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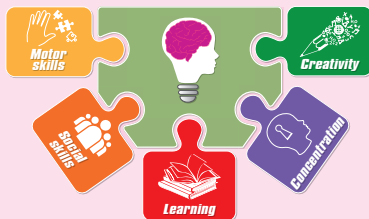
## Dear parents and guardians

Through play, children develop different cognitive skills. Scientific studies show that when we are having fun or making discoveries during an experiment, a neurotransmitter called Dopamine is released.

Dopamine is known to be responsible for feelings like motivation, reward and learning and that's why experiences are related to positive feelings. So, if learning is a positive experience, it will stimulate the brain to develop various skills.

Therefore, Science4you aims to develop educational toys that combine fun with education by fostering curiosity and experimentation.

Find out below which skills can be developed with the help of this educational toy!



The educational feature is one of the key strengths of our toys. We aim to provide toys which enable children's development of physical, emotional and social skills.

Find out more about the Brain Activator in Science4you toys at:

[www.science4youtoys.co.uk/brain-activator](http://www.science4youtoys.co.uk/brain-activator)



**Science4you**

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**Author:** Mariana Trigo and Ana Ribeiro

**Co-author:** Joana Gomes

**Scientific Review:** Ana Garcia

**Revision:** Joana Gomes and Rita Amaral

**Content management:** Daniela Silva

**Design:** Marcos Rebelo and Telma Leitão



This book was produced in accordance with the following key stages and curriculum goals of subjects:

- Science: KS1 and KS2;
- Chemistry: KS3.



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## SAFETY RULES

- Read these instructions before use, follow them and keep them for reference.
- Keep young children and animals away from the experimental area.
- Store this experimental set out of reach of children under 8 years of age.
- Clean all equipment after use.
- Make sure that all containers are fully closed and properly stored after use.
- Ensure that all empty containers and/or non-reclosable packaging are disposed of properly.
- Wash hands after carrying out experiments.
- Do not use any equipment which has not been supplied with the set or recommended in the instructions for use.
- Do not allow chemicals to come into contact with the eyes or mouth.
- The made products should not be used anymore if they change their appearance, colour or fragrance.
- Contains fragrances that may cause allergies ((2E)-2-Benzylideneoctanal, Benzyl Salicylate, Allyl Cyclohexanepropionate, (R)-p-Mentha-1,8-diene, Delta-1-(2,6,6-Trimethyl-3-cyclohexen-1-yl)-2-buten-1-one, 2,4-Dimethyl-3-cyclohexen-1-carboxaldehyde, (E/Z)-3,7-Dimethyl-2,6-octadienal, 2-Methyl-3-(4-tertbutylphenyl)-Propanal, (1S,5S)-2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene ((-)-alpha-Pinene), 6,6-Dimethyl-2-methylenebicyclo[3.1.1]heptane, p-mentha-1,4(8)-diene, 7-hydroxycitronellal and Lauraldehyde).

## GENERAL FIRST AID INFORMATION

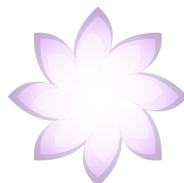
- **In case of eye contact:** Wash out eye with plenty of water. Seek immediate medical advice if necessary.
- **If swallowed:** Wash out mouth with water and drink some fresh water. Do not induce vomiting. Seek immediate medical advice.

Write on the provided blank space the telephone number of national poison information centre or local hospital. They may provide you with information about measures to take in case of intoxication.



**In case of emergency dial:**

**USA 911 | UK 999 | Australia 000 | Europe 112**



## LIST OF CHEMICALS SUPPLIED

### Citric acid (CAS # 77-92-9)

#### Hazard Statement:

**H319:** Causes serious eye irritation.

#### Precautionary Statement:

**P101:** If medical advice is needed, have product container or label at hand.

**P305 + P351 + P338:** IF IN EYES: rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.



### Apple fragrance

#### Hazard Statement:

**H317:** May cause an allergic skin reaction.

**H411:** Toxic to aquatic life with long lasting effects.

#### Precautionary Statement:

**P280:** Wear protective gloves.

**Contains (2E)-2-Benzylideneoctanal, Benzyl Salicylate, Allyl Cyclohexanepropionate, (R)-p-Mentha-1,8-diene, Delta-1-(2,6,6-Trimethyl-3-cyclohexen-1-yl)-2-buten-1-one, 2,4-Dimethyl-3-cyclohexen-1-carboxaldehyde, (E/Z)-3,7-Dimethyl-2,6-octadienal and 2-Methyl-3-(4-tertbutylphenyl)-Propanal. May produce an allergic reaction.**



### Soap base

**INGREDIENTS:** AQUA, GLYCERIN, SODIUM STEARATE, PROPYLENE GLYCOL, SORBITOL, SODIUM LAURATE, SODIUM LAURATE SULFATE, DISODIUM LAURYL SULFOSUCCINATE, SODIUM CHLORIDE, STEARIC ACID, LAURIC ACID, PENTASODIUM PENTETATE, TETRASODIUM ETIDRONATE

### Sodium bicarbonate (CAS # 144-55-8)

### Sodium chloride (CAS # 7647-14-5)

### Blue cosmetic colouring (CI 42090)

**INGREDIENTS:** FOOD BLUE 2, METHYLISOTHIAZOLINONE, METHYLCHLOROISOTHIAZOLINONE, DIMETHYLOL GLYCOL

### Yellow cosmetic colouring (CI 19410)

**INGREDIENTS:** ACID YELLOW 4, METHYLISOTHIAZOLINONE, METHYLCHLOROISOTHIAZOLINONE, DIMETHYLOL GLYCOL

### Tangerine fragrance

#### Hazard Statement:

**H304:** May be fatal if swallowed and enters airways.

**H315:** Causes skin irritation.

**H317:** May cause an allergic skin reaction.

**H226:** Flammable liquid and vapour.

**H410:** Very toxic to aquatic life with long lasting effects.

#### Precautionary Statement:

**P101:** If medical advice is needed, have product container or label at hand.

**P280:** Wear protective gloves.

**P301+P310:** IF SWALLOWED: Immediately call a POISON CENTER.

**P331:** Do NOT induce vomiting.

**Contains (R)-p-Mentha-1,8-diene, 6,6-Dimethyl-2-methylenebicyclo[3.1.1]heptane, (1S,5S)-2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene ((-)-Pinene), p-mentha-1,4(8)-diene, (E/Z)-3,7-Dimethyl-2,6-octadienal, 7-hydroxycitronellal and Lauraldehyd. May produce an allergic reaction.**





## KIT CONTENTS



### Description:

### Quantity:

1. Soap base	1
2. Large measuring cups	2
3. Plastic moulds	2
4. Pasteur pipettes	4
5. Wooden spatulas	3
6. Plastic spatula	1
7. Blue cosmetic colouring	1
8. Yellow cosmetic colouring	1
9. Apple fragrance	1
10. Tangerine fragrance	1
11. Citric acid	1
12. Sodium bicarbonate	1
13. Sea salt (Sodium chloride)	1
14. Small measuring cups with lids	2
15. Satin ribbons	4
16. Plastic film sheets	2
17. Protective gloves	2
18. Wood sticks	6

## 1. The history of bathing

A bath can be defined as the full or partial immersion of a body in a liquid, normally in water or in an aqueous solution. It's generally used for personal hygiene, however, along times it was used as a religious purification ritual, health care, social interaction or celebration.

Nowadays it's quite normal to get home and take a bath after a school day. Especially when we sweat a lot after sports or a very hot day. A fresh bath feels good to become clean, scented and beautiful! But it hasn't always been like this.



Image 1. Bath.

### DID YOU KNOW...

That bathing after eating can be dangerous? Your body temperature and the water temperature are different, which may lead to a thermal shock that can stop your digestion.

Water hasn't always been something great in past times and there were moments when bathing was forbidden. Can you imagine?!



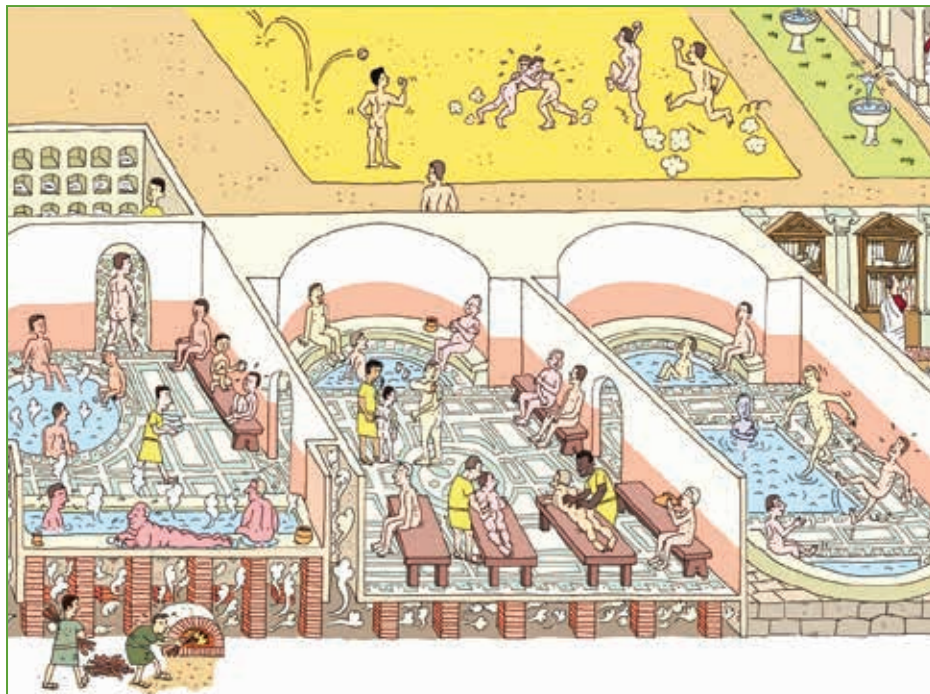
### Bathing prohibited

**Image 2.** Bathing prohibition sign. You may find this sign at beaches or swimming pools, in which the water doesn't have the required conditions to swim in.

Bathing became a usual habit together with the need of bringing to people's houses the similar pleasure of swimming in a river or a lake. A bathtub full of normal or heated water became a precept of common hygiene.

The Romans were the first ancient people that were greatly concerned in transforming the bath in an event. They built public thermal baths where any citizen could enjoy the pleasures of bathing.





**Image 3.** Graphic illustration of Roman's baths.

People from the Middle East, mainly Japanese, consider bathing a collective ritual of hygiene and social interaction.

However, in the Middle Ages everything changed. Religious beliefs, taken into extreme, ended with the act of cleaning. Saunas were seen as a sin place because people saw each other naked. Bathing was prohibited, increasing the appearance of diseases, mainly plague.

It was said that water "soften" the soul. Indeed, people thought that as hot water dilates the skin pores it would facilitate the entry of diseases in the body, which is not true. Although you know that it's not true, in those times it was strongly believed.

The concept of hygiene appears only in the 19<sup>th</sup> century, thanks to Pasteur's (1822-1895) discoveries and his research based on the importance of hygiene in health. In Western culture, bathing as a routine matter was reintroduced in Europe.



**Image 4.** Bath in Middle Ages.



It was easier to heat water and create new thermal baths. Water stations were also created in several villages. With the rise of the bourgeois, appropriate places for baths were introduced in houses.

### 1.1. Soaps

Soaps are used for personal hygiene. They may be found in different forms: bar, powder or cream.



**Image 5.** Soaps.

Soap is, generally, the result of a chemical reaction between a **base** or basic solution (normally sodium hydroxide or potassium hydroxide) and a **natural oil**. This reaction is called **saponification**. Soap is soluble in water and due to its detergent properties, it's used to wash and clean.



**Image 6.** Washing hands with soap is a common hygiene routine.

Soaps can have an industrial or handmade origin. The handmade soaps are the ones produced without using machines.

The most common one is sodium soap. It's almost neutral and consists of glycerine, oils, perfumes and colourings.



**Image 7.** Liquid glycerine.

There are also liquid soaps, with several viscosities, normally called shower gel. These consist of surfactants like sodium sulphate.



**Image 8.** Liquid soaps.



## DID YOU KNOW...

That a surfactant is a compound that lowers the surface tension (or interfacial tension) of a liquid? In other words, a balance of forces between molecules on the liquid's surface.



## 1.2. Foam

Foam is a substance that can be liquid or solid, containing alveolus in its interior. Liquid foams consist of gas bubbles dispersed in a small amount of liquid. In fact, the liquid phase consists of a mixture of liquids that have surfactants.

Foamy bubbles have a **polyhedral** shape and are separated by liquid regions which may form films of liquids (faces). Polyhedron faces are curved surfaces that intersect in lines. These junctions intersect in vertexes.



Image 9. Foamy bubbles.

In solid foams, the liquid phase is replaced by a solid one.

Liquid foam that you may see in the sea and over beach sand, consists of several gaseous bubbles that are imprisoned inside a capsule. The wall of this capsule is made of liquid molecules and remain for a specific time period.



Image 10. Sea foam.

The foam from cleaning products isn't a "cleaning indicator". Even without any kind of foam formation, the product can have a cleaning effect. It's only a myth among population.

## 1.3. Fragrances

Fragrances are one or more volatilised chemical compounds, easily perceived by the sense of olfaction. Normally scents are called to substances with a pleasant smell and, as so, are used in cooking and production of perfumes and creams.



Image 11. We can feel smells thanks to our nose.



One of the main sources of natural scents are aromatic herbs.



Image 12. Aromatic herbs.

### 1.4. Colourings

A colouring is a substance that when added to another, changes its colour. It may be a pigment, paint or a chemical compound.



Image 13. Colourings.

They can be natural or synthetic, applied as a solution in water or in other solvents, mainly ethanol. Colourings attach to a substrate, which may be a fabric, paper or other cellulose derivatives, hair and fur, leather and several materials.



A perfect colouring is stable in light, especially ultraviolet, in cleaning processes and water action.

The secondary colour, complementary of a primary colour, is made by mixing the two others primary colours. For example, the complementary colour of magenta is green. Green is the result of mixing yellow and blue cyan.



## 2. The appearance of Spa

Spa is the common name given for a place where a person may enjoy healthy activities, in contact with nature, related to health and well-being tourism. Its origin is related to water and its health benefits.

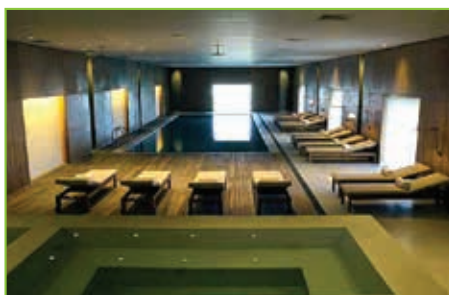
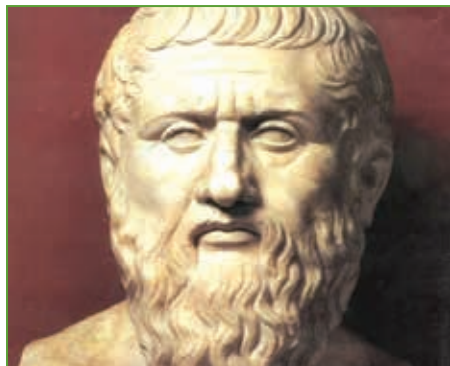


Image 14. Modern Spa.

The history of these places goes back to Ancient Greece, where there were the first thermal baths. The Greek took advantage of hot water's properties to improve their health and relieve pain. These thermal baths besides being health places, were also for social interactions. These places are referred in great philosophers' works, such as the ones of Plato.



**Image 15.** Plato, Greek philosopher.

The first thermal baths appeared in places where it was possible to enjoy natural hot water springs or water with treating properties.



**Image 16.** Thermal baths in Furnas, Azores.

Eventually, during the Roman expansion, Romans arrived in Greece and adopted these habits. Given the size of the Roman Empire, the use of thermal baths expanded a lot.



**Image 17.** Ruins of Caracalla Thermal baths, in Rome.

Baths were so important and recommended for a healthy lifestyle (already in those times) that there was a hierarchy for using the different thermal bath rooms.

With the collapse of the Roman Empire and the Christianity's presence (that didn't allow nudism), baths began to disappear.

The use of water as a direct action on health quality became again popular in the Middle Ages, however, restricted to higher classes.

## DID YOU KNOW...

That the origin of the word Spa isn't consensual? One of the most common ones states that Spa comes from "*Salus Per Aquam*" or "*Sanitas Per Aquam*" meaning "health through water".





Another origin for the word is a Belgium city called Spa. Here there was a natural water spring, very hot, commonly used by people.



**Image 18.** City of Spa, Belgium.

In the East, another civilisation got known by the use of water and its benefits: Turkish and the famous Turkish baths.



**Image 19.** Modern Turkish bath.

The word Spa became popular in the end of the 20<sup>th</sup> century. Its definition, since then, means a place where treatments with water, vapour or infusions are provided, complemented with massages and non-invasive medical treatments, such as nutrition.

## 2.1. Therapies

At a Spa centre, clients may find diverse services such as beauty, well-being and health. Therapies are developed to offer the best comfort possible to people. There are a lot of body and facial treatments in order to keep physical and psychological balance for each person.



**Image 20.** A Spa room.

The most important ones may be the health therapies, which allow to treat problems related to respiratory and circulatory systems and also to the skeleton.

### DID YOU KNOW...

That hydrotherapy is a type of treatment made with water?



**Image 21.** Hydrotherapy.



Water is one of the many ways of treatment, being a hot or cold vehicle for the body. It causes changes in the nervous system which acts on the circulatory system, producing effects on the regulation of the body's temperature. So, the reactions of water on our bodies are 3: **nervous**, **circulatory** and **thermic**.



Image 23. Back massage.

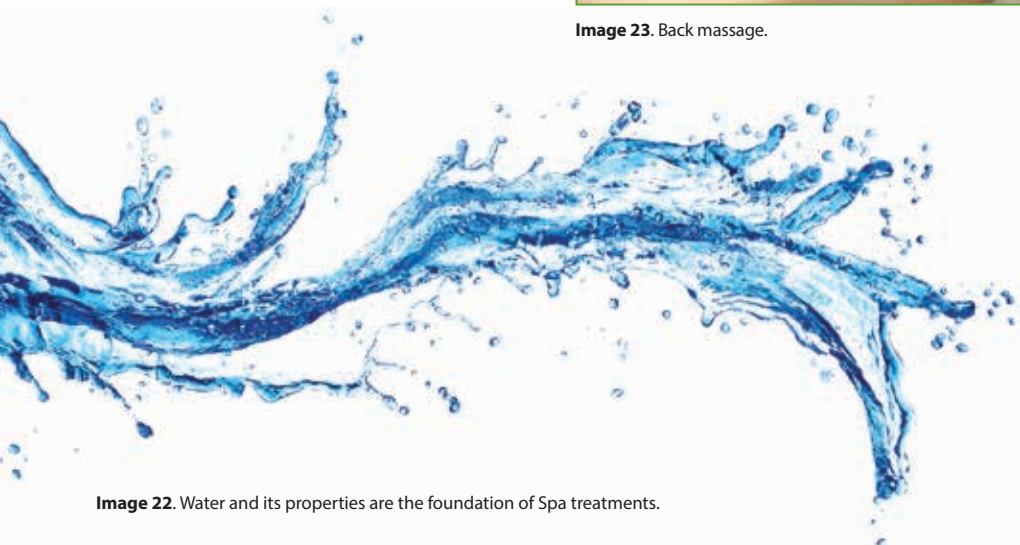


Image 22. Water and its properties are the foundation of Spa treatments.

Water and therapy with water are the main aspects in Spa. However, we may find other therapies, such as: aromatherapy, chromo-therapy, massages and others.

It can be applied in specific body parts or continuously to the whole body, in order to treat physical traumas, ease psychological stress, improve circulation and relieve tension.

## 2.2. Massages

Massage is the practice of applying force or vibration on superficial and deeper layers of muscles, connective tissues, ligaments and joints in order to stimulate blood circulation, elasticity or the relieve of a particular body pain.







**Image 24.** Foot massage.

Along times a lot of massage techniques were developed, according with the needs that were appearing and, also, influenced by the cultures of each country.



**Image 25.** Massage room of a Spa.

There are massage for lymphatic drainage, relaxing massage, sports massage, massage ayurvedic and many more.

Now that you've learnt a lot about what a Spa is, you can make your own! Relax and, most of all, have fun!



### 2.3. Bath: the city with naturally hot spa water!

The city of Bath, in South West England, became a thermal Spa founded by the Romans, who used its natural hot springs.



**Image 26.** Roman baths, Bath in England.

At the centre of the Roman town of Aquae Sulis ("the waters of Sulis"), we may find the Temple of Sulis Minerva and also the baths complex, which have existed since then and have been the pioneers in the history of Bath as a spa town.

#### DID YOU KNOW...

That Bath is the only place in the UK where you can bathe in naturally hot spa water and have original roman style baths?



The hot springs, which are the reason for the city's original development, are as authentic as incredible.

As already mentioned before, Bath is renowned by being a Spa city. In the 18th century, a temple dedicated to Sulis was found (one of the local divinities to whom was associated Minerva), a hot bath (with two pools), five baths (four Roman and one medieval), a cold bath (the frigidarium), a warm bath (the tepidarium) and an underfloor heating system (hypocausts).



## DID YOU KNOW...

That Bath became a World Heritage Site in 1987? The city's theatres, museums and other cultural and sporting venues have helped to transform the city in a tourism major centre with more than one million staying visitors and 3.8 million day visitors to the city each year.



Image 27. Theatre Royal, Bath.

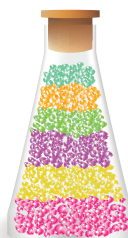
The reasons that led Bath to become a World Heritage Site are:

- **The Roman Archaeology:** the Roman baths complex and the thermal establishment called the Temple of Bath.
- **The hot springs:** unique in all Britain.
- **The Georgian town planning:** characterised by its modernised ideas for the time and for its united and well functioning structure, including green landscapes in its planning.
- **The Georgian Architecture:** the city's buildings featuring neoclassical architecture and its points of attraction such as terraces and squares.

• **The Georgian architecture as a reflection of social aspirations of the 18<sup>th</sup> century:** the pilgrimage and the consequences of a spa culture that created Bath.

• **The green landscapes.**

When visiting Bath, take your **Super Lab SPA** book with you and try to find the characteristics described above!



### 3. Experiments

#### Material included in the kit.

Don't forget to put your protective gloves every time they are shown in the material list.



#### Experiment 1 Fizzy bath bombs

**INGREDIENTS:** SODIUM BICARBONATE, CITRIC ACID, SODIUM CHLORIDE, PARFUM, AQUA, HEXYL CINNAMAL, BENZYL SALICYLATE, LIMONENE, LINALOOL, METHYLISOTHIAZOLINONE, METHYLCHLOROISOTHIAZOLINONE, DIMETHYLOL GLYCOL, CI 42090, CI 19140

**ATTENTION:** ask an adult for help.


#### What you will need:

- Apple fragrance 
- Small measuring cup 
- Cosmetic colouring 
- Sodium bicarbonate 
- Large measuring cup 
- Wooden spatulas 
- Citric acid 
- Pasteur pipettes 
- Plastic spatula 
- Table salt



#### Steps:

**1.** Put your protective gloves on and make sure that the working table is completely clear.

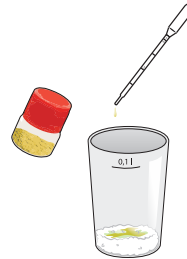
**2.** Fill 10 millilitres (ml) of citric acid in the small measuring cup. Then pour it  into the large measuring cup.



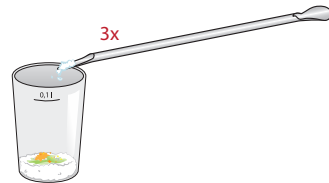
**3.** Add 10 drops of the fragrance you like the most.



**4.** With the Pasteur pipette, add drops of cosmetic colouring until you have the colour you wish for.

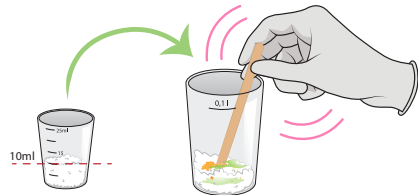


**5.** Ask an adult for table salt and add 3 plastic spoons of it.



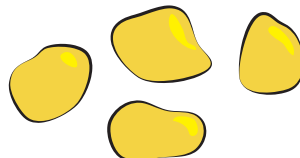
**6.** Stir it well with the wooden spatula.

**7.** Fill 10 ml of sodium bicarbonate in another small measuring cup. Then add it to the large measuring cup and stir it with the wooden spatula.



**8.** The dough must be dry, however slightly gooeey. If it's too dry, add some drops of water.

**9.** With the dough, make small balls with your hands. Place them in a container, with some space in between them, so that they don't get stuck to each other.





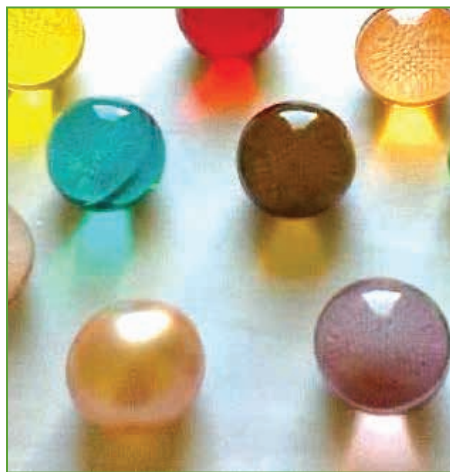
**10.** Set it aside to dry during the night.

**11.** Now you may use your fizzy bath bombs and have fun. You just need to put them in water, they are effervescent!

#### Ideal Formulations

##### Scented and coloured bath bombs (23.05 g)

Sodium bicarbonate (11.4 g), Citric acid (9.9 g), Sodium chloride (1 g), Fragrance (0.5 g), Colouring (0.25 g)



**Image 28.** Fizzy bath bombs.

If you want to offer the fizzy bath bombs as a gift, you can wrap them in plastic film and add a card!

**Note:** You can repeat this procedure as many times as you want and with different colours and scents. You just need to follow all the previous steps and choose another scent and colour!

**Top secret:** If you want to make a huge fizzy bomb, instead of making them with your hands, you can put the dough inside the mould included in your kit.

Remember to clean all the materials so that you can use them in the next experiment.



## Experiment 2 Bath salts

**INGREDIENTS:** SODIUM CHLORIDE, PARFUM, AQUA, HEXYL CINNAMAL, BENZYL SALICYLATE, LIMONENE, LINALOOL, METHYLISOTHIAZOLINONE, METHYLCHLOROISOTHIAZOLINONE, DIMETHYLOL GLYCOL, CI 42090, CI 19140

#### What you will need:

- Sea salt
- Large measuring cup
- Small measuring cup
- Fragrance
- Cosmetic colouring
- Wooden spatulas
- Pasteur pipettes



#### Steps:

**1.** Fill 15 ml of sea salt in the small measuring cup. Add it to the large measuring cup and measure again 15 ml of sea salt and add it to the large measuring cup.

**2.** Add 8 drops of a fragrance that you like, using the Pasteur pipette.

**Tip:** Use always the same Pasteur pipette for the same flask, so that you don't contaminate the different solutions.

**3.** Choose the cosmetic colouring you want and add some drops until you have the colour you wish.

**Tip:** You can mix the 2 colours with the same amount or in different concentrations, until you have the colouring you like the most.

**4.** Stir it well with the wooden spatula and it's ready!

Now you may use them in a bath or you may save them or even offer them to someone special. Remember to label the flask so that you don't forget what's inside it!





Image 29. Bath salts.

Remember to clean all the materials for the next experiment.

**Note:** You can repeat this procedure as many times as you want and choose different colours and scents. You just need to follow all the previous steps and decide on another scent and colour!

#### Ideal Formulations

##### Scented and coloured bath salts (17.95 g)

Sodium chloride (17.3 g), Fragrance (0.4 g), Colouring (0.25 g)



### Experiment 3

#### Natural essential oils

**ATTENTION:** ask an adult for help.

#### What you will need:

- Rosemary, lavender or another flower
- Large measuring cup
- Wooden spatulas
- 2 Flasks
- Aluminium foil
- Strainer
- Virgin olive oil



#### Steps:

**1.** Ask an adult to cut enough fresh rosemary to fill in a flask.

**2.** Wash the rosemary with a lot of water and let it dry in open air for some days.



**3.** Now, fill in the flask with olive oil until the rosemary is completely covered and close the flask with aluminium foil.



**4.** Set the flask aside for at least 2 weeks.

**5.** Strain the oil with the rosemary infusion into a new flask.

**6.** You may throw away the rosemary remains. And your oil is now ready!



Image 30. Essential oils.


**Top secret:** The properties of your oil, such as the smell or the colour, will depend on the flower you choose.



## Experiment 4

**Personalise your Spa with different fragrances**

### What you will need:

- Flask with essential oil
- Aluminium foil
- Wooden sticks 

### Steps:

1. Reuse the oil flask from the previous experiment.
2. Cover the flask containing the oil, with aluminium foil.
3. With the wooden sticks, make holes in the foil and leave them soaked there.



**Image 31.** Scented oils may be used to spread fragrance. Use them in your Spa to improve the experiment.

Now you may place your invention in the living room so that everyone can feel it. Your flask with oil will work as a natural air freshener, since the sticks absorb the oil and spread the rosemary scent in the air!



### DID YOU KNOW...

That aromatherapy is a therapy also provided by Spas, that uses the different effects of scents? This technique uses essential oils.








## Experiment 5

**Dried flowers soap**

**ATTENTION: ask an adult for help.**

### What you will need:

- Soap base 
- Plastic mould 
- Dried flowers
- Essential oil
- Wooden spatulas 
- Plastic film 
- Pasteur pipette 



### Steps:

1. Choose flowers that you like. So that they may dry, place them in between 2 newspaper sheets for 3 weeks. Put a heavy object on top of them, for example a big book.



2. When your flowers are dry, melt the soap base in water bath (double boiler).

3. With the Pasteur pipette add some drops of the essential oil that you've chosen and stir it with the wooden spatula. If you don't have essential oils you can use the fragrances of your kit.

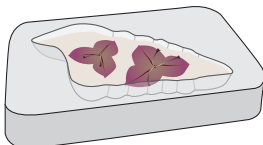






**4.** Pour the soap base into the plastic mould.

**5.** Place the dried flowers inside the plastic mould. Do not touch the soap base as it is hot. If you want to change or rearrange the flowers' positions use the wooden spatula.



**6.** Let it cool.

**7.** Remove it from the plastic mould and wait 24 hours, until you don't feel humidity when touching it.

**8.** Wrap it in plastic film and use satin ribbons to tie it.



**9.** Your soap is ready. You can label it and offer the soap to someone as a gift.

**Tip:** You can replace the dried flowers by aromatic herbs. You may also add cosmetic colouring to colour your soap.



**Image 32.** Glycerine soap with herbs.



## Experiment 6

### Eye treatment

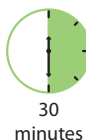
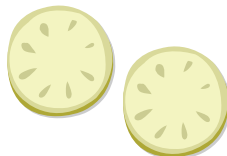
**ATTENTION:** ask an adult for help.

**What you will need:**

- 2 Slices of fresh cucumber
- Dish

**Steps:**

**1.** Ask an adult to cut 2 slices of cucumber.



30  
minutes



**2.** Place them on a dish and leave them in the fridge for 30 minutes.

**3.** Take the slices out from the fridge and put them on your eyes closed for 15 minutes.

**4.** Now you can remove them from your eyes and observe the difference in colour around your eyes.



**Image 33.** Cucumbers are commonly used for eye treatments.



**Explanation:** When in contact with skin, the cold slices of cucumber stimulate the blood vessels located underneath the eyes which are responsible for that purplish colour. This way that tired looking is reduced immediately. Share this tip with your friends!

**Tip:** You can follow the same steps using tea bags! Put them in hot water, then remove them and let them cool. Now put them in the fridge. After that, put them over your eyes for 15 minutes, the result is outstanding.





**Image 34.** Facial exfoliating scrub.



## Experiment 7 Exfoliating body scrub

### What you will need:

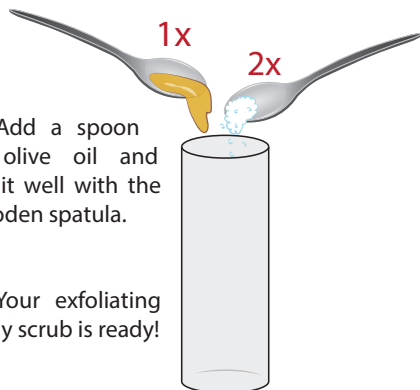
- Sea salt 
- Tall glass
- Wooden spatula 
- Virgin olive oil
- Tablespoon

### Steps:

1. Add 2 tablespoons of sea salt to the glass.



2. Add a spoon of olive oil and stir it well with the wooden spatula.

3. Your exfoliating body scrub is ready!



## Experiment 8 Lip exfoliating scrub

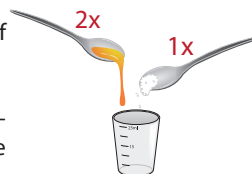
### What you will need:

- Sugar
- Honey
- Teaspoon
- Small measuring cup with lid 
- Wooden spatula 

### Steps:

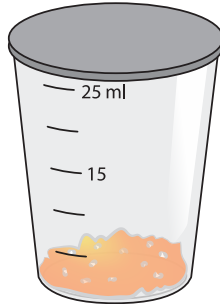
1. Add 1 teaspoon of sugar to the small cup.

2. Now add 2 teaspoons of honey to the same cup.



3. Stir the mixture until it has a doughy consistency.

4. Cover the cup.



5. Your lip exfoliating scrub is ready to use!

**Tip:** You may add some drops of your favourite essential oil (or drops of juices such as lemon or orange) in order to create different types of exfoliating scrubs.



Image 35. Lip exfoliating scrub.

**How to use:** Apply a small amount of the lip exfoliating scrub with your finger, in circular movements. Leave it for 1-2 minutes. Remove it with water and a towel. Use a labial moisturiser afterwards.



Image 36. Applying the exfoliating scrub.

### DID YOU KNOW...

That you can use a toothbrush to exfoliate? You need to wet the toothbrush and put some soap on it to clean the skin. Then massage your face gently.




### Experiment 9

#### Homemade nourishing balm

**ATTENTION:** ask an adult for help.

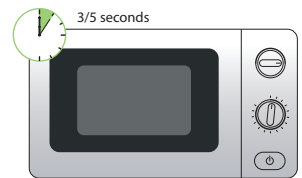
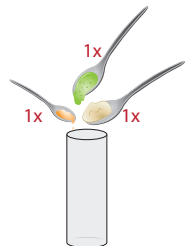
#### What you will need:

- Aloe vera gel
- Essential oil
- Vanilla essence
- Solid vaseline
- Wooden spatula 
- Tall glass
- Container
- Pasteur pipette 
- Tablespoon

**Warning.** Use only vaseline of cosmetic or pharmaceutical grade.

#### Steps:

1. Add a tablespoon of vaseline to a glass.
2. Add a tablespoon of aloe vera gel and a teaspoon of vanilla essence.
3. Pour some drops of the essential oil that you've chosen.
4. Stir it all well with the wooden spatula.
5. Place it in the microwave for a few seconds so that it's easier to mix the components.





6. Pour the mixture into a container (if the mixture isn't liquid enough, place it in the microwave for a few more seconds).

7. Your nourishing balm is now ready to use!



Image 37. Homemade nourishing balm.

Using a labial moisturiser makes your lips prettier and more nourished.

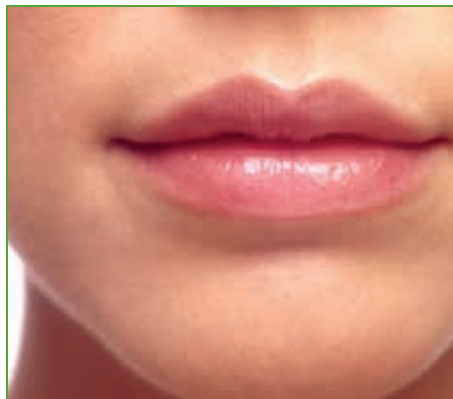


Image 38. Homemade nourishing balm.



## Experiment 10 Rose tonic

**ATTENTION: ask an adult for help.**

### What you will need:

- Rosebuds (20 grams [g])
- Hot water (200 ml)
- Glass or flask with lid
- Strainer
- Funnel
- Container



### Steps:

1. Place the roses in a heat resistant container.

2. Pour the hot water in the glass or flask, over the roses.



3. Cover the glass or flask and set it aside for 1-2 hours.



4. Strain the liquid into a glass.

5. With the funnel pour the liquid into the container.

6. Leave it in the fridge for a week.



**Image 39.** Rose tonic.

### DID YOU KNOW...

That rose tonics are very popular in cosmetics? They are used for all skin types. They have calming properties and help keeping the skin's natural balance.



**Tip:** As you know, there are different types of roses with different fragrances. Explore some of them and see the differences.

**Note:** Face skin is very sensitive. Before applying any type of product on your skin, apply a little bit first on the back of your hand and wait. If your hand doesn't turn red or with an allergy, you may use it.



**Image 40.** Facial mask.

**How to use:** Apply it on dry and clean skin. Leave it for 10-15 minutes. Wash your face very well and then apply a facial moisturiser.

This mixture will moisture and soften your skin.



### Experiment 11

#### Facial mask of yogurt and honey

#### What you will need:

- Natural yogurt
- Honey
- Glass
- Spoon

#### Steps:

1. Stir the yogurt and the honey (both with the same quantities).



### DID YOU KNOW...

That honey is used to treat acne, when it's not severe?



### Experiment 12

#### Facial mask of chocolate and banana

**ATTENTION:** ask an adult for help.

#### What you will need:

- Cocoa powder
- Natural yogurt
- Honey
- Lemon juice
- Banana
- Teaspoon
- Blender
- Glass

#### Steps:

1. Put all the ingredients inside the blender: half banana, 2-3 teaspoons of natural yogurt and 1 teaspoon of the rest of the ingredients.



2. Mix it all up in the blender.



3. The mixture must become consistent, not liquid, so that it doesn't drain.

4. Pour the mixture into a glass.

5. Your mask is ready to use!



Image 41. Chocolate facial mask.

**How to use:** Apply it on dry and clean skin. Leave it for 10-15 minutes. Wash your face with warm water. Apply a facial moisturiser on your skin.

**Attention:** If your skin has any cut or injury, reduce or remove the lemon juice. You may add more honey to replace it.



## Experiment 13

### Mixture to whiten your teeth

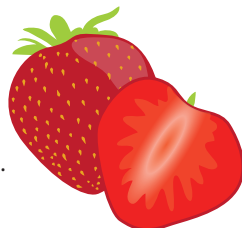
#### What you will need:

- Strawberry
- Sodium bicarbonate
- Soft toothbrush
- Teaspoon
- Dish



#### Steps:

1. Crush a ripe strawberry on a dish.



2. Add half of a teaspoon with sodium bicarbonate.



Image 42. White teeth.

**How to use:** Apply the mixture on your teeth with the soft (and not hard) toothbrush. Leave it for 5 minutes. Thoroughly rinse your mouth with water to remove the mixture. Then, wash your teeth with your common toothpaste. Do not perform this experiment more often than once a week.

Besides the nourish benefits, strawberries have whitening properties. Together with sodium bicarbonate it helps to whiten your teeth.






## Experiment 14

### Hair mask

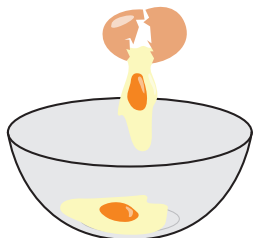
**ATTENTION:** ask an adult for help.

#### What you will need:

- 2 eggs
- Essential oil
- Virgin olive oil
- Glass
- Tablespoon
- Pasteur pipette 

#### Steps:

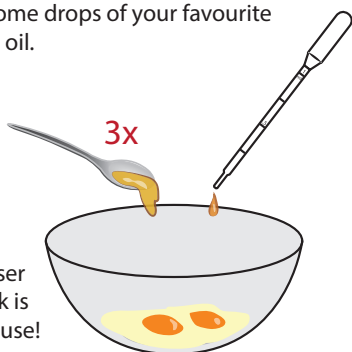
1. Open 2 eggs inside a bowl.



2. Add 3 tablespoons of olive oil.

3. Add some drops of your favourite essential oil.

4. Stir it.



5. Your moisturiser hair mask is ready to use!

**How to use:** Apply a great amount of the mask all over your hair. Wrap your hair in a hot towel and wait for 30 minutes. Wash it with water to remove the mask.








**Image 43.** Hair mask.



## Experiment 15

### Massage oil

#### What you will need:

- Virgin olive oil
- Fragrance 
- Pasteur pipette 
- Large measuring cup 
- Wooden spatula 
- Small measuring cup 



#### Steps:

1. Pour 20 ml of olive oil into the small measuring cup and then pour it inside the large measuring cup.
2. Add some drops of your favourite scent and stir it with the wooden spatula.
3. There it is! Your massage oil is ready to use.



**Image 44.** Massage oil.

Olive oil is the oldest oil for massages. It can be used as an anti-wrinkle cream, moisturiser and softener for dry skins. It's purifying, calming and helps to soften skin's impurities and remove them easily. It also improves skin elasticity, shines the hair and it's perfect for relaxing baths and massages.



**Image 45.** Oil massage.



## Experiment 16 Hot stone massage

**ATTENTION:** ask an adult for help.

### What you will need:

- Stones
- Oven

- Small towel
- Oil from your previous experiment

### Steps:

1. Start by asking an adult to boil some water.
2. Then, choose some stones, for example that you've brought from the beach. Make sure they fit in your hand, are in a sphere shape and smooth.
3. Once the water is boiling, place the stones in the pan and leave them there for 15 minutes.
4. Now, ask an adult to remove the stones from the pan.
5. Make sure that they are not too hot for you to handle them.
6. Ask a friend or a relative to lie down on a plain surface and take their cloths from the upper waist, off.
7. Place a moist towel next to your assistant and put the stones on it.
8. Before using the stones, pour some oil on them, from the previous experiment, in order to slide them easier over the skin.
9. Now, you may place the stones on the body parts where your assistant has his/her muscles contracted.
10. You may place the stones over his/her back, near the neck or on his/her hands. Make sure you don't burn him/her!





**Image 46.** Hot stone massage.

The stones' heat will calm down the muscles and you may make some massage movements, sliding the rocks up and down, left and right.

Have fun and show your family and friends that you are a real masseur!



### Experiment 17

#### Fairy hands

#### What you will need:

- Exfoliating scrub
- Moisturising cream

#### Steps:

1. Use the exfoliating scrub from experiment 7 and apply it on your hand in circular movements.
2. Wash your hands.
3. Now, apply a moisturising cream.



**Image 47.** The exfoliation and hydration of the hands soften the skin.

How are your hands?

With the exfoliating scrub you removed the older layers of your skin, replacing them for new ones. By putting on the cream, you've hydrated the new skin layers. You must have soft and beautiful hands!



### Experiment 18

#### Bubble bath

#### What you will need:

- Shower gel
- Bathtub
- Shower

**Attention:** You only may carry out this experiment with permission and under an adult's supervision.

#### Steps:

1. Pour some shower gel drops in the bathtub.
2. Open the tap, you'll see that bubbles will start appearing.
3. You can also use the shower and place it over the shower gel (bubbles will appear quicker).

**Attention:** Don't fill up too much the bathtub and don't go away while it's filling. Be careful so that the water doesn't exceed the bathtub.



**Image 48.** Bubble bath.



**Tip:** You can add 2-3 drops of an essential oil so that the bath becomes even more relaxing.



## Experiment 19 Relaxing footbath

**ATTENTION: ask an adult for help.**

### What you will need:

- Plastic basin
- Hot water
- Sea salt
- Dry lavender
- Dry mint
- Tablespoon



### Steps:

**1.** Put 1 tablespoon of salt in the basin.



**2.** Add a hand full of lavender and mint.



**3.** Mix all the 3 ingredients with your hands.

**4.** With the help of an adult pour the hot water.

**5.** Stir it for a while with a spoon.

**6.** You may now put your feet in it. Be careful with hot water, don't get burned.



**Image 49.** Footbath.

Salt has antiseptic properties and is great for relaxing and eliminating pains. On the other hand, lavender and mint are known for their relaxing properties.

**Tip:** To maximize the Spa experiment, when removing your feet from the basin, dry them with a towel and massage them. When finished, apply a moisturising cream.



## Experiment 20 Multi-coloured flasks of sea salt

### What you will need:

- Sea salt
- Large measuring cup
- Virgin olive oil
- Cosmetic colouring
- Old towel
- Flask
- Pasteur pipette



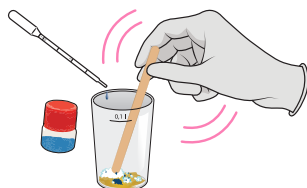
### Steps:

**1.** Start by putting salt on the towel and press it to become smaller.

**2.** Add the salt to the large measuring cup and pour some olive oil.



**3.** Then, pour some drops of cosmetic colouring in order to obtain the colour you want.



**4.** Stir it until the colour is uniform.

And it's done. Now you can transfer the colourful salt into a beautiful flask, cover it and decorate your Spa!



**Image 50.** Colourful salt flasks with candles provide a cosier environment for your Spa.

**Tip:** Carry out the experiment by creating different coloured salt layers and in the end, put them all together so that you may have a multi-coloured flask!



## Experiment 21

### Complete Spa

#### What you will need:

- Everything created on the previous experiments
- Large towel
- Mattress

#### Steps:

**1.** Ask an adult for a proper place to set up your Spa.

**2.** Decorate your Spa with the natural freshener and the multi-coloured flask of sea salt.

**3.** If possible, put some music on as well.

**4.** Ask an adult to help you fill in the bathtub with water, and put your bath salts and fizz bombs in it.

**5.** Ask your assistant to take a relaxing bath.

**6.** In your Spa, place everything you created over the large towel, next to a mattress, where your assistant will lie down:

- Massage oil;
- Hot stones;
- Exfoliating scrubs.

**7.** Start by asking your assistant to lie down, mouth downward, after his/her bath.

**8.** Afterwards, spread the massage oil over his/her back.

**9.** Place the hot stones over the back, neck and hands to help relaxing.

**10.** Now, ask your assistant to turn around (back downwards).

**11.** Now, with a moist towel clean his/her face and with the exfoliating scrub, you may massage the face.

**12.** In the end, remove all the exfoliating scrub with the same towel.

Share your knowledge with family and friends! Surprise them with a whole day of special treatments at your personal Spa!





## 4. Quiz

**1. Which people got more interested in baths, creating public thermal baths?**

- a) Romans
- b) Berbers
- c) Moldovans



**2. Which entity made the baths forbidden in the middle Ages?**

- a) Government
- b) Bad Smelling Association
- c) Church



**6. Scents are used for:**

- a) Cooking
- b) Perfumes
- c) Both answers are correct

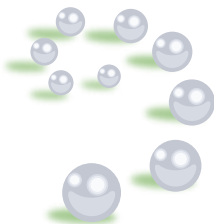


**8. The 3 primary colours are:**

- a) Green, red and blue
- b) Yellow, brown and red
- c) Yellow, magenta and blue cyan

**7. One of the main sources of natural scents are:**

- a) Aromatic herbs
- b) Weed
- c) Mushrooms



3. What's the name of the scientist that made great discoveries about the importance of hygiene in health?

- a) Fleming
- b) Pasteur
- c) Marie Curie



4. Soap is the result of a chemical reaction with which base (basic solution)?

- a) Calcium hydroxide
- b) Ammonia
- c) Sodium Hydroxide



5. What is foam?

- a) Small explosion of soap
- b) Formation of gas bubbles
- c) Toxic component



10. Massages are the practice of:

- a) Beating violently someone
- b) Making acrobatics
- c) Applying force or vibration on muscle tissues of the body



9. A Spa provides services of:

- a) Beauty, well-being and health
- b) Cooking, sports and health
- c) Well-being and radical activities

Answers: 1-a) 2-c) 3-b) 4-c) 5-b) 6-c) 7-a) 8-c) 9-a) 10-c)





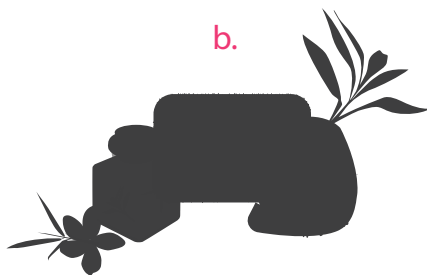
# Shadows Game

Find out which of the following shadows belongs to the coloured image!  
Have fun!

a.



b.



c.



d.



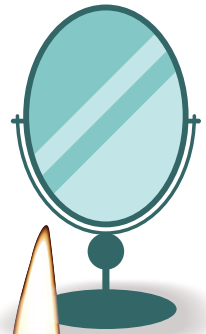
Answer: b.



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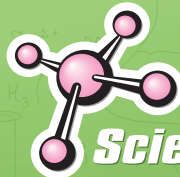
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