27 Stimulating Our Senses

Overview

Many schools have students with diverse learning needs. Sometimes, it is the simplest of tools or toys that can make a difference and support a student's learning in wonderful and powerful ways. For example, students who have sensory processing challenges struggle to learn through their senses as the majority of us do.

"Sensory processing is how we transform sensory information from within our own bodies and the external environment into messages we can act on. It's tempting to think of senses (touch, sight, sound, movement, body awareness, taste, and smell) as separate channels of information, but they work together to give us a reliable picture of the world and our place in it," (Retrieved January 2016, **http://www.sensorysmarts.com/signs_of_spd.html**).

Design Rationale

Lindsey Biel and Nancy Pesk have written a checklist to determine our "sensory smarts" (Retrieved January 2016, **https://www.sensorysmarts.com/sensory-checklist.pdf**). Temple Grandin, in her compelling TED Talk (Retrieved January 2016, **https://www.ted.com/talks/temple_grandin_the_world_needs_all_kinds_of_minds?language=en**), talks about what is to live and learn with autism.

"We all learn through our senses. ... Right now your senses are working together. You hear background sounds and feel your clothing, chair, and the floor beneath your feet. You resist gravity to stay seated. You see letters on the screen. You filter out unimportant sensory input so you can make sense of what you are reading. If you occasionally lose focus because your shirt label is itchy, you may have a mild sensory issue. If you keep sliding off your chair, look away when you hear any noise, feel like your shirt is hurting you, or the words you are reading pulsate, you may have sensory processing disorder, also known as sensory integration dysfunction. Sensory issues affect all kinds of people—from those with developmental delays, attention and learning problems, autistic spectrum disorders and other diagnoses to those without any other issues," (Retrieved January 2016, **https://www.sensorysmarts.com/signs_of_spd.html**).

Problem Scenario

Your team has been asked to develop a toy or tool that would help a student with a sensory processing challenge improve their ability to learn in school. You will probably need to research sensory processing issues and then focus on one sense or sensory challenge. You team is required to create a prototype of the toy or tool.

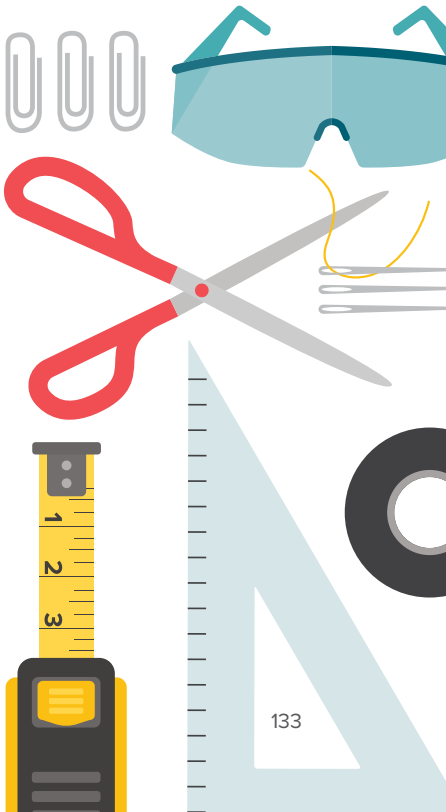
SkillsCanada Alberta

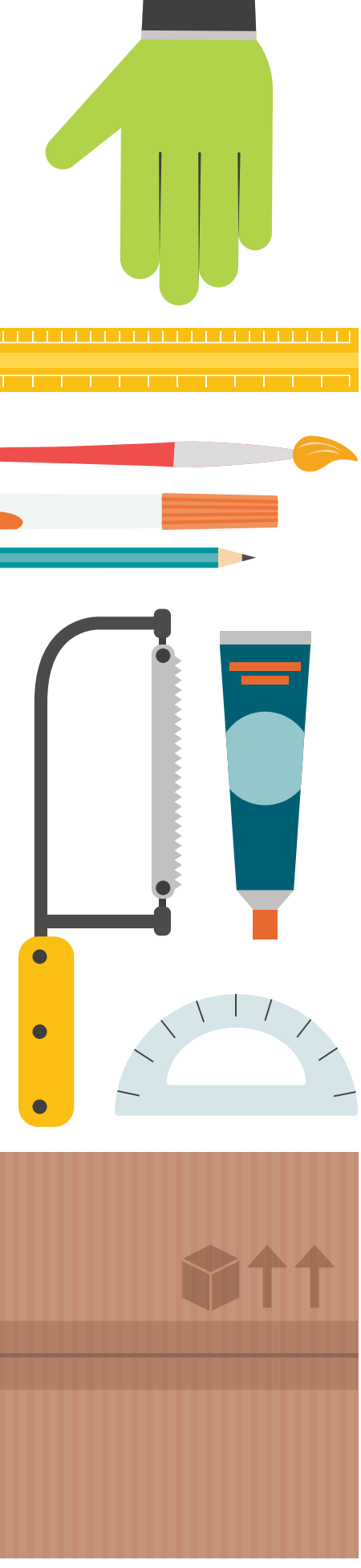
Suggested Grade Level

- Upper elementary through to secondary school
- Possibly primary grades with adult assistance

Suggested Subject Area

- Citizenship—including school culture/community
- ADST
- Physics
- Science
- Social Studies





Success Determinants

Success will be determined by:

- ❒ Ability of your prototype to help a child learn
- ❒ Alignment to design motto: “Make it smaller, stronger, do more, be easier to use, be cheaper, be clean, be greener.”
- ❒ Degree to which it is adaptable to the user
- ❒ Degree to which your prototype looks like your design sketch
- ❒ Ease of long term maintenance and durability
- ❒ Functionality
- ❒ Uniqueness and usability of your prototype and the degree to which it solves an actual challenge

Parameters

- ❒ You may use the tools provided to you in the classroom pantry.
- ❒ You must complete a display panel, which includes your design thinking sketch, your prototype, your design notes, and your reflections on the activity.
- ❒ You must consider how to make your prototype colourful, intriguing, and ergonomic.
- ❒ You must use some of all the items in your participant group kit in some way.