



SCIENCE EXPERIMENT

RAINBOW IN A GLASS

Explore. Observe. Learn.



$E=mc^2$



Name

:



Class

:



Date

:



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RAINBOW IN A GLASS

MATERIALS:

- Sugar
- Water
- Food coloring
- Clear glass
- Spoon



STEPS:

1

Make sugar solutions with different amounts of sugar.



2

Add a few drops of food coloring to each solution.



3

Carefully pour the solutions into the glass one by one.



4

Pour slowly and carefully down the side of the glass to keep the layers separate.



THE SCIENCE:

Each layer has a different density. The heavier (sugar-rich) solutions stay at the bottom, and the lighter ones float on top, creating a rainbow!





SCIENCE EXPERIMENT

RAINBOW IN A GLASS

PREDICTION SHEET

Think before you experiment!
Make a smart prediction about what you think will happen.



What do
you think will
happen?



Name : _____



Class : _____



Date : _____

1 What do you think will happen when we pour the liquids?

Tick (✓) one answer.

- ☐ They will mix together and make one colour.
- ☐ They will stay in separate layers.
- ☐ The colours will change.
- ☐ I am not sure.



2 Why do you think this will happen?

Write your ideas.



3 How many layers of colours do you think we will see?

Tick (✓) one answer.

- ☐ 2 - 3 layers
- ☐ 4 - 5 layers
- ☐ 6 - 7 layers
- ☐ More than 7 layers
- ☐ I don't know



4 Draw your prediction.

Draw what you think the glass will look like after all the liquids are poured.



5 Which colour do you think will be at the top?

Tick (✓) one answer.

- | | |
|---------------------------------|---------------------------------|
| ☐ Red | ☐ Green |
| ☐ Orange | ☐ Blue |
| ☐ Yellow | ☐ Violet |



6 What do you think is the heaviest liquid?

Tick (✓) one answer.

- ☐ Honey
- ☐ Dish soap
- ☐ Water
- ☐ Cooking oil
- ☐ I don't know



SCIENTIST'S THINKING

How confident are you about your prediction?
Colour a star.

Not sure



DID YOU KNOW?

Liquids have different densities.
The heaviest liquids stay at the bottom,
and the lightest stay at the top!



Great scientists make predictions before they experiment!

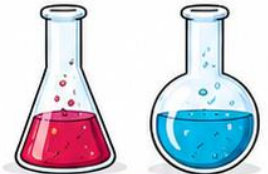


SCIENCE EXPERIMENT

RAINBOW IN A GLASS

OBSERVATION SHEET

Observe carefully and record what you see!



Name : _____



Class : _____



Date : _____

1 What did you observe when the liquids were poured?

Tick (✓) all that apply.

- ☐ The liquids mixed together.
- ☐ The liquids stayed in separate layers.
- ☐ The colours settled one on top of another.
- ☐ The colours changed after some time.
- ☐ There were bubbles.
- ☐ Other: _____



3 What order of colours did you observe?

Write the colours from top to bottom.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____



5 Did any of the layers mix?

Tick (✓) one answer.

- ☐ Yes, all layers mixed.
- ☐ Yes, some layers mixed slowly.
- ☐ No, the layers stayed separate.
- ☐ I am not sure.



6 What did you notice about the layers?

Tick (✓) all that apply.

- ☐ The heaviest liquid stayed at the bottom.
- ☐ The lightest liquid stayed at the top.
- ☐ Liquids have different densities.
- ☐ The layers looked like a rainbow!
- ☐ I noticed something else.



8 Observation Summary

During the experiment, I observed that _____



7 Write one interesting observation.



★ SCIENTIST CHECKLIST ★

- ☐ I observed carefully.
- ☐ I recorded my observations.
- ☐ I used all my senses.
- ☐ I worked safely.
- ☐ I cleaned up my area.



Great scientists observe carefully and record what they see!





SCIENCE EXPERIMENT

RAINBOW IN A GLASS

RESULTS SHEET



Great scientists record their results!

Name : _____ Class : _____ Date : _____

1 Did your experiment work?

Tick (✓) one.

- ☐ Yes! I made a rainbow in a glass.
- ☐ Partly. Some layers formed.
- ☐ No. The layers did not form.



2 My Final Rainbow – Order of Layers

Write the colours from top to bottom (7 layers).

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____



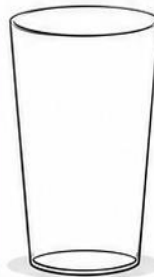
3 Results Table

Write down the order of colours you observed.

Colour	Position in the Glass
Red	1. _____
Orange	2. _____
Yellow	3. _____
Green	4. _____
Blue	5. _____
Indigo	6. _____
Violet	7. _____

5 Draw Your Final Rainbow in a Glass

Draw and colour the layers in the correct order.



4 What happened?

Tick (✓) all that apply.

- ☐ The liquids stayed in separate layers.
- ☐ The colours did not mix.
- ☐ The densest liquid stayed at the bottom.
- ☐ The least dense liquid stayed at the top.
- ☐ The layers looked like a rainbow!
- ☐ There were no bubbles.
- ☐ Other: _____



6 Scientific Conclusion

Write what you learned from this experiment.

I learned that _____



7 What was the most interesting part?



SCIENTIST CHECKLIST

- ☐ I followed the steps carefully.
- ☐ I observed and recorded my results.
- ☐ I used all my senses.
- ☐ I kept my workspace clean.
- ☐ I worked safely.



DID YOU KNOW?

Liquids have different **densities**.
The densest liquid stays at the bottom and the least dense liquid stays at the top.



TEACHER'S COMMENTS



Well done, young scientist! You discovered a beautiful rainbow!





SCIENCE EXPERIMENT

RAINBOW IN A GLASS

REFLECTION SHEET



Think about your experiment and what you **learned**!

Name : _____ Class : _____ Date : _____

1 Did your prediction match your result?

☐ Yes ☐ Almost ☐ No

Explain your answer.



2 What was the most interesting part of this experiment?

- ☐ Making the coloured liquids
- ☐ Pouring the layers
- ☐ Watching the rainbow form
- ☐ Learning about density
- ☐ Other: _____



3 What did you learn today?



4 What was easy?



5 What was challenging?



6 If you did this experiment again...

What would you do differently?



7 Circle the words that describe this experiment.

- Fun
- Colourful
- Exciting
- Interesting
- Amazing
- Educational
- Challenging

8 Draw Your Favourite Part



9 Finish the Sentences

Today I discovered _____

Next time I want to try _____



I Can...

- ☐ I can explain density.
- ☐ I can describe why the liquids formed layers.
- ☐ I can record observations.
- ☐ I can think like a scientist.
- ☐ I can safely complete an experiment.



My Scientist Rating

Colour the stars to show how you feel about the experiment.



Teacher's Feedback



Every experiment is a step towards **discovery**!