



Biology with TI-Nspire™ and TI-Nspire™ Navigator™ – Day 1

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The following technology will be needed for Days 1-6:

- TI-Nspire™ CX CAS Navigator™ 30-user system
- 30 additional TI-Nspire™ CX CAS handhelds
- 60 standard-A to mini-B USB cables
- 30 mini-A to mini-B USB cables
- A laptop for each participant with the TI-Nspire™ CX Navigator™ Teacher Software installed

In addition to the above technology, the following technology will be needed for each given day:

Day 1

Day 2

- 10 TI-Nspire™ Lab Cradles
- 20 stainless steel temperature probes
- 10 gas pressure sensors
- 10 conductivity probes
- 10 Vernier EasyLink or GoLinks

Day 3

- 10 TI-Nspire™ Lab Cradles
- 10 CO₂ gas sensors
- 10 stainless steel temperature probes

Day 4

- 10 TI-Nspire™ Lab Cradles
- 20 stainless steel temperature probes
- 10 gas pressure sensors
- 10 CO₂ gas sensors
- 10 conductivity probes

Day 5

- 10 TI-Nspire™ Lab Cradles
- 20 stainless steel temperature probes
- 10 gas pressure sensors
- 10 CO₂ gas sensors
- 10 conductivity probes

Day 6

- 10 TI-Nspire™ Lab Cradles
- 20 stainless steel temperature probes
- 10 gas pressure sensors
- 10 CO₂ gas sensors
- 10 conductivity probes

Supplies List

Day 1

-

Day 2

- Distilled Water
- .1M, .2M,.3M Salt solutions
- 400/600 mL Beakers
- 25/50 mL graduated cylinders
- Dental floss
- Funnel
- Dialysis Tubing
- Small Plastic Cups
- Isopropyl (Rubbing) Alcohol
- Room Temperature Water
- Sharpie Markers
- Paper Towels
- Hydrogen Peroxide (H₂O₂)
- 125 mL Flasks
- 10 mL graduated cylinders
- 250 mL Flasks
- Ice
- Funnel
- Cheesecloth
- Liver (Beef or Chicken or Turkey)
- Distilled Water
- Hot Plate



Day 3

- 100ml beaker
- 25 germinated pea seeds
- 25 non-germinated pea seeds
- Ice cubes

Day 4

- Small plastic cups
- Bottle of rubbing (isopropyl) alcohol
- Room temp, water
- H₂O₂
- 125ml flask
- 10ml graduated cylinder
- Enzyme suspension
- 100ml beaker
- 25 germinated pea seeds
- 25 non-germinated pea seeds
- Ice cubes
- Utility clamps
- Ring stand
- Plant cuttings
- Plastic tubing clamps
- Dropper or beral pipette
- Razor blade or scalpel
- 100 watt light source
- Metric ruler
- Masking tape
- Plastic gallon sized bag with twist tie
- Heater, small electric
- Fan with slow speed
- Spray bottle or plant mister
- Graph paper
- Dialysis tubing
- String
- Salt
- Electronic balance
- Stirring rod

Day 5

- Latex Balloons
- Tape Measures (or string and meter sticks)

- String
- Salt
- Electronic balance
- Stirring rod

Day 6

- Small plastic cups
- Bottle of rubbing (isopropyl) alcohol
- Room temp, water
- H₂O₂
- 125ml flask
- 10ml graduated cylinder
- Enzyme suspension
- 100ml beaker
- 25 germinated pea seeds
- 25 non-germinated pea seeds
- Ice cubes
- Utility clamps
- Ring stand
- Plant cuttings
- Plastic tubing clamps
- Dropper or beral pipette
- Razor blade or scalpel
- 100 watt light source
- Metric ruler
- Masking tape
- Plastic gallon sized bag with twist tie
- Heater, small electric
- Fan with slow speed
- Spray bottle or plant mister
- Graph paper
- Dialysis tubing



Day One	Page #
1. Student Login	
2. Overview, Logistics, and Introductions	1-7
3. Getting Started with the TI-Nspire™ CX Handheld	
a) TI-Nspire™ CX Family Overview	
b) TI-Nspire™ Scavenger Hunt – The Calculator Application	
c) Transferring Documents between Handhelds	
4. Simulations Choose one or more:	
a) What Makes An Animal?	
b) Punnett Pea Predictor	
c) Addition By Division	
d) Cell Structure and Function	
e) DNA Structure	
5. Reflection Ticket Outta Here	
Appendix	
A. TI-Nspire™ CX Family Overview	
B. Checking and Updating the Operating System	
C. The Press-to-Test Feature	
D. Transferring Documents Between Handhelds	
E. Transferring Documents Using the TI-Nspire™ CX Teacher Software	



F. Inserting an Image into a TI-Nspire™ Document	
G. Online Resources	
H. AP* Chemistry Lab Manual: A Guide to Using TI-Nspire™ for Data Collection and Analysis	
I. TI Technology Exam Acceptance	

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Biology with TI-Nspire™ and TI-Nspire™ Navigator™ – Day 1**PD Objectives**

- Introduce participants to the TI-Nspire™ CX handheld.

Materials Needed/Set Up Requirements

- *Getting_Started_TI-Nspire_CX_Handheld.tns*
- TI-Nspire™ CX Family Overview (optional)
- *TI-Nspire_CX_Family_Overview.pptx* (optional)
- TI-Nspire™ Scavenger Hunt – The Calculator Application (optional)

Main Focus – Suggested Questions/Strategies for Accomplishing Objectives

- You may want to do the first few pages of the *Getting_Started_TI-Nspire_CX_Handheld.tns* document with everyone working together and then let the participants work individually to complete the activity.
- Participants who don't have time to complete the activity can finish it for homework.
- The following activities are optional and are included in case you would like to use them:
 - TI-Nspire™ CX Family Overview
 - TI-Nspire™ Scavenger Hunt – The Calculator Application

Technology Tips

- You may want to use the TI-Nspire™ CX Navigator™ System to monitor the progress of the participants.

Summary Reflection Questions

- What TI-Nspire features that you find exciting and useful?
- What features are you having difficulty using?
- What applications would you like to learn more about?
- Homework for Day 2: Have each participant search the TI website for a simulation they can use in their Biology class. Additionally, ask participants to load the TI-Nspire™ CX Navigator™ Teacher Software as they will use the software on Day 2.

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