

**The Abominable Snowman**  
(for ages 3-7)  
Science from Puppetry



**Communication and language**

**EYFS NC Listening and attention:**

Children listen attentively in a range of situations. They listen to stories, accurately anticipating key events and respond to what they hear with relevant comments, questions or actions. They give their attention to what others say and respond appropriately, while engaged in another activity.

**Understanding the World:** states of matter

**EYFS NC The Natural World**

Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.

**Uses of Everyday Materials**

**NC KS2**

Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses

**Light and Shadows**

**NC Year 3**

Recognise that shadows are formed when the light from a light source is blocked by an opaque object

Find patterns in the way that the size of shadows change.



**Learn the words!**

For children to use and become familiar with the names of the materials around them – water, ice, snow, sleet, slush, hail – you need to seize the opportunities to explore when the right weather arises. Watch it fall; feel it; bring some inside the classroom and watch what happens.

**Observing Closely : making snow!**

Making snow is a great activity for working out what the real properties of snow are.

- You could start by looking at images of snowflakes: <https://unsplash.com/s/photos/snowflake>
- Try cutting paper snowflakes. Is it cold? Can you cut them tiny enough to look real?
- Try using flour, foam or fake snow. Is any of it cold?
- Try grating ice to make slush (using a parmesan grater to avoid grating fingers or an actual slushy maker).
- Try chipping off the thick frost that gathers in a freezer.

Ask lots of questions as you explore the different types of snow:

- Does it feel like snow?
- Is it cold?
- Does it look like snow?
- Does it behave like snow?
- What would you like to try next?
- How could we make it more like snow?

### **Uses of Everyday Materials : exploring warm clothing**

How could the little girl stay warm in the mountains? What materials are best for keeping us warm?

- Try wrapping a hot water bottle in different materials. Can you keep it warm longer by wrapping it up?
- Which coat keeps it warm for the longest time: a fleece jacket, a woollen overcoat, a puffer jacket or a school blazer?
- Is there any other material that might work? Try bubble wrap, straw, pillows, curtain fabric, carpet etc. What kind of materials are good for keeping things warm?
- What about wrapping up the water bottle like fish and chips in layers of paper?

Ask lots of questions as you explore the materials:

- Do you think it will work?
- Why?
- Which do you think will be best?
- What do you want to try now?

### **Exploring Light and Shadows : make your own puppets!**

Making shadow puppets is a great way to explore the topic of light. One of the best ways to learn about the world is to explore it.

You might like to **start by looking at pieces of different materials.**

Gather as many as you can, e.g.:

Foil,

Card,

Tissue

Clear plastic



Coloured plastic  
Polystyrene  
Netting

Look through each material. What can you see?  
Hold a torch to each material – does it make a shadow?

The main learning point is that opaque materials block all of the light so the light cannot pass through to it to light up the space behind the material. So, a shadow is formed.

Then, make simple shadow puppets with some card and lolly sticks or kebab sticks. Draw a shape on the card – simple is best, cut it out and tape it to the stick. You might like to cut out a hole for an eye or create a coloured part by cutting out a hole and filling the space with a coloured plastic.

Notice the following things as you are making your puppets:

- The card is opaque – light won't go through it, so it creates a shadow.
- Some materials, such as clear plastic, are transparent – the light passes through them and only a very faint shadow is made.
- Some materials, such as tissue paper, make a pale shadow as they are translucent and allow some light to pass through.

**Children often have misconceptions.** These will become obvious as the children engage in these activities. **Listen out for them** and encourage them to keep trying things until they have worked out what is happening. Children are often surprised by the following things:

- It snows on days which are not Christmas Day!
- Snow is cold.
- Snow melts to water.
- It snows because it is cold not because it is winter – it can snow in spring and autumn too.
  
- Markings made in pen on the puppet don't show up in the shadow.
- To get a marking on the puppet you need to cut a hole.
- Coloured transparent materials make coloured shadows.
- Holding the puppet sideways, changes the shape of the shadow it makes.
- The shadow is only clear and crisp if the puppet is near the surface that the shadow is falling on.
- If there are multiple strong light sources in the room, you get multiple shadows – one from each light source.
- You only get a strong shadow if your puppet is held within the beam of strong light.

As you talk to the children, you might like to **ask these key questions:**

- What can you see?

- What are you wondering?
- What is happening?
- What do you think will happen?

**Other resources which might be useful:**

BBC bitesize video on snow

<https://www.bbc.co.uk/bitesize/clips/znhr92p>

Snow Science:

<https://www.bbc.co.uk/bitesize/articles/zvmfpg8>

<https://www.twinkl.co.uk/resource/cfe-sc-29-how-animals-keep-warm-in-winter-powerpoint>

**Free resources:**

<https://zone.recycledevon.org/wp-content/uploads/KS1-Textiles-Worksheet.pdf>

<https://www.acs.org/content/dam/acsorg/education/k-8/inquiry-in-action/kindergarten/k-1.5-keeping-warm-in-the-cold.pdf>

<https://www.bbc.co.uk/programmes/p0118n4j>

<https://www.youtube.com/watch?v=TnD89zA-qSA>