**ACTIVITY: Mystery box – using touch**

**Activity idea**

In this activity, students use only their sense of touch to put sandpaper samples in order from finest grade to coarsest grade.

By the end of this activity, students should be able to:

* explain why touch is an important sense
* be aware that receptors in the skin are responsible for touch
* have an understanding of places where the sense of touch is useful in everyday life especially for those with disabilities.

[Introduction/background](#Introduction)

[What you need](#need)

[What to do](#Do)

[Extension activities](#extension)

Student worksheet: [Touch results](#touching)

**Introduction/background**

Your skin is one big touch detector allowing you to feel the outside world. The middle of your back is the least sensitive part of your body and your fingertips one of the most sensitive, with about 100 touch receptors in each one. Think about the way people who are blind use their fingertips to read Braille (a pattern of raised dots representing letters).

In this activity, students use only their sense of touch to put sandpaper samples in order from finest grade to coarsest grade.

**What you need**

* Shoebox for each pair or group with 2 holes (each about 10cm diameter) cut in the same side of the shoebox about 10cm apart so that both hands can be inserted when the lid is on
* 3–5 different grades/grits of sandpaper cut into 5 x 5cm squares and labelled on the back with their grade (or grit) – place 1 sample square of each grade of sandpaper in each shoebox with a small blob of Blu-Tack on the back of each sample to keep them in order, and close the lid
* Thin latex gloves (1 pair per group)
* Copies of [touch results](#touching)
* A number of small objects (see 4 below)

**What to do**

1. Allow students to familiarise themselves with the different samples of sandpaper.
2. Ask each student to put their hands into the holes in the side of the box and rank the sandpaper samples in order from finest grade to coarsest grade, using only their sense of touch, and record how well they did in the first column of the [touch results](#touching). (The order of the samples should be mixed up between trials.)
3. Repeat this process with all students wearing latex gloves, and record how well they did in the second column of the [touch results](#touching). (This could also be repeated with a pair of thicker, rubber household cleaning gloves.)
4. Replace the sandpaper samples with different objects (such as small stones, walnut shells, paperclips, buttons, bottle lids or magnetic letters/numbers) and see who can correctly name the most items.

**Extension activities**

* Try to come up with an appropriate way of presenting the information from your results table in a graphical form.
* Find out how the Braille system works. If possible, try to experience it for yourself.
* What are some places/areas of employment where a fine or delicate sense of touch is an advantage?

**Touch results**

**Name:**

|  |  |  |
| --- | --- | --- |
| **Number of sandpaper squares correct (no gloves)** | **Number of sandpaper squares correct (gloves)** | **Number of objects correctly identified** |
|  |  |  |