

MINISTRY OF EDUCATION
SECONDARY ENGAGEMENT PROGRAMME
GRADE 8
INTEGRATED SCIENCE

Week 11

Lesson 1

Topic: Sense organs

Sub-topic: The Nose

Objectives After observing pictures of the nose, students will:

- Correctly relate the structure of the nose to its functions.
- With the aid of a diagram, students will label at least four (4) parts of the nose.
- Describe how the nose detects smell correctly.
- Discuss ways how to care for the nose correctly.

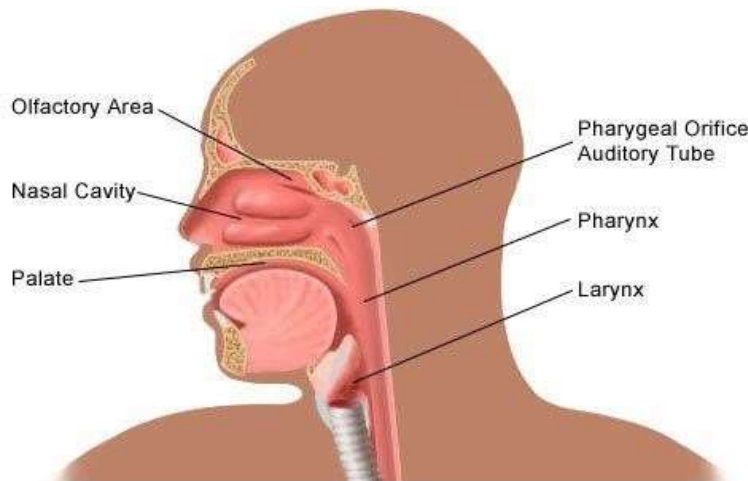
Content

The nose is our sense organ of smell and also functions as part of our body's respiratory system.

When we breathe in, air enters the nose in two streams through the two nostrils. These open into the nasal passages which lie above the mouth cavity. In a patch of tissue high in each passage are special cells called olfactory cells. These cells are smell receptors which have hair like endings that come together in the olfactory nerve. This nerve carries nerve impulses to the brain.

Structure

of the Nose



Functions of the Nose

- **Filters, warms and humidifies air**
- **First defense against foreign particles**
- **Inhalation for deep breathing is to be done via nose**
- **Exhalation is done through the mouth**
- **Serves as passageway for incoming and outgoing air, filtering, warming, moistening, and chemically examining it.**
- **Organ of smell (Olfactory receptors located in the nasal mucosa)**
- **Aids in phonation**

Once the air enters the nose and mouth, it travels into the pharynx and larynx. The structures of the upper respiratory tract are moist with mucus and are lined with cilia. The CILIA constantly sweep the airways, in an upward motion, to facilitate elimination of bacteria, dust and other particles

Describing Smells

Your ability to **smell** comes from specialized sensory cells, called olfactory sensory neurons, which are found in a small patch of tissue high inside the **nose**. These cells connect directly to the brain. Each olfactory neuron has one **odour** receptor.

The sense of smell responds to chemicals in things. Some responses produce a pleasant sensation while others give very unpleasant ones. Some smells are pleasant and please us.

The smell of a rose, of a marigold flower, of fragrant perfume, or a favorite dish are all smells we may describe as pleasant or uplifting. Such smells give rise to good feelings in us.

On the other hand, some smells are so unpleasant that they may make us ill. The fumes from rotten and decaying animal or vegetable matter may be so unpleasant that the feeling of nausea may result. Such smells may be described as putrid, stink or offensive.

How Smell Works

There are two ways we detect odours:

- 1) in the air we breathe through the front of the nose (orthonasal olfaction) and
- 2) through the back of our nose from our mouth, when chewing food (retronasal olfaction). This is how we appreciate the flavor of food when it is in our mouth.

Care of our Nose

As a respiratory organ and as the receptor organ of smell, the nose has a very important dual function. We would therefore do well to take good care of it. Some guidelines on caring for the nose are: -

- The nose should be cleaned regularly with damp cotton wrapped around the finger. This removes dirt that collects in the fine hairs that help to filter the air we breathe.
- Never push any small object like a button, seed, or peanut into the nostrils. Such objects usually get stuck and block the air passages thus hampering breathing.
- Do not put any sharp or pointed implement in the nostrils because these may cut or puncture the delicate linings of the structures.
- Never inhale chemicals
- When there is pain or other discomforts seek medical help. Do not use unprescribed medication in the nostrils. Use only a prescribed inhaler for any blockages during a cold.

Home work

1. Describe how the nose is connected to the respiratory system.
2. State two (2) functions of the nose.
3. Describe how we are able to distinguish between a pleasant smell and an unpleasant smell.

References

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6. https://www.google.com/search?bih=789&biw=1600&hl=en&sxsrf=ALeKk02gug_OpDGNeZ-3wsmnVlOtMkvt4g%3A1600292728655&ei=eIdiX7vQJ7SfytMP19e4sAE&q=how+does+the+nose+detect+smells&oq=how+does+the+nose+detect+smells&gs_lcp=CgZwc3ktYWIQAzICCAAyBggAEBYQHjIICAAQFhAKEB4yBggAEBYQHjoECAAQR1CJngVY2rgFYLzHBWgAcAF4AIABqwKIAf0TkgEGMC4xMS4ymAEAoAEBqgEHZ3dzLXdpegBCMABAQ&sclient=psy-ab&ved=0ahUKEwi77IL90u7rAhW0j3IEHdcrDhYQ4dUDCA0&uact=5