B4 ACTIVITY 1: TEABAG ROCKET

Background

Depending on the class, you may decide that this activity would work best as a teacher demonstration. If allowing the students to carry out the activity for themselves, be sure to demonstrate it first.

Hot or warm air rises because it is not as **dense** as cold air. When the top of the teabag is lit, the air within the cylindrical teabag heats and spreads out (more **kinetic energy**). As a result, the air in the teabag becomes less dense. This warm air then rises and the ash, and what remains in the teabag, are so light that the teabag takes off like a rocket.

Equipment required:

- One teabag (a similar shape to that shown in Figure 1
- Heatproof mat (or non-flammable surface)
- Matches or lighter
- Scissors
- Safety goggles

Figure 15

What to do:

1. Carefully remove the staple, string and tag from the teabag and empty out the tea.
2. Open out the teabag to its cylindrical shape.
3. Stand the cylinder on one end on a flat, non-flammable surface.
4. **Predict** what will happen when you light the top of the cylinder.
5. Light the top of the cylinder.

   ? ***What do you observe happening to the flame?***

   ? ***Is it what you predicted earlier?***

   ? ***What happens to the teabag itself?***

   ? ***Did you expect this?***

   ? ***Why did the teabag behave this way?***

Resources:

- A video of this activity is available from Science on Stage.
  Click here to view it in English.
  Click here to view it in Irish.