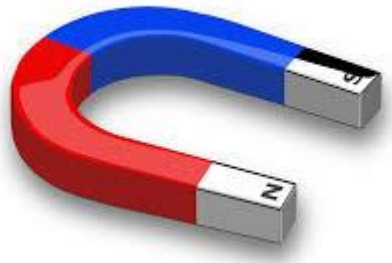
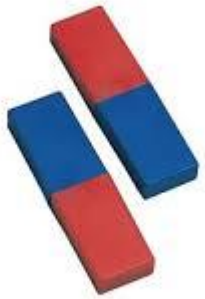
Tuesday 12th January 2021

Please note - this is a lesson we did not cover last term. We will begin a new Science topic next week.

Can I understand non-contact forces? (Part one)

Can I explain what magnets are? (Part two)





Write the date and title neatly in your home learning book

What forces are in action in this picture?

What is moving?	Why is it moving?	What is in contact to create movement?

Remember a force causes something to move.

It can be a push or a pull.

The skateboard (and therefore the woman on the skateboard) are being pulled along by the dog. In order for the force to create movement there has to be contact between the objects. The woman is standing on the skateboard, holding a lead that is attached to the dog. This allows the pull force to create movement. If the woman and the dog weren't connected, the skateboard wouldn't be moving.

For the first part of your Science lesson today, I would like you to use this video from the Oak Academy website. The teacher will take you through a lesson on what non-contact forces are. There are tasks to complete as you go along so make sure you pause the video and complete the tasks neatly in your home learning book. Click on the link below.

https://classroom.thenational.academy/lessons/what-are-non-contact-forces-6grk4d

I have added a few additional resources on the next few slides for you to use. These can be printed off and stuck in your home learning book or you can write them out instead.

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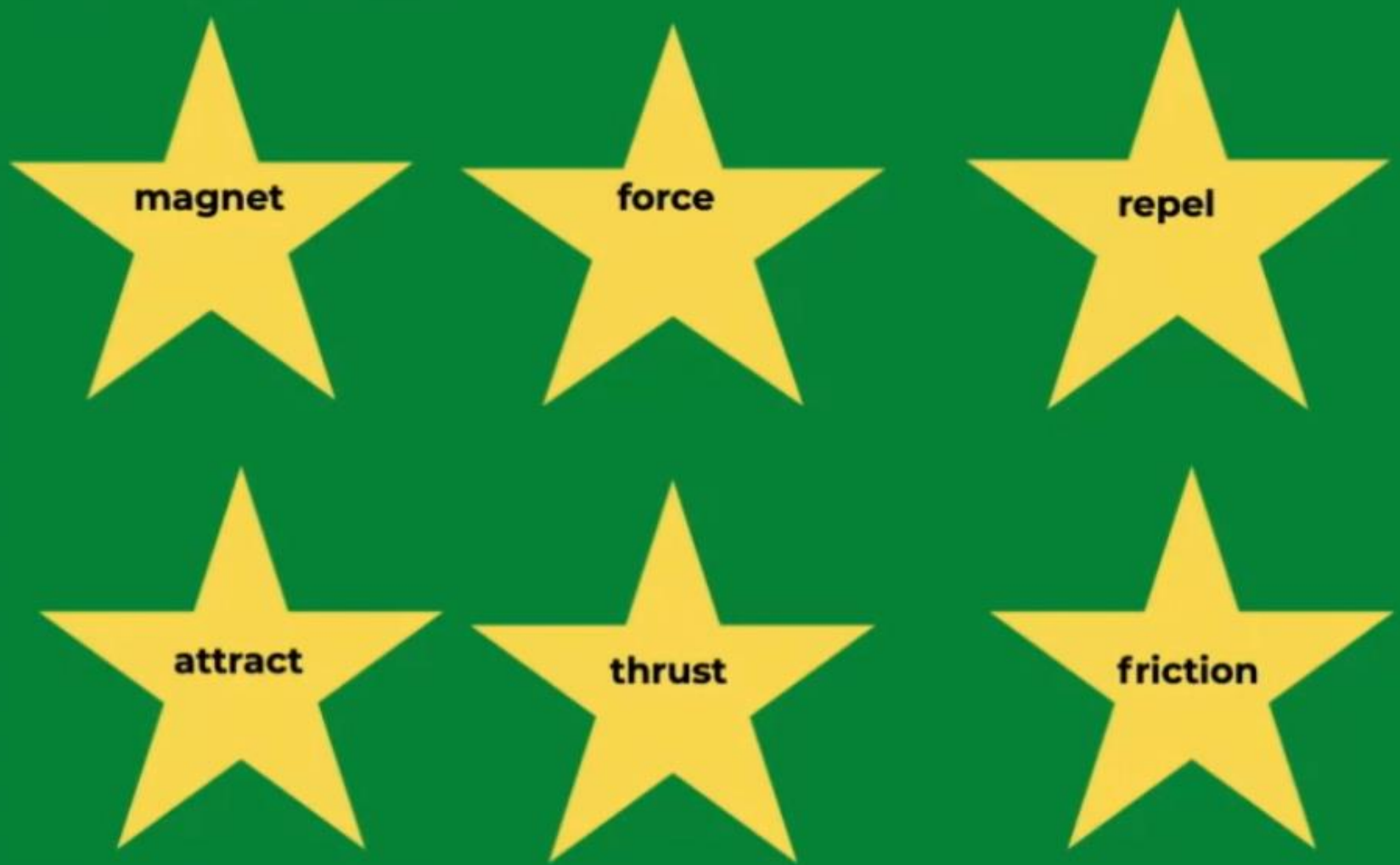


TASK

1. When do contact forces act?
2. When does upthrust act?
3. Name four contact force examples.

TASK

1. Name 2 examples of non-contact forces
2. What words do we use for each of the following:

   A_____ = pull together

   R_____= push away from each other

3. How is a thrust force created?

Contact forces	Non-contact forces
• _____ • _____ • _____	• _____ • _____

Gravitational force **Friction**

Magnetic force **Upthrust** **Air resistance**

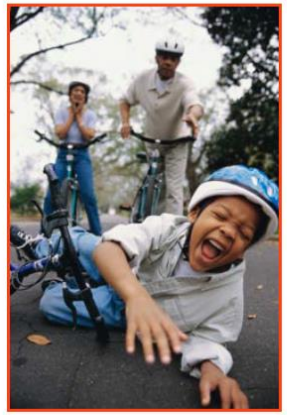
For the second part of your Science today, you are going to be thinking about magnets. Look at the next few slides before you begin the second lesson.

Can you think of any forces that do not need contact to make things move?

Some forces, such as gravity, do not need contact between two objects to make things move. Gravity is a force that pulls everything towards the centre of the Earth. Without gravity, everything would be weightless.

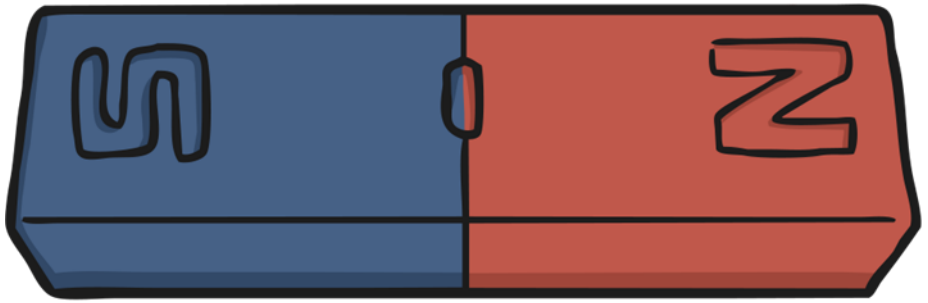
Gravity is what makes fruits fall from trees.

Gravity is what makes rain fall from the clouds.

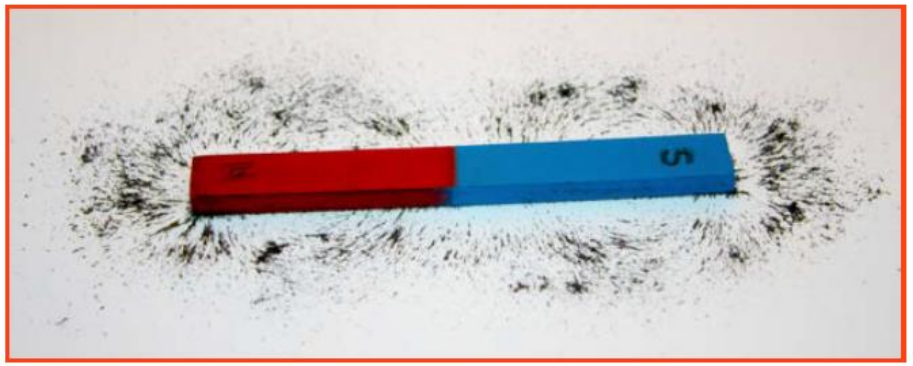


Gravity is what makes you fall downwards.

Another force that doesn't need contact between objects to make things move is magnetism. Magnets are rocks or pieces of metal that have a magnetic field around them. This means they can pull objects towards them or push objects away from them without having to make contact with the other object.



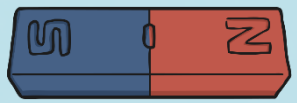
You can't usually see the force around a magnet but if you drop iron filings around one, you can see the magnetic field.



Why do magnets have two different ends?

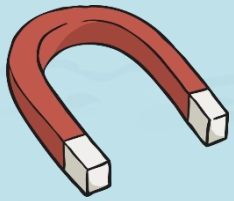
Different Magnets

There are lots of different types of magnets:



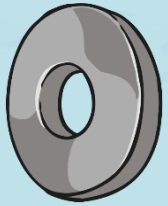
Bar magnet

Cylindrical magnet

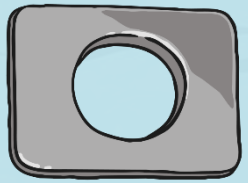


Horseshoe magnet

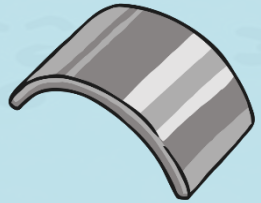
Button magnet



Ring magnet



Square magnet



Arc/crescent magnet

Now click on the link below which will take you to your second Science lesson today.

https://classroom.thenational.academy/lessons/what-are-magnets-cgvkee?step=2&activity=video

I have added some extra resources for you to use. You can print them out and stick them in your home learning book or you can write them our instead.

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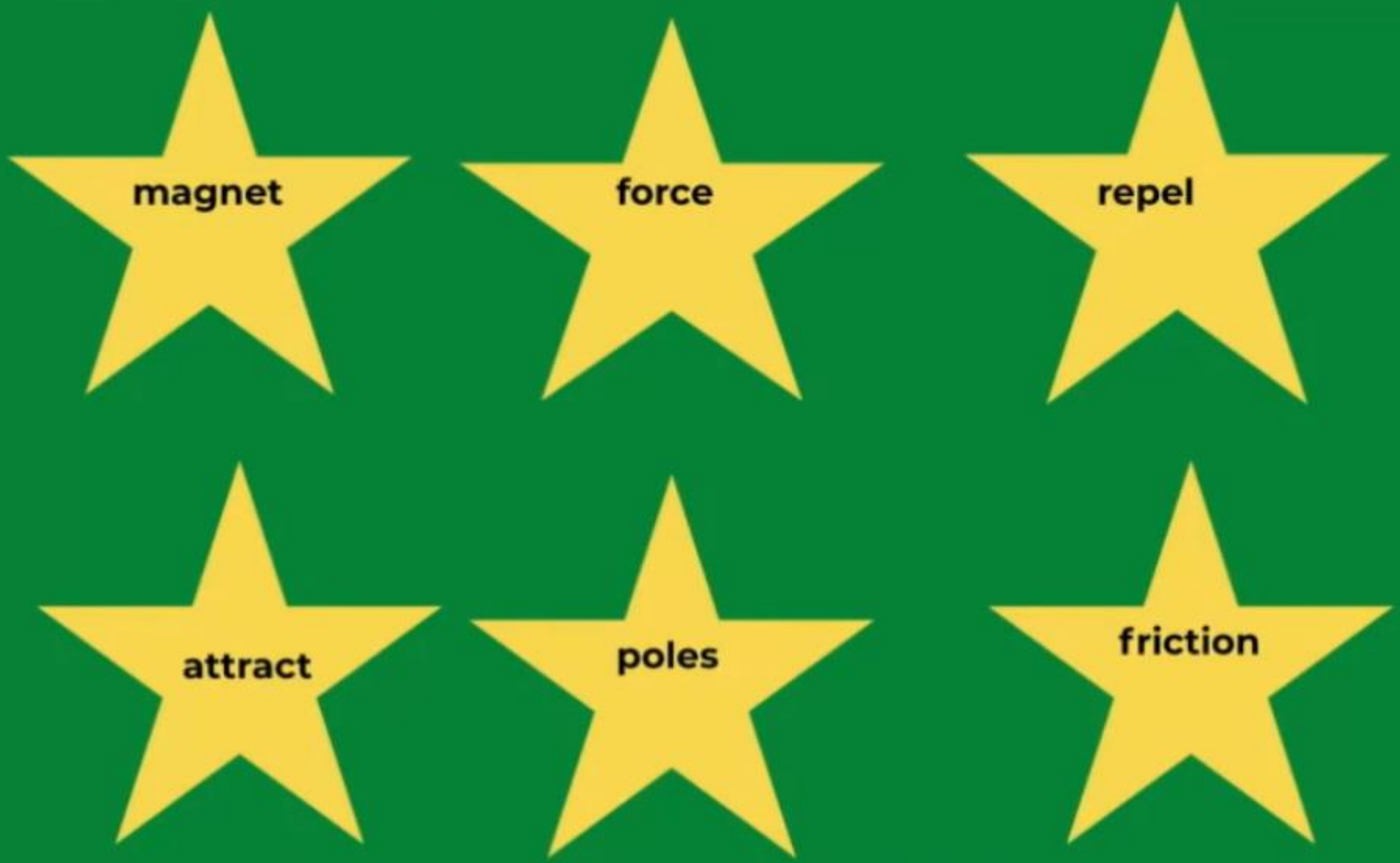

TASK

1. Magnets are objects that a_____ or r_____ other magnetic objects or materials.
2. What were the first known magnetic objects called?
3. What do you call the two sides of a magnet?
4. Give two examples of materials that are magnetic.

Investigation

Objects	What happened?
N and S	
S and N	
S and S	
N and N	
Safety pins	

Conclusion

When two of the **same side** of a magnet are brought together, they _____.

When two **different sides** of a magnet are brought together, they _____.

Findings

When we used one magnet, we found that _____ safety pins stuck to the bottom of the magnet.

When we used two magnets, we found that _____ safety pins stuck to the bottom of the lower magnet.

Conclusion

We found that...

The evidence for this is...

I think the reason this happened is because...