



Developed with Linda Roberts

Volume 10 | Gr. 3-8

# Cheek cell slides (Squamous Epithelial)



## Objectives:

*Students will...*

- Observe the basic structure of a human cell
- Be able to identify an animal cell by its structure

## Materials list

- Elementary microscope with 360° rotating head (**SB27572**)
- Plastic microscope slides, set of 50 slides & cover slips (**SB16377**)
- Flat wood toothpicks, pkg. of 750 (**KI01046Y**)
- Methylene blue stain, 100 ml (**SB07740**)
- Dropping pipette, 3 ml, pkg. of 100 (**SB50474**)
- Black fine-point permanent marker (**9730243**)
- Cup of water
- Paper towels

## Activity

- Give each student a plastic slide, fine-point permanent marker, and a flat toothpick. Have them put their names on the slides using the marker. This helps indicate which side is the right side.
- Instruct students to use the flat end of the flat toothpick to gently scrape some of the cheek cells from the inside of their mouth.  
Note: Be careful not to scrape too hard or the toothpick will cut the skin.
- Smear the end of the toothpick with the cells onto the middle of the plastic slide. Students may not be able to see anything, but the cells are there.
- Add one drop of methylene blue stain. Caution students not to touch the stain as it may stain skin and clothing. Allow the slide to sit for one minute, then dip it into the water to remove excess stain. Carefully blot the slide with a paper towel. Do not rub the slide with the towel.
- Have students look at their slides and the slides of other students with the microscope (or you could use a projection microscope to show the slides to the whole class at the same time). Students will see flat irregular cells with a dark nucleus and will discover that cheek cells (squamous epithelial cells) look the same on each slide. For further comparison, you can show students a prepared slide of squamous epithelial cells.

# Check out these other great products



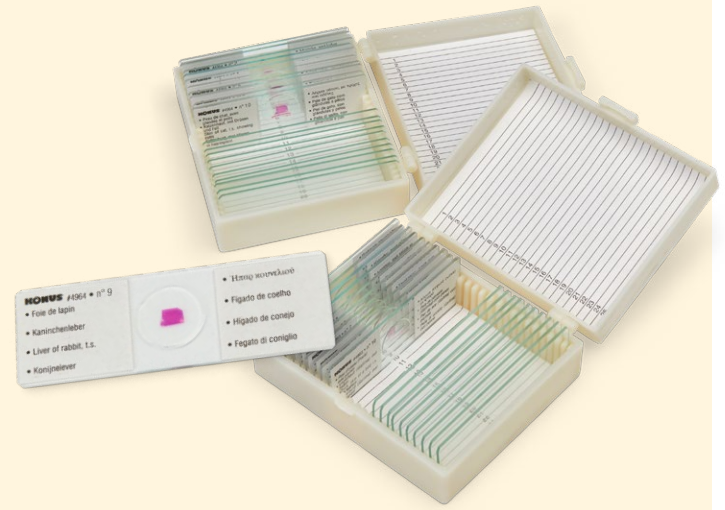
## Nasco Middle School LED Standard Microscope

Ideal for middle school students, this precision-built, tamper-proof microscope is unique in design and incorporates high-resolution, flat field objectives with wide-angle viewing. 110V. Limited lifetime warranty.

### Features

- 10X widefield eyepiece, locked on with calibrated pointer
- Monocular 45° inclined head with 360° rotation
- Reverse nosepiece for more working room on stage
- Objectives are DIN achromatic, parcentered, parfocaled, and color coded 4X, 10X, 40XR (R = retractable)
- Positive stops at both ends of travel to prevent damage to delicate specimens or optics
- Tension adjustment eliminates stage drift
- Corded LED illumination
- Coaxial coarse and fine focusing
- Large plain stage (4¾" x 4½") with spring clips, 0.65 N.A. condenser, and iris diaphragm
- Includes dust cover and instructions

**SB37509**



## Student Grade Biology Slide Set

Each slide has a description of the specimen in eight languages. Slides come in plastic cases. Includes one of each set below.

**SB53015**

**Biology 1.** Green freshwater algae, bread mold, sunflower root t.s., privet leaf t.s., tulip ovary t.s., *Paramecium*, earthworm midbody t.s., housefly wing w.m., frog blood smear, and bird skin l.s.

**SB53013**

**Biology 2.** Bacteria from sour milk smear, moss leaves t.s., yew stems t.s., hyacinth seed t.s., *Euglena*, *Ascaris* t.s. through midbody, honey bee antenna w.m., carp t.s. through gills, rabbit liver t.s., and cat skin l.s.

**SB53014**



## SEL Power-Up Reflection

Suggested questions for an SEL-focused discussion after you finish your creations.

### GROUP REFLECTION

1. Do you see similarities or differences in your cheek cells versus other classmates?
2. What do we learn by looking at humans at the cellular level?
3. When you have someone's cells, you have their DNA. What responsibilities do people have when working with someone else's cells? Do you think it's invasive? Why or why not?
4. What can happen if people do not take the power of working with cells and DNA seriously?
5. If cheek cells could tell a story about things you ate and drank, what would it say? What advice would it give you?

### SELF-REFLECTION

1. Did I try my best on this project? If you had to give yourself a score from 1-10, with 10 being "I did my best work" and 1 being "I didn't put any effort in my work," what score would you give yourself?
2. How did I feel as I worked on this project?
3. What role does science play in my life?