

Homework Term 4 Week 4


Due Wednesday 20th March 2024

10 minutes

Spellingshed - logins sent home to those who needed. Please ask if you are still unsure of yours.

How many games can you play in 10 minutes?

Spellings are now also on the website so please do practise these at home

1. ABC Order  Write all of your spelling words in alphabetical (ABC) order.	2. Word Parts Write your words. Then use a coloured pencil to divide the words into syllables. e.g. jumping caterpillar	3. Other Handed Write each word 5 times, switching the hand you write it with each time. Say the word as you spell it.	4. Vowel Spotlight Write your words using one colour for the vowels and another colour for the consonants. (vowels: a, e, i, o, u)
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10 minutes

TT Rockstars

Can you beat your studio time? How many coins can you collect in 10 minutes?

Have a go at using [MTC - Multiplication Tables Check - URBrainy.com](https://www.urbrainy.com) to try a time table challenge - 25 questions and 6 seconds for each!

10 minutes



Click here for a larger version of this sheet below in the links

Paper versions in the classroom for you to take home

Take pictures and email them in for us to see.

Record your results in your book or on the sheet

This is an experiment to try at home - please ask permission first!

EFFECT OF PARTICLE SIZE!

In this activity, you'll explore how different-sized particles interact with our respiratory system, using a fun, hands-on model to simulate how we breathe in and filter the air around us.

30 minutes

Kit list

- At least 3 sieves of different size holes (or large paper sheets with holes made)
- Bowl
- Spoon
- Dried pasta, dried chickpeas, rice, and sand
- A large plastic mat for floor protection

Instructions

- Begin by considering these points:
 - The air around us contains particles of different sizes.
 - Our airways decrease in size from upper to lower regions.
- Predict the behaviour of different-sized particles when they're inhaled and how you could experiment with the provided materials:
 - How would you simulate the airways and does the sequence of the equipment matter?
 - What would you use to represent particles of various sizes?
 - What do you predict will happen to the different particles when you "breathe" (pour) them into your model airway?
- Set up your models and "breathe" in the particles:
 - Mix all variously sized "particles" into a large bowl.
 - Arrange a group of volunteers to hold the sieves of different sizes, with the largest at the top (mimicking upper airways) and the smallest at the bottom (representing lower airways).
 - Pour the "particles" and observe the results, keeping track of where different-sized particles land (on sieve 1, 2, 3, or the floor).

Next steps

Did you know our airways have evolved to perform a specialised function. Particles in the air have changed over time. The size of particles can affect how far they can go into the airways and lungs and this can impact our health. For example, larger pollen particles get stuck in our noses and can cause hayfever vs smaller pollens and fungal spores that can reach the lower airways and trigger asthma symptoms.

At home

Use paper with holes of various sizes if you do not have a sieve at home and test what's in your cupboards. Teach what you have learned to an adult!

Skills unlocked

Collaborative, curious

Career options

- Medical professionals need to understand the size of particles when helping people with respiratory conditions.
- Toxicologists and exposure scientists investigate potential adverse impacts from these particles on the health of humans, animals, and the environment.

If you enjoyed learning about the impact of particle sizes on our health, one of these careers could be for you!

	Upper airway	Lower airway
Dried pasta  Prediction: Observation:	Prediction: Observation:	Prediction: Observation:
Dried chickpeas  Prediction: Observation:	Prediction: Observation:	Prediction: Observation:
Grain of rice  Prediction: Observation:	Prediction: Observation:	Prediction: Observation:
Sand  Prediction: Observation:	Prediction: Observation:	Prediction: Observation:

Optional extras - you can do this, this week or next

1. Writing competition - write a story/text based on the theme of 'Time'.
Talk to Mrs Ashton if you need any help on this

2.

The British Science Week 2024 poster competition is open now!

The theme this year is '**Time**', – there are loads of STEM topics were explored! Students could create a poster showing how a certain type of technology has changed over time, or even the advancement of time-telling technology itself. Budding poster makers could also go futuristic show us how they think the world might look in years to come, or perhaps look at nature – lifecycles, lifespans, evolution and hibernation – nature is full of timely topics.

British Science Week 2024 marks the Week's 30th anniversary, with the inaugural celebration happening in 1994. Students could think about scientific innovations since then, or explore 1994 itself – what was life like 30 years ago?

BRING your poster to school once completed. You have a couple of weeks to do this if you would like to enter. School will enter 5 posters from the school to the national competition. Ensure they are in before 15th March 2024 please.