the examples of sand and of glass. How can you describe their properties?

Properties of sand (raw material)



- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

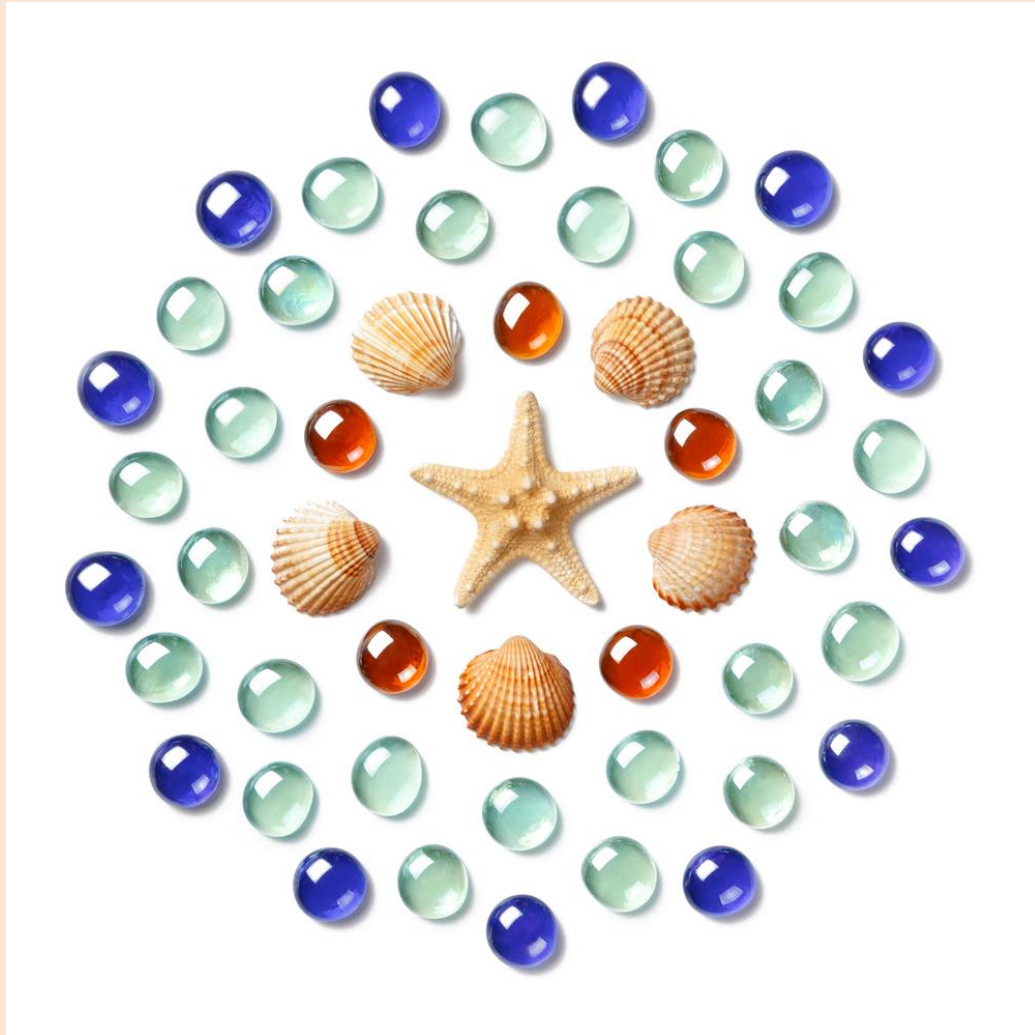
Properties of glass (synthetic material)



- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_



**Why do you think glass was invented? What was it first used for?**





**Return to page 3 to complete the learning review.**

**Answer the following question in a couple of sentences:**

*How can synthetic materials be made from raw materials?*

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