

Hook:

Discover the Iron Man in the classroom



Mighty Metals

Focus: Science / Music



Knowledge:

- What is a force?
- How do objects move on different surfaces?
- What are magnets?
- Which materials will magnets attract?
- Do objects need to touch for forces to have effect?
- How many poles do magnets have and what are they called?
- What does compose mean?
- What are some metal instruments?
- What can I do to change the sound they make?

Learning Journey:

What is a force? Learn that forces are pushes and pulls that cause a change in speed, direction or shape. Push a door, pull a door, push a swing etc. Gravity is the force that keeps us on the ground and stops us floating away. There is less gravity on the moon which is why Astronauts float about and wear weighted suits to stop them flying away.

Visit the park. Push swings etc. and explore the forces acting on the equipment. Consider what would happen if you pushed someone on the swing and there was no gravity etc.

Learning Journey:

Experiment - compare how things move on different surfaces. Ramp with a car, different materials on the ramp. Children discover how the car moves differently and make scientific statements about why (less or more friction).

Learning Journey:

What is a magnet? Explore magnets to gain a basic understanding of what is happening and link to forces learning.

What happens when you put two magnets together? Which poles can meet?

Make predictions about what will be magnetic and why. Did the magnet need to be touching the object? Why? (weight) Experiment - test out different materials and whether they are magnetic or not. Were they right? What conclusions can they draw? (Only metals are magnetic and only some metals)

Learning Journey:

Music: Watch stomp. What is different or special about this performance? Look at the instruments we have in school and select metal instruments. Explore their sounds and how they make different noises depending on how you use them (e.g. different beaters, use of hands etc)

Explore the rest of the school / classroom. Do we have any objects that we could turn into our own metal musical instrument like in Stomp?

Vocabulary:

Forces	Attract
Push	Repel
Pull	
Friction	
Gravity	
North pole	
South pole	
Magnetic	
Magnetic metals: Iron, Nickel, Cobalt, Steel	
Compose	tambourine
Perform	chime bars
Cabasa	
Triangle	

Characteristic foci:

Respect / Well Being

Skills:

- asking relevant questions and using different types of scientific enquiries to answer them
- setting up simple practical enquiries, comparative and fair tests
- gathering, recording, classifying and presenting data in a variety of ways to help in answering questions
- reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- using straightforward scientific evidence to answer questions or to support their findings.
- Compose, practice and perform music as part of a team
- Name instruments

Curriculum Coverage:

- compare how things move on different surfaces
 - notice that some forces need contact between two objects, but magnetic forces can act at a distance
 - observe how magnets attract or repel each other and attract some materials and not others
 - compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials
 - describe magnets as having two poles
 - predict whether two magnets will attract or repel each other, depending on which poles are facing.
- play and perform in solo and ensemble contexts, using their voices and playing musical instruments with increasing accuracy, fluency, control and expression
- improvise and compose music for a range of purposes using the inter-related dimensions of music
- appreciate and understand a wide range of high-quality live and recorded music drawn from different traditions and from great composers and musicians

Learning Journey:

Compose, practice and perform a group musical production using solely metal instruments and objects. It might tell the story of the Iron man or be a piece of music of their own making.

Trip / Visitor:

Visit the park to look at forces on swings etc

Display Plan:

Ipad videos of children's performances
Photos of experiments and park visit

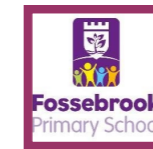
Outcome:

Perform composed music to another class or in assembly



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What do they already know?

Year 1

- What different materials are there?
- Can you describe...?
- What is this object made of...?
- Name a variety of everyday materials
- Which materials are waterproof?
- What materials can be found around the classroom/ school/ outside?
- What is a beat?
- What is a rhythm?
- What is an instrument?
- How can I play an instrument quieter or louder?
- What instruments can you name?
- Can we use our bodies as instruments?
- What sounds are high/low?
- How can we use instruments to represent, moods, feeling, events?

Year 2:

- What is a material?
- How many different materials can you name?
- What does the material need to have?
- What are the 4 categories that instruments are organised in to?
- What is a beat?
- What is a note?
- What is a rhythm?
- How can we make music using our body?
- What is an untuned instrument?
- What is a tuned instrument?
- What is the difference between live and recorded music?
- What is a conductor?
- What is a composer?

How will they remember it?

Recap prior learning from year 2 at the start of the topic

Recap that learning and learning from each lesson at the start of the next lesson

Mini quizzes / recap learning learnt so far on group posters or as a book exercise 'present how you want' choices

Use of learning line on display

Which resources will I need?

Metal musical instruments
Permission to visit the park
Ramp and materials for experiment
Magnets
Magnetic and non -magnetic objects
Stomp video

What do I need to know to be able to teach this?

Magnets and magnetic metals

<https://www.bbc.co.uk/bitesize/topics/zvr3nrd/articles/zpvcrdm>

Knowledge of forces

<https://www.bbc.co.uk/bitesize/topics/zvpp34j/articles/zywcrdm>

<https://www.bbc.co.uk/bitesize/topics/zn77hyc/articles/zptckqt>

<https://www.bbc.co.uk/bitesize/topics/z4brd2p/articles/zkcpfcw>

Setting up a fair test

Names of musical instrument