6-8 years

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inquire
investigate
evaluate
connect

Science Content:
Human Biology

Target Concepts/Skills:
Senses and their interaction

Target Age group:
6-8 years

Duration of activity:
2-3 lessons depending on the number of investigations carried out

Summary:
Children investigate the influence of smell and sight on taste. In order to understand that often more than one sense is acting when we are experiencing the world around us, the children are asked to investigate if the same drink with different colour has a different taste i.e. does the sight of a different colour influence the sense of taste? In a second inquiry, children are blindfolded and asked to taste food of similar texture when their nose is blocked. In this instance, the children's sense of taste on its own is tested.

Objective:
By the end of the activity children should be able to:

- Understand how senses depend on each other;
- Realize how the sense of smell and sight influence our sense of taste;
- Design an investigation to test the efficacy of the different senses.

Resources:

- Investigation A
- Soda water;
- Food colouring (different colours: orange, yellow, red, green);
- Cups
- Investigation B
- Spoons;
- Different tasting food with same consistency/texture (e.g. jelly beans, baby food, apple/pear/kohlrabi);
- Nose plugs/pegs;
- Sleeping masks (or scarves) to blindfold children

Human senses and their interaction

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European Commission

CAPACITIES

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1. Engage

There are two research questions / investigations that can be conducted in parallel or in a consecutive way.
We present the first possibility here, but depending on the pupils it might be more appropriate to make them think about one problem at a time and not to confuse them by tackling various similar ideas at the same time.

Stimulus:
A) Photograph: Child with cold (red nose...) in front of a food plate;
B) Photograph: Food in unusual colour (e.g. blue spaghetti)
=> Elicit children's previous knowledge / own experiences
Is taste limited to the tongue?

Inquiry A
Does our nose/sense of smell have an influence on our taste? Does food taste the same when we have a blocked nose (cold)?

Inquiry B
Do our eyes/sense of sight have an influence on our taste?
Children: formulate hypotheses and justify their ideas (share them and write them down => Research protocol, worksheet). Do they think that food will taste the same depending on the way they look?
The class is split in two subgroups, each handling one research question and planning their experiments on the influence of smell or sight/vision. Alternatively you can do this activity as two separate inquiry activities.

2. Inquiry

Preparation of the experiments: group work (small groups of 3-4 children); the teacher asks the children to design experiments to test their hypotheses. He/she can provide suitable material (see above) to assist and guide the children.
Ideas for experiments:

1. Children test tastes by testing unflavoured soda water added with different food colouring. Does the colour of the food influence the way that food tastes?
2. Test person (blindfolded and with nose plugs or peg) tries to tell the taste of different food with the same consistency/ texture. E.g. mashed potatoe, pureed pear, pureed vegetables etc. How able are the children to guess what food it is?

The children should also be asked to think about ways to document their observations.

Once the experiments are planned, the two subgroups are mixed. This is to guarantee that the "test person" is uninfluenced and does not know the experiment.
- Let the children conduct the two experiments in small groups (3-4 pupils each), different roles should be taken (e.g. "Test person", "Researcher", "Recorder") and observations should be documented.

3. Evaluation (Evaluating evidence)

- comparison of different groups' results; children will share their observations/results/conclusions
- plenary discussion of findings; referring back to hypotheses and predictions, based on research protocols.

Extended activities (optional):
- Discuss the importance of our senses and the problems that arise when you lose a sense (sight, taste, smell) Children realise that often one sense is not enough to know all the details about the world around us.
- Plan experiments to investigate the role of the 5 senses together

Materials in attachment:
- 2 photographs (Stimuli)
- Worksheet: Research Protocol

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Write a research protocol. You can use the following structure:

1. Our research question:

We want to find out...

2. We think that... (hypothesis):

because... (justification):

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3. This is how we tested our hypothesis:
a) materials used

b) method

4. Our observations: (you can use tables, drawings or photographs)

5. Our conclusion:
Our hypothesis has not been confirmed/ been confirmed because

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