Lesson Bagging Instructions for Smithsonian's Science and Technology Concepts for Middle School

Introduction

Get ready to bag and brag! Let's be real—prepping materials for hands-on science lessons can feel like a juggling act. But with this step-by-step guide, you can become your school's lesson-bagging MVP.

The following steps help you organize, bag, and label everything you and your students need before a lesson begins. That means less scrambling, fewer missing pieces, and more time for the good stuff, like watching your students light up with curiosity.

What you can expect:

- Clear steps that make prep simple.
- *Smart Tips* to save you time.
- Peace of mind knowing you're ready to launch learning.

What you need:

- STCMS™ module shipment (red tote, boxes)
- Needed but not supplied materials
- Plastic bags or bins (various sizes)
- Masking tape
- Labels (optional)
- Markers (black/blue permanent markers are best)
- Scissors
- Sticky notes
- Pens
- Access to a printer/copy machine
- Classroom volunteers (optional)

What goes in a bag/bin?

- Print (student sheets)
- Materials provided (hands-on activity materials)
- Materials needed but not supplied (NBNS)

Smart Tips for efficient bagging:

- Print this document and check off each task as it is completed.
- Bag a whole unit in one go (number of lessons varies by unit).
- Color-code bags by lesson by placing colored sticky notes inside each bag.
- Re-bag all non-consumable items immediately after use so they are ready for the next lesson.
- Assign classroom helpers to restock consumable items.
- Keep a refill bin for consumables.
- Convert this PDF to a Word document to customize your preparation experience.

Now, crank up your favorite playlist and let's make science prep so smooth that you might just start bragging about your bagging.

Lesson Bagging Instructions for Smithsonian's Science and Technology Concepts for Middle School

Step-by-Step Checklist

Step One: Take Inventory

1. Open your STCMS shipment (red tote(s) and Carolina® box(es)).
2. Locate the Packing List(s) included with the shipment.
3. Take inventory of what you received using the packing list(s). Inspect each item to ensure that nothing is broken or missing.
4. Mark each item with a check if received.
5. Find your living materials sheets. If your kit is new, these will be in a clear shipping envelope attached to the side of the red tote. If it is a refurbishment, these will be on the side of the Carolina box. **Living materials sheets have a control number that can be used to order the live materials. Directions for ordering are on the sheet.**

Smart Tip: Lay out each item in the shipment on a table as you check it off the packing list.

6. Open the Teacher Edition to the "Materials Management and Safety" section.
7. Find the page(s) that includes the Complete Kit Materials List.
8. Cross-check your packing list (with all the items received checked off) and the Complete Kit Materials List to ensure that you have everything required for the module.
9. Gather and cross off all Needed but Not Supplied* (NBNS) items.
10. If any items in your shipment are missing or damaged, contact Carolina's customer service team right away. Please take a photo of any damaged item.

Table 1: Complete Kit Materials List

Item Description in Teacher's Edition	Item Description on Packing List	Item Type	Total Qty. Used	Lesson Number (Quantity Used)
Aluminum cylinder †	Cylinder, Aluminum, 1/2 × 1/2 in	N	8	1(1), 3(8), 6(1)
Aluminum foil	Aluminum foil	C	16 sq. ft.	6
Aluminum weighing dish	Weighing dish, Aluminum	C	83	1(5), 5(14), 6(16), 8(8), 11(40)
Ammonium chloride †	Ammonium chloride	C	800 g	11
Baking powder †	Baking powder, Double acting	C	24 g	7
Baking soda (sodium bicarbonate)†	Baking soda	C	520.5 g	2(33 g), 6(7.5 g), 7(80 g), 11(400 g)
Black sand	Sand, Black	N	21 g	1
Borax (Sodium tetraborate decahydrate)†	Borax	C	34 g	2
Bottle, 60 mL (2 oz), with cap	Bottle, Plastic, 2 oz. with cap	N	9	1(1), 3(9), 9(9)
Bottle brush	Brush, Bottle	N	1	3
Bottle containing two immiscible liquids †	Immiscible liquid mixture, 2 oz.	N	1	1, 6
Bottle of food coloring	Food coloring, Assorted colors	N	2	3 (not green), 6 (green), 9, 10
Blue †		N	1	3, 9, 10
Green †		N	1	6, 9, 10
Red †		N	1	3, 9, 10
Yellow †		N	1	3, 9, 10
Bottle of sodium alginate †	Sodium alginate, 2% Quick prep, 100 mL	C	1	10
Calcium Card Set	Calcium card set	N	8	5, 6
Calcium chloride †	Calcium chloride, Anhydrous	C	576 g	5(4 g), 7(80 g), 8(480 g), 10(12 g)
Can of shaving foam	Shaving foam can	C	1	1, 6
Chromatography pen set	Chromatography pen set	N	1	6
Black wet-erase marker		N	2	6
Black ballpoint pen		N	1	6
Black permanent marker		N	1	6
Black water-soluble marker		N	1	6
Blue wet-erase marker		N	1	6
Green wet-erase marker		N	1	6
Red wet-erase marker		N	1	6
Citric acid †	Citric acid, Monohydrate	C	51.5 g	2

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Carolina Customer Service
800.334.5551
customer_service@carolina.com

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Step-by-Step Checklist (continued)

Step Two: Prepare Printed Materials

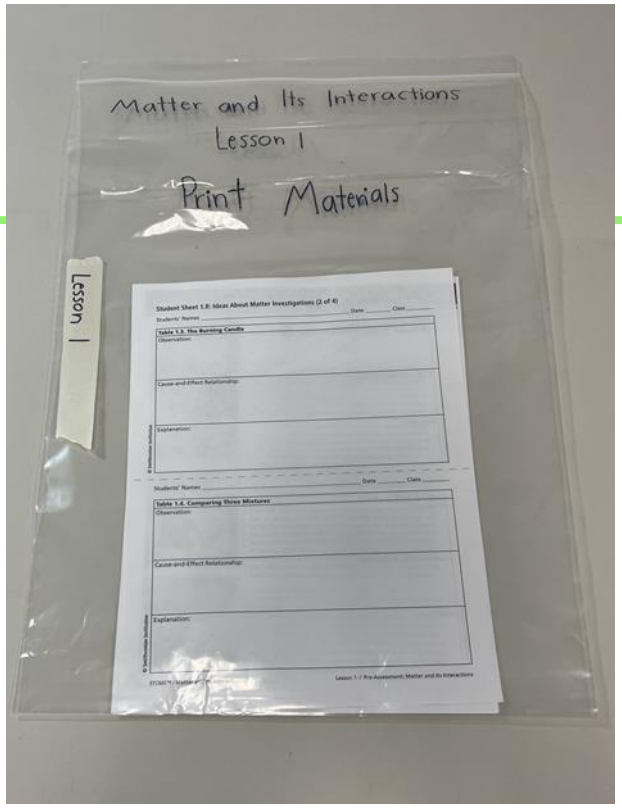
1. **Make copies of the student sheets.**
    a. Log in to www.CarolinaScienceOnline.com (CSO). Select Module > Unit Resources > Teaching Resources, then navigate to Lesson Student Sheets (English or Spanish).
    b. Download and print.

Smart Tip: Keep one set of all student sheets so it's easier to make copies next time.

2. **Sort printed materials by lesson.**
    a. Each student sheet has the lesson number at the bottom.
    b. Label one bag for each lesson with the module title and lesson number. *Example: Matter and Its Interactions, Lesson 1* (you might add the quantity included or other information).
    c. Place the printed copies inside the appropriate bag.

Smart Tip: Label bags by writing on them with permanent marker, writing on a sticky note and placing it inside the bag, writing on masking tape and attaching it to the bag, or all three. These options work for bins, too!

Smart Tip: Place sticky notes with additional information or reminders in bags as desired. For example, you may want a reminder to order living materials on a particular date or after a specific lesson.



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Step-by-Step Checklist (continued)

Step Three: Prepare Hands-on Materials Bags

1. Open your Teacher Edition to the beginning of the lesson you are preparing for. The Materials section lists all the materials that are needed. The materials are organized into five subgroups:
   - For the **teacher**
   - For each **student**
   - For **pairs of students**
   - For a **group of students**
   - For the **class**
2. Put all the kit items for the lesson together, including the NBNS* items.
3. Divide the kit items for each lesson into subgroups: teacher, student, pairs, groups, and class.
4. Place the items for each subgroup into a separate bag.
5. Label each bag with the module title, lesson number, and subgroup name. *Example: Matter and Its Interactions, Lesson 5, Teacher*

***Smart Tip*:** If an item is too large to fit into a bag or bin, simply label it using masking tape and a marker.

***Smart Tip*: What if an item is used in multiple lessons?** Place these items in the bag for the lesson in which they will be used first. Put a sticky note in the bag or attach a piece of masking tape to the item to remind you which lesson(s) it will be reused in. Transfer the item to the next bag upon completion of the first lesson it is used in.

Lesson 5 Building Blocks of Matter

Materials

For the teacher
- Lesson Master 5.R: *Metals, Nonmetals, and Metalloids**
- 14 Aluminum weighing dishes
- 5 g Calcium metal turnings (from Element Sample Set, optional)
- 4 g Calcium chloride (optional)
- 4 Jars, 60 mL (2 oz) (optional)
- 2 Clear lightbulbs, 40 W (from the Element Sample Set)
- 1 Conductive sample (e.g., aluminum dish)
- 1 Conductivity tester
- 1 Permanent marker
- 200 mL Milk (optional)*
- 2 Lamps (with a standard screw socket)*
- 2 Large sheets of paper*
- 1 Battery, 9 V*
- 1 Glass beaker, 250 mL*
- 1 Helium-filled balloon*
- 1 Nonconductive sample (e.g., test tube)*
- 1 Phillips screwdriver*
- 1 Piece of chalk* (calcium carbonate, optional)
- 1 Roll of masking tape*
- 1 Seashell (optional)*
- 1 Standard pliers (slip joint, or similar)*
- 1 Timer (wall clock with second hand or similar)*
- 1 Water-soluble marker*

For each student
- Science notebook*
- Student Sheet 5.1: *Examining and Grouping Elements**
- Student Sheet 5.2: *Making Molecular Models**
- Student Sheet 5.3: *Build a Molecule**
- Student Sheet 5.R: *The Periodic Table**
- Safety goggles*

For each pair of students
- 1 Student Sheet 5.3: *Build a Molecule*
- 1 Device (computer or tablet) with Internet access
  - Simulation: Build a Molecule

For each group of four students
- 1 Calcium Card Set
- 1 Molecular Model Set
  - 15 Gray rigid medium links (for single bonds)
  - 13 Gray flexible long bonds (for double bonds)
  - 13 White 1-hole atoms (for hydrogen)
  - 7 Red 2-hole atoms (for oxygen)
  - 3 Blue 3-hole atoms (for nitrogen)
  - 2 Black 4-hole atoms (for carbon)
  - 2 Green 1-hole atoms (for chlorine)
  - 2 Orange 1-hole atoms (for bromine)
  - 2 Purple 1-hole atoms (for iodine)
  - 2 White short links (for space-filling models)
  - 1 Short link tool
  - 1 Silver 4-hole atom (for silicon)
  - 1 Yellow 2-hole atom (for sulfur)
- 2 Pieces of masking tape†
- 1 Set of colored pencils (optional)*
- 1 Water-soluble marker*

For the class
- 1 Element Card Set
- 1 Element Sample Set
  - Aluminum electrode
  - Argon sample (40 W lightbulb)
  - Bismuth metal lump
  - Calcium metal turnings
  - Carbon (graphite) electrode
  - Copper electrode
  - Gold foil leaf (sheet)
  - Iron electrode
  - Magnesium ribbon
  - Nickel metal shot
  - Silicon lump
  - Silver foil leaf (sheet)
  - Sulfur lump
  - Tin metal shot
  - Tungsten sample (40 W lightbulb)
  - Zinc electrode
- 14 Magnets*
- 12 Paper clips*

Blackline masters are available at www.carolinasciencecenter.com

* needed but not supplied
† teacher-prepared material

Lists are also online in each lesson's Preparation and Materials tab!

Continued on the next page.

Lesson Bagging Instructions for Smithsonian Science for the Classroom

Step-by-Step Checklist (continued)

Step Four: Sequence and Store Your Lesson Bags

1. Place all the prepared bags back in the red tote. You can also use a cart or cabinet.
2. Keep the bags grouped by lesson numbers for easy access. Use rubber bands, binder clips, or colored sticky notes to help with this.

Congratulations!

Your initial prep work is complete, and your STCMS materials are ready to go. Here's to smooth lessons, curious minds, and joyful teaching ahead!