Have Fun Experimenting

Experimenting with Sugar!

Here's a fantastic experiment which shows you how some objects can absorb water.

What you need:
- White sugar cubes
- Large plate
- Small cup of water
- Food colouring

For variation:
- Aluminium foil
- Cling film
- Paper
- Kitchen roll

What to do:

- Get your food colouring and add a few drops of it to the small cup of water.
- Pour this mixture on to the plate.
- Next, take your sugar cubes and stack them.
- Place this stack in the middle of the plate and then watch as the sugar cubes absorb the water.
- How many cubes do you think the water will pass through before stopping?

Variation

- You could try placing small pieces of foil, paper, kitchen roll or cling film in between the sugar cubes to test whether the water will pass through these materials or not.

Exploding Bags

Chemical reactions involving baking soda and vinegar are always really good fun, especially if they involve lots of mess at the end! This entertaining experiment should definitely be conducted outside as it will get quite messy!

What you need:
- 1 tablespoon of baking soda
- 1/2 cup of water
- 1/4 cup of vinegar
- A tissue
- A zip-seal bag

What to do:

- Put 1 tablespoon of baking soda on the tissue and then fold the tissue up so that it looks just like a neat, little envelope.
- Next, take the zip-seal bag and fill it carefully with the 1/2 cup of water followed by 1/4 cup of vinegar.
- Close the bag leaving just enough room to drop the folded-up tissue in quickly. Seal up the bag speedily and then give it a little shake.
- Leave the bag on the ground and step away! Eventually the baking soda and vinegar will react together producing a colourless gas called carbon dioxide.
- The carbon dioxide inflates the bag and makes it burst! To make things even more colourful and fun, you could add some food colouring to the water.

Questions

1. How much baking soda should be used in the exploding bags experiment? Tick **one**.

   A. 1 tablespoon ..... ☐ C. 1 teaspoon ..... ☐

   B. 1 soup spoon ..... ☐ D. 1 cup full ..... ☐

2. What will produce the carbon dioxide?

   _____

3. Which item is <u>not</u> given for the exploding bags experiment? Tick **one**.

   A. a tissue ..... ☐ C. foil ..... ☐

   B. water ..... ☐ D. zip-seal bag ..... ☐

4. Which statement best tells us how we are told to use the sugar cubes in the first experiment? Tick **one**.

   A. Put them into the centre of the plate. ..... ☐

   B. Stack them into a pyramid shape. ..... ☐

   C. Stack them and put them on to the plate. ..... ☐

   D. Arrange them neatly in the centre of the plate. ..... ☐

5. Look at this sentence: 'The carbon dioxide inflates the bag and makes it burst!' Find and copy **one word** from the sentence which means the same as 'puffs up'.

   _____

6. Based on what you have read, what does the last sentence of the second experiment suggest might happen next?

   Use evidence from the text to support your prediction.

   _____

   _____

7. Look at this section of the text:

'Close the bag leaving just enough room to drop the tissue in quickly. Seal up the bag speedily and then give it a little shake. Leave the bag on the ground and step away!'

How does the writer convey a sense of speed through these sentences? Give **two** ideas.

A. _____

B. _____

8. What evidence is there in the text to suggest that one of the experiments is going to get the person doing it messy?

_____

_____

9. How does the first sentence in the second experiment make the reader feel about doing the experiment?

_____

_____

10. Which statement is the best summary for the whole passage? Tick **one**.

A. It is all about experiments which get people messy. ..... ☐

B. It tells you how to test sugar and exploding bags. ..... ☐

C. It gives you instructions for conducting some fun experiments. ☐

D. It tells you how to absorb sugar and explode carbon dioxide. .. ☐

11. What is the purpose of the foil in the first experiment?

_____

_____

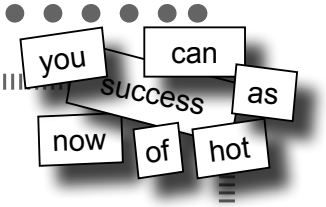
12. Number the following events 1 to 5 to show the order in which they happen in the exploding bags experiment. The **last one** has been done for you.

A. The carbon dioxide inflates the bag and it bursts.	5
B. Seal up the bag allowing space for the tissue.	
C. Fill the tissue with baking powder.	
D. Shake the bag.	
E. Fill the bag with water and vinegar.	

13. Which experiment appeals to you the most? Explain why.

_____

_____



Word work

1. Find and copy **one word** from the passage which means the same as <u>concoction</u>.

_____

2. Find and copy **one word** from the passage which means the opposite of <u>tidy</u>.

_____

3. Find and copy **three examples** of an imperative (bossy) verb.

A. _____

B. _____

C. _____

Extension work

Class Discussion

1. *Why do you think you only need small slips of foil for the first experiment.*
2. *Which experiment would you like to try out?*
3. *Would you add the food colouring to the second experiment?*
4. *Can you think of something else for which you might use vinegar?*
5. *What is a zip-seal bag?*

Pair or Small Group Discussion

6. *Have you ever done an experiment before at home? What was it? If not, what experiment would you like to do at home?*
7. *What possible problems might you have with the experiments?*
8. *Can you come up with a different item to stack rather than sugar lumps.*
9. *What is baking soda and how would you use it when cooking?*

Create/Design

10. *Draw a picture of what you think the exploding bag might look like in the playground.*
11. *Create an experiment of your own using some kitchen ingredients. What would you try to prove?*

Write

12. *Write a story about someone who has a go at the exploding bag experiment and they make a terrible mess somewhere special! What might happen?*