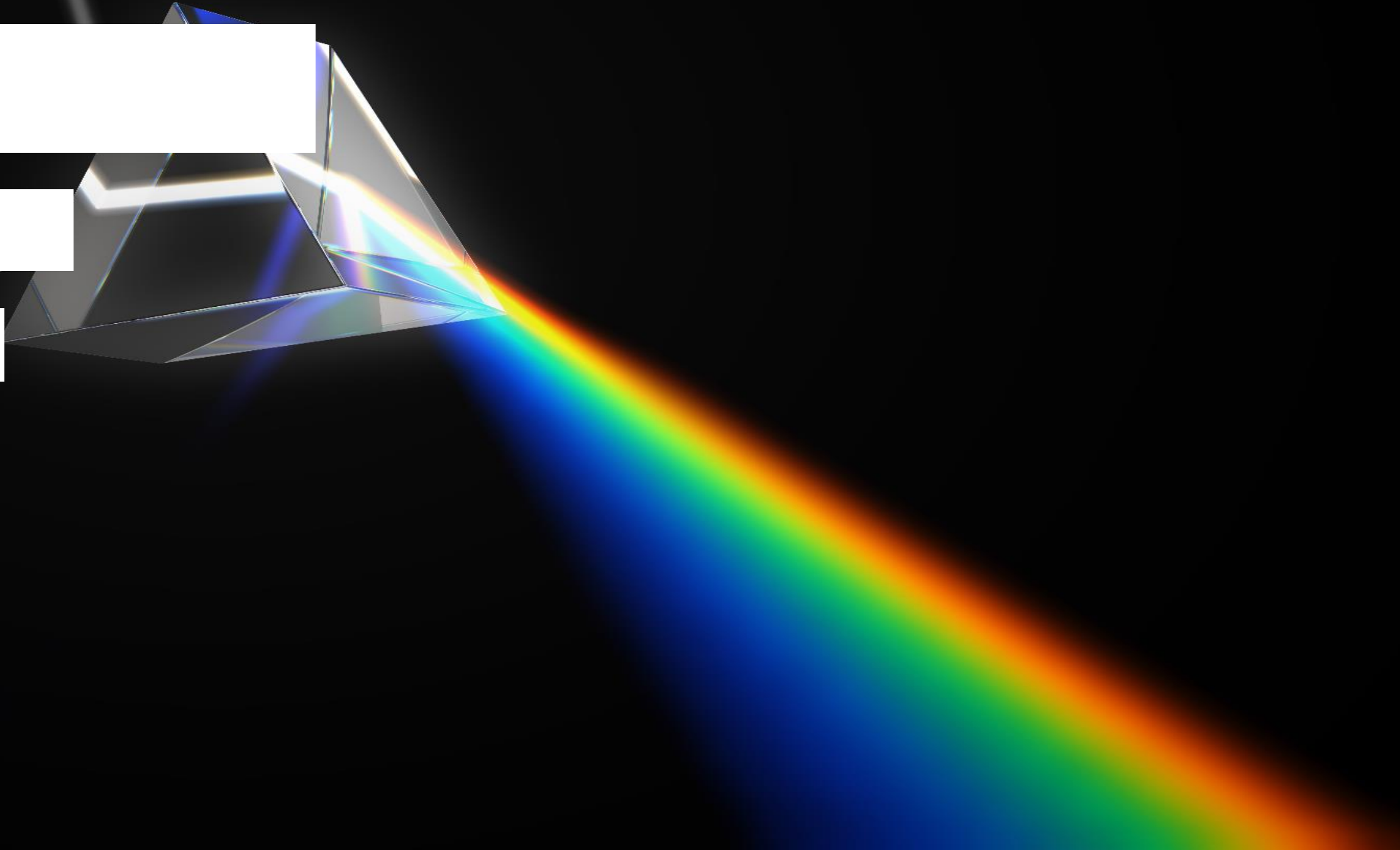


Light

YEAR 3

Summer 1



LESSON 2

What is reflection and how can we use it?



Do Now – retrieval practice

1. Name 3 things that are sources of light:

2. Define the following words:

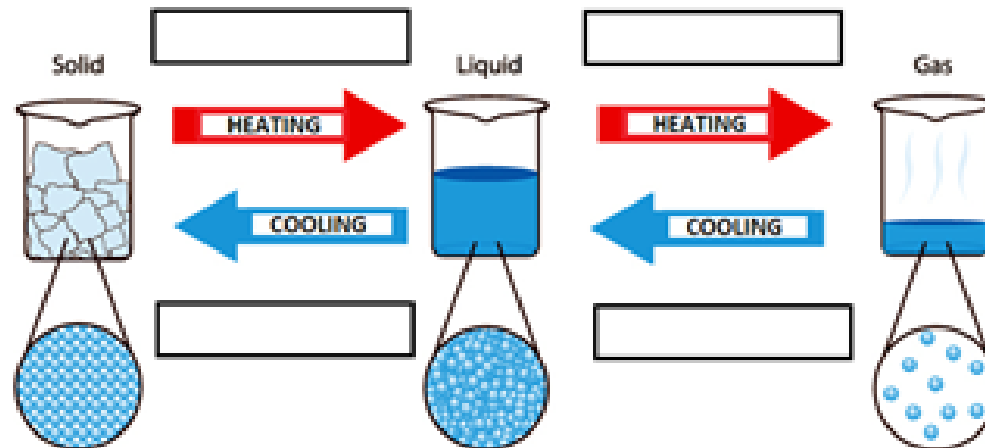
a) A **transparent** object is one that _____

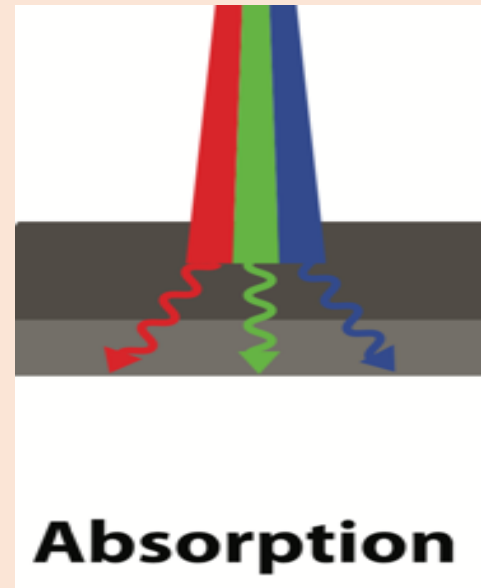
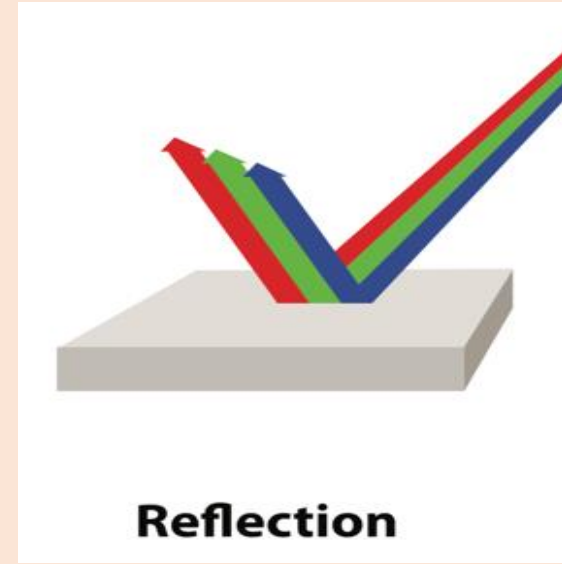
b) A **translucent** object is one that _____

c) An **opaque** object is one that _____

From a previous cycle- place the correct word in the correct box:

Freezing | Melting | Boiling | Condensing





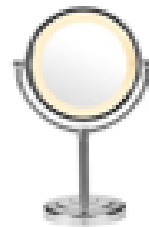


Review your knowledge of reflective materials by reading the following passage:

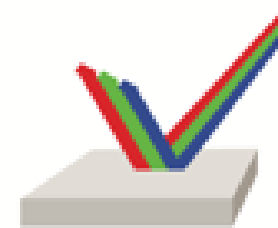
When light from an object is reflected by a surface, it changes direction. It bounces off the surface at the same angle as it hits it.

Smooth, shiny surfaces such as mirrors and polished metals reflect light well. We call these kinds of materials reflective materials.

Dull and dark surfaces such as dark fabrics do not reflect light well. These materials are not reflective. When light hits a dark or dull material that is not reflective some of the

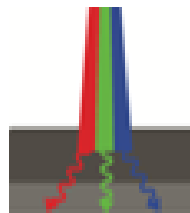


light still bounces off the object (which enables us to see it) but most of the light is absorbed (taken in) by the material.



Reflection

Reflection is used any time a mirror is required. This can be both for someone to see themselves but is also helpful to see around corners (as in a periscope – we will learn about these later) or behind you (as in a rear-view mirror in a car).



Absorption



Match the type of surface with the description:

Type of surface

Properties of material

Reflective

Dull, dark surfaces

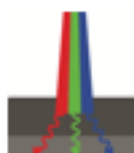
Non reflective

Smooth, shiny surfaces

Type of surface

Diagram to show how light is reflected

Reflective



Absorption

Non reflective



Reflection

Type of surface

How light is reflected

Reflective

Reflects light well. Most of the light that hits the surface bounces off

Non reflective

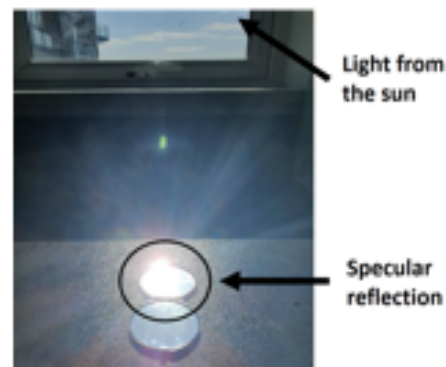
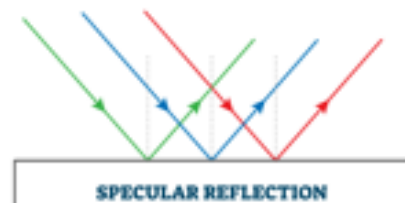
Do not reflect light well. Some light bounces off the object but most of the light is absorbed.



Read the following passage about reflection

We learned in the first lesson that light travels in straight lines. We also learned that light can bounce off objects when it hits them. There are two types of reflection – **specular reflection** and **diffuse reflection**.

When specular reflection takes place, light bounces off a surface like this:



Because the surface is very flat, all the light bounces off in the same direction. Therefore **specular reflection** takes place when all light bounces off in the same direction. This is what happens when light bounces off a mirror or the surface of a puddle.



What is specular reflection?

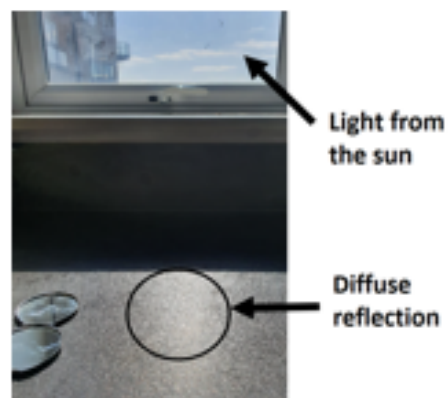
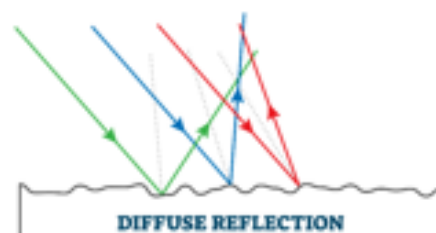


What kind of surfaces cause specular reflection?




Give two examples of surfaces that cause specular reflection:

However, when the surface is not smooth, **diffuse reflection** takes place as shown in the diagram below:



Because the surface is rough, the light bounces off in lots of different directions. Therefore **diffuse reflection takes place when bounces off a surface in many different directions.** This is what happens when light bounces off most surfaces such as walls, tables and paper.

 **What is specular reflection?**

 **What kind of surfaces cause specular reflection?**

 **Give two examples of surfaces that cause specular reflection:**

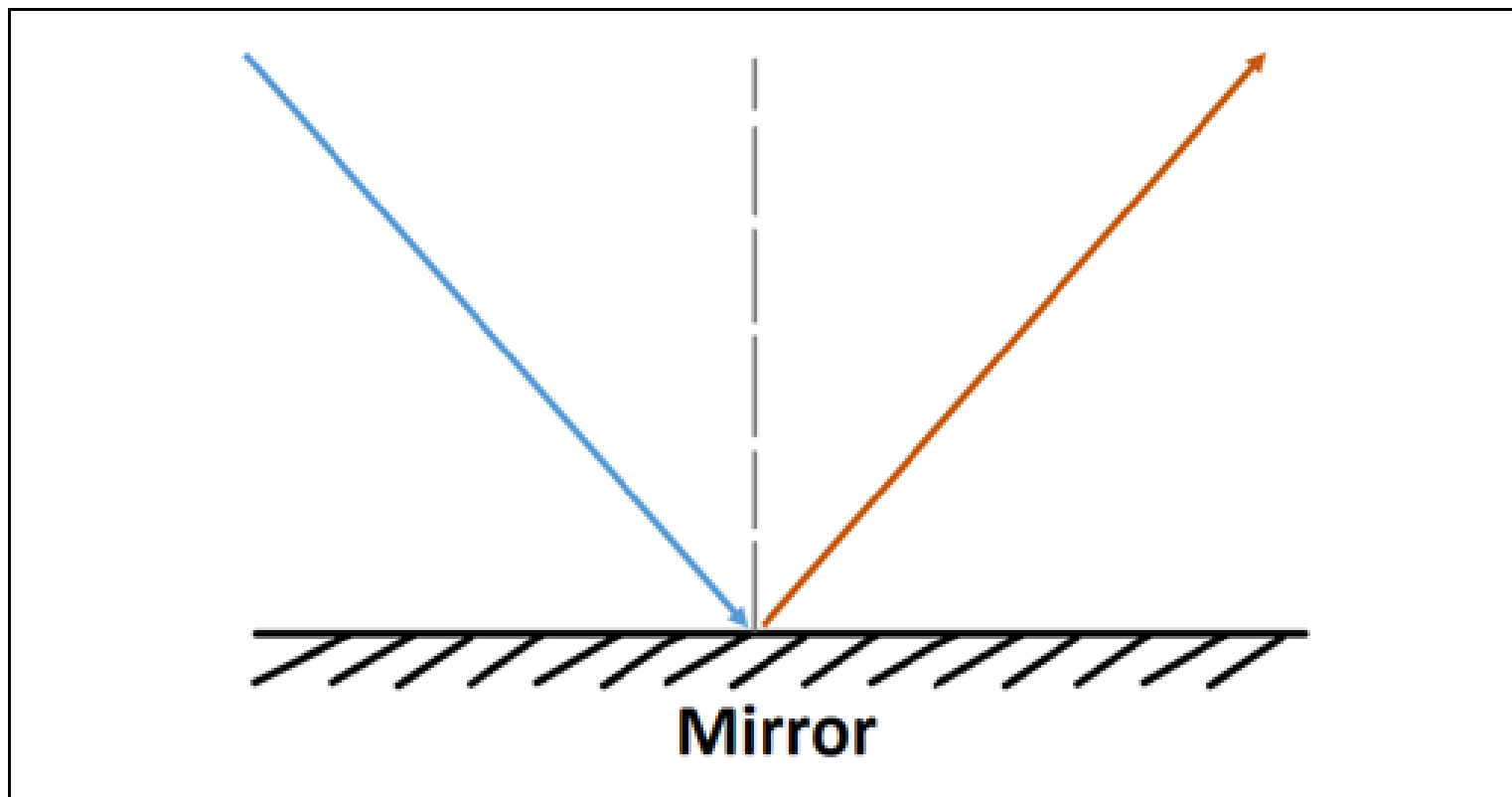


Watch the demonstration of specular and diffuse reflection by your teacher



Watch the video and label the diagram below with the help of your teacher:

<https://www.youtube.com/watch?v=vt-SG7Pn8UU>



Fill in the rule about reflection below:

"The angle of _____ is always equal to the angle of _____"

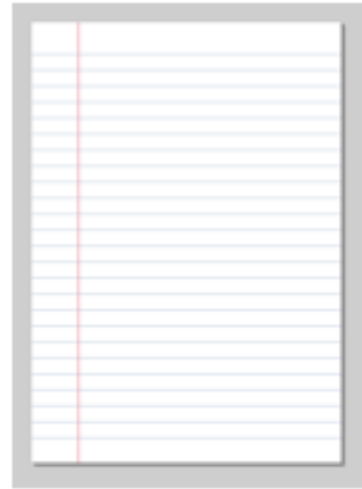


Which type of reflection takes place in each of the examples below:

1. Bathroom mirror:



2. On a piece of paper:



3. From the surface of a table:



4. The surface of a pond:





Why is it difficult to see your reflection in a mirror when it is very dirty?



Return to page 3 to complete the learning review.