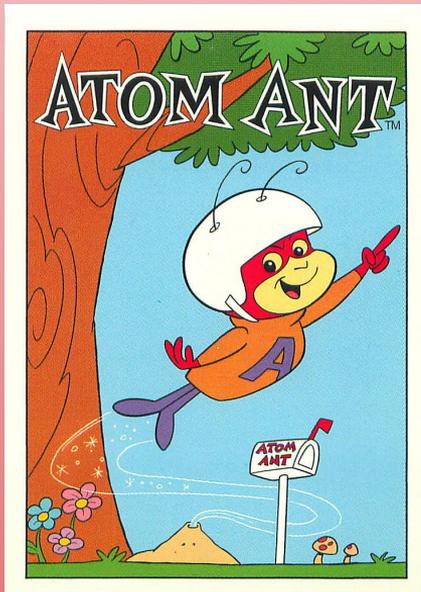


Independent Investigation – Reactions of the Chemical Kind



Reactions of the Chemical Kind

What do you think the following words mean?

Atom

Element

Molecule

Write down or describe what you think a chemical is.

- Why do we use chemicals?
- Describe how chemical could be useful.
- Describe how a chemical might be harmful.

Go through your cupboards at home and find a selection of products. Check out the information on the back and record all the different types of chemicals or compounds in the product.

You might be surprised at what you find.

Click on these links to find out more about chemicals.

Independent Investigation - Reaction of the Chemical Kind



Click on these links to find out more about chemical reactions.

What is a chemical reaction?

- What might happen in a chemical reaction?
- What might you see, hear, feel or smell?

To get you started, think about what happens when you bake a cake or use a battery.

Chemical reactions are around you everyday.

- Make a list of as many as you can think of?
- What are some of the benefits of chemical reactions?
- What might be some of the harmful effects of chemical reactions?

Independent Investigation - Reaction of the Chemical Kind



Create your own Chemical reactions.

Click on these links to find out how to explore chemical reactions.

- These experiments all have a common theme, what is it?
- How could the properties of these chemical reactions be useful?
- Design a product or device that uses these reactions.

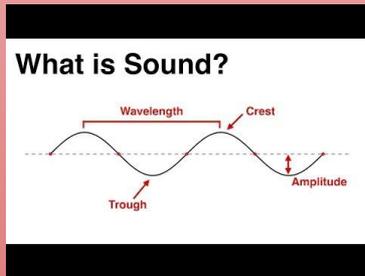
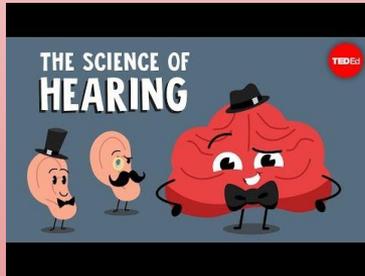
You will need adult supervision to perform these experiments.

If you don't have a thermometer you can use your hands to feel a difference in temperature.



Mr B's Favorite

Independent Investigation- Sound



Click on these links to explore more about sound and how we hear it.

What is sound?

- What do you think these words mean?



Amplitude
Frequency
Pitch
Trough
crest
Hertz
Decibels

- How do we hear sound?
- What makes sounds different?



Independent Investigation- Sound



Check out this video to explore how sounds moves through different media.

- Does sound travel faster through air, water or a solid? Explain your thinking.

Sit at a table and tap a pencil about 30 cm from your ear on the table surface. Listen to the sound it makes. Next, place your ear flat on the table a tap the pencil again on the table about 30 cm from your ear.

- What did your notice?
- Explain the reason for your different observations?
- Can sound travel around corners?

Connect a funnel to both ends of a garden hose. Have one person speak through the funnel and the other listen through the other funnel. Change roles. What did you notice. Move positions so one person is around a corner out of sight. Repeat the procedure. What did you observe?

Listen to road traffic next to your house (or other sounds). Move around a corner out of direct sight of the sound and listen carefully again. What did you notice?

- Can sound travel through outer space? Explain your thinking.

Independent Investigation- Sound

Can you feel sound? Explain your answer.

Check out these links for some cool experiments to try. What do these experiments tell you about sound?

[Radiohead](#)



[Secret Bells](#)



Can you see sound?

If you could, what would it look like?

Check out the experiment in this link.

You can do this at home.



What other things could you add to this experiment to expand your thinking?

Click on the links below to see some amazing experiments in visualising sound



Independent Investigation- Sound

Does cupping your hand around your ears help your hearing?



Click on this link to explore how to improve your hearing.

<https://www.exploratorium.edu/snacks/designer-ears>

Create a new type of ear/fashion accessory to enhance your hearing. Take a photo and share it with your teacher.



Click on this link to try an experiment on stereo sound.

<https://www.exploratorium.edu/snacks/stereo-sound>

How good is your hearing?

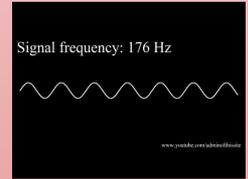
Click on this link to find your hearing range.

- You can test other members of your family.

Create a table to record your results. One column should record the frequency where they cannot hear any sound and the other, their age.

Collect results from other class members and their family.

- Is there a relationship between hearing and age.
- Can you explain your results?



Create a large cone out of paper or cardboard. Cut a piece off the end so it can act as a mouthpiece. You now have a loudspeaker (or by turning it around) and a hearing enhancer. Use this device to see how much of a difference it makes in detecting sound and increasing the volume of your voice.

Use what you have learned to help you with the "improve your ears" experiment.