Blizzard Bag
Lesson Plan 1

Grade Level:	9-12
Lesson:	I.A.1—What is Waste? The Solid Waste Stream Where Does Waste Come From?
Source:	*3Rs of the Common Core*
Activity/Craft:	Easy Phone Holders PDF (https://theseamanmom.com/easy-diy-phone-holder-with-toilet-paper-rolls/)
Video Link:	A Day in the Life - The 3Rs (https://www.youtube.com/watch?v=nMDWXLnSysE)
Game Link:	EPA Recycle City: (https://www3.epa.gov/recyclecity/challenge/index.html)

Lesson Matrix Grades 9-12
3R's of the Common Core

Lesson	Leading Question	Objective	Common Core Alignments		Skills
9-12 Sources of Waste I.A.1	How do we determine the amount of waste we produce?	Research the sources of waste in society Trace the production of waste in industry	**Grade 9-10** CC.RI.9-10.7 CC.W.9-10.7 CC.HSS.ID.1	**Grade 11-12** CC.RI.11-12.7 CC.W.11-12.7 CC.HSS.ID.1	Analyzing Collecting and interpreting data Designing Researching
9-12 Packaging Preferences I.A.2	How have beverage containers changed over the years?	Evaluate the environmental impact of different packaging types	**Grade 9-10** CC.W.9-10.4 CC.WHST.9-10.7 CC.HSS.ID.1	**Grade 11-12** CC.W.11-12.4 CC.WHST.11-12.7 CC.HSS.ID.1	Evaluating Gathering information Graphing data Researching
9-12 Nonrenewable Resources I.B.1	How long will our natural resources last?	Compare estimated life expectancies of some nonrenewable natural resources Understand the role recycling and careful use play in meeting the demand for extending availability of these resources	**Grade 9-10** CC.L.9-10.6 CC.RST.9-10.7 CC.SL.9-10.2 CC.W.9-10.4	**Grade 11-12** CC.L.11-12.6 CC.RST.11-12.8 CC.SL.11-12.2 CC.W.11-12.4	Applying ideas to solve problems Explaining Interpreting data Predicting outcomes
9-12 Shopper Survey I.C.1	What things influence our purchasing choices? Why is there so much waste?	Assess typical purchasing criteria Determine the influence of packaging on consumer choices Determine if consumers consider waste disposal and recycling when making purchases	**Grade 9-10** CC. SL.9-10.3 CC.W.9-10.4 CC.HSS.IC.3	**Grade 11-12** CC. SL.11-12.3 CC.W.11-12.1 CC.W.11-12.4 CC.HSS.IC.3	Analyzing Gathering information Hypothesizing Interviewing
9-12 Garbage I.C.2	Name something that New York City produces more of than any other city in the world.	Read Katie Kelly's essay "Garbage" to examine author's use of analysis and persuasion Examine continuing problems of trash volume and disposal	**Grade 9-10** CC.RI.9-10.3 CC.SL.9-10.3 CC.W.9-10.4 CC.W.9-10.2 CC.HSS.ID.1	**Grade 11-12** CC.RI.11-12.6 CC.SL.11-12.1c CC.W.11-12.4 CC.W.11-12.7 CC.HSS.ID.1	Analyzing Evaluating Interpreting information Researching
9-12 The Dump Ground I.C.3	What do people mean when they use the expression, "One man's trash, another man's treasure"?	Interpret the themes of "The Dump Ground" and "Garbage" Derive history and culture of a people from the essays	**Grade 9-10** CC.RI.9-10.6 CC.RI.9-10.10 CC.SL.9-10.1c CC.W.9-10.4	**Grade 11-12** CC.RI.11-12.6 CC.RI.11-12.10 CC.SL.11-12.1c CC.W.11-12.4	Analyzing Comparing Evaluating Interpreting
9-12 GNP(P):Great New Purchasing Power I.C.4	Does a higher income cost more?	Detect general relationships between GNP/capita and energy consumption per capita Examine the specific factors encouraging high energy use Understand relationship between recycling and conserving energy	**Grade 9-10** CC.L.9-10.6 CC.W.9-10.4 CC.HSS.ID.6	**Grade 11-12** CC.L.11-12.6 CC.W.11-12.4 CC.HSS.ID.6	Evaluating Graphing data Interpreting data Recognizing patterns

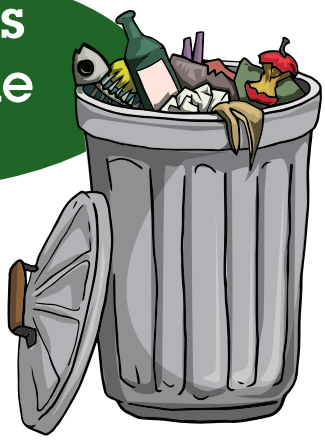
Lesson	Leading Question	Objective	Common Core Alignments		Skills
9-12 **New Landfills** **II.A.1**	If we need a new landfill, how will we go about siting and designing one?	Become familiar with local government, land-use planning, and complexities of solid waste planning process	**Grade 9-10** CC.RI.9-10.7 CC.SL.9-10.2 CC.WHST.9-10.8 CC.HSG.MG.3	**Grade 11-12** CC.RI.11-12.7 CC.SL.11-12.2 CC.WHST.11-12.8 CC.HSG.MG.3	Comparing solutions Designing Gathering information and data Problem solving
9-12 **Methane** **II.A.2**	Can we recover energy from solid waste?	Understand the energy-producing potential of some solid wastes Understand some systems of generating methane from waste	**Grade 9-10** CC.RST.9-10.3 CC.SL.9-10.1 CC.WHST.9-10.7	**Grade 11-12** CC.RST.11-12.3 CC.SL.11-12.1 CC.WHST.11-12.8	Carrying out investigation Interpreting data Observing Researching
9-12 **Spreading Sludge** **II.A.3**	Is it safe to put sludge on land all year round?	Determine the benefits and drawbacks of land application of sewage sludge	**Grade 9-10** CC.SL.9-10.1c CC.SL.9-10.4 CC.W.9-10.6 CC.W.9-10.7	**Grade 11-12** CC.SL.11-12.1c CC.SL.11-12.4 CC.W.11-12.6 CC.W.11-12.7	Evaluating Formulating questions Gathering information Hypothesizing Interviewing
9-12 **Toxic Waste in the Lab** **II.A.4**	Are there alternatives to disposal of toxic wastes in the solid waste stream?	Upgrade the school's lab cabinet	**Grade 9-10** CC.RST.9-10.3 CC.SL.9-10.4 CC.W.9-10.7	**Grade 11-12** CC.RST.11-12.3 CC.SL.11-12.4 CC.W.11-12.7	Carrying out investigation Evaluating Explaining Researching
9-12 **Community Solid Waste** **II.B.1**	How do we manage our solid waste?	Evaluate both the current solid waste disposal practices and future plans in their community	**Grade 9-10** CC.SL.9-10.2 CC.SL.9-10.4 CC.W.9-10.4	**Grade 11-12** CC.SL.11-12.2 CC.SL.1-12.4 CC.W.11-12.4	Communicating information Designing Gathering information and data Synthesizing
9-12 **Twenty Foot Swath** **III.A.1**	Have personal or global problems such as poverty or environmental pollution ever become so overwhelming that you were immobilized or driven to some action that actually aggravated the problem?	Discern the author's purpose in writing the essay Develop a plan for decreasing pollution in environment by setting realistic personal goals	**Grade 9-10** CC.RI.9-10.3 CC.SL.9-10.1c CC.W.9-10.4	**Grade 11-12** CC.RI.11-12.6 CC.SL.11-12.1d CC.W.11-12.4	Analyzing Applying ideas to solve problems Engaging in collaborative conversation Evaluating

Lesson Matrix Grade 9-12

3R's of the Common Core

Lesson	Leading Question	Objective	Common Core Alignments		Skills
9-12 Recycling Paper Pollution III.B.1	Does recycling solve all our solid waste problems?	Investigate methods of recycling paper and the technical problems encountered in the recycling industry	**Grade 9-10** CC.RST.9-10.3 CC.SL.9-10.1c CC.W.9-10.7 CC.HSS.ID.1	**Grade 11-12** CC.RST.11-12.3 CC.SL.11-12.1d CC.W.11-12.7 CC.HSS.ID.1	Carrying out investigation Communicating solutions Interpreting Researching
9-12 Collecting and Sorting III.B.2	What kind of recycling program would be best for our town or our school?	Understand some of the design considerations of establishing a recycling facility Use the information to design a hypothetical recycling center for their town or school	**Grade 9-10** CC.RI.9-10.7 CC.SL.9-10.2 CC.W.9-10.4 CC.HSG.MG.3	**Grade 11-12** CC.RI.11-12.7 CC.SL.11-12.2 CC.W.11-12.7 CC.HSG.MG.3	Applying mathematical concepts Designing Gathering information Problem solving
9-12 Speaking for Recycling III.B.3	What do we need to know about recycling?	Become more familiar with recycling and solid waste management issues Develop their public presentation skills	**Grade 9-10** CC.RI.9-10.8 CC.SL.9-10.4 CC.W.9-10.2	**Grade 11-12** CC.RI.11-12.8 CC.SL.11-12.4 CC.W.11-12.1	Communicating information Researching Sharing research and writing Synthesizing
9-12 The Cart Before the Horse? III.B.4	Why isn't everybody recycling?	Consider ways to reduce waste in the United States	**Grade 9-10** CC.RI.9-10.7 CC.SL.9-10.1 CC.W.9-10.4	**Grade 11-12** CC.RI.11-12.7 CC.SL.11-12.1 CC.W.11-12.1	Analyzing Engaging in collaborative conversations Gathering information Using evidence
9-12 Microorganisms III.C.1	Can you identify microorganisms responsible for the composting process?	• Relate the importance of healthy microorganism activity to composting	**Grade 9-10** CC.RST.9-10.3 CC.SL.9-10.1 CC.WHST.9-10.4	**Grade 11-12** CC.RST.11-12.3 CC.SL.11-12.1 CC.WHST.11-12.4	• Carrying out investigations • Collecting and interpreting data • Observing • Predicting
9-12 Effective Fertilizers III.C.2	What are fertilizers made of?	Rate the effectiveness of various organic and inorganic fertilizers	**Grade 9-10** CC.L.9-10.6 CC.SL.9-10.1 CC.WHST.9-10.4	**Grade 11-12** CC.L.11-12.6 CC.SL.11-12.1 CC.WHST.11-12.4	Carrying out investigation Hypothesizing Interpreting data Observing

Where Does Waste Come From?



Concept
All human activities produce waste. There are many different sources of waste in society.

Objective
Students will research different sources of waste in society and will trace the production of waste in industry.

Method
Students will research local business and industry.

Materials
Handout

Subjects
Social Studies, Science, Language Arts, Mathematics

Skills
Analyzing, collecting and interpreting data, designing, researching

Time
Several days; extended project

Vocabulary
Pre-consumer waste, manufacturing waste

Resources
Local industries; your state's Industry or Labor Department; Environmental Protection Agency; American Society of Civil Engineers; United States Census Bureau

3R's of the Common Core
Parallel Activities
K-3, Machine
4-6, What Kind of Waste Am I?
7-8, School Trash Analysis
Information
The Solid Waste Stream
Resources
Green Consumption, Consumerism and Sustainable Development

Background
According to the 2010 census, 19.3% (59,492,276 people) of the United States population resides in rural areas; in urban areas there are 249,253,271 residents, or 80.7% of the population. Americans work in the tourism industry, manufacturing of electronic products, printing and publishing, banks, engage in wholesale and retail trade of apparel and food and drink, sell insurance and real estate and provide lodging, food, educational, hospital and nursing care and other services within the state. According to the EPA, American Society of Civil Engineers and the Global Alliance for Incinerator Alternatives, environmental management activities across the country include 1,900 landfills, 14,780 wastewater treatment facilities and 113 incinerators. All of these facilities and the activities residents engage in every day produce waste.

Leading Question
How do we determine the amount of waste we produce?

Procedure
1. Review the attached flowchart with the class.
2. Have each student research one of your state's products such as foods, natural gas/minerals, furniture or printed material. Contact manufacturing plants to find out how much and what types of waste they produce. Include research findings in a written report along with answers to the following questions: What recycling and design strategies do they employ to fight waste? What are their waste disposal costs? Have they changed recently? How? Have students create flow charts to be shared in class along with the reports.

Evaluation
Students illustrate their findings in their own flow chart which tracks and identifies all the sources of waste in the item's production, use and disposal.

Common Core Alignments

GRADE 9-10

CC.RI.9-10.7
Reading Informational Text:
Integration of Knowledge & Ideas

CC.W.9-10.7
Writing:
Research to Build & Present Knowledge

CC.HSS.ID.1
Mathematics:
Statistics & Probability

GRADE 11-12

CC.RI.11-12.7
Reading Informational Text:
Integration of Knowledge & Ideas

CC.W.11-12.7
Writing:
Research to Build & Present Knowledge

CC.HSS.ID.1
Mathematics:
Statistics & Probability

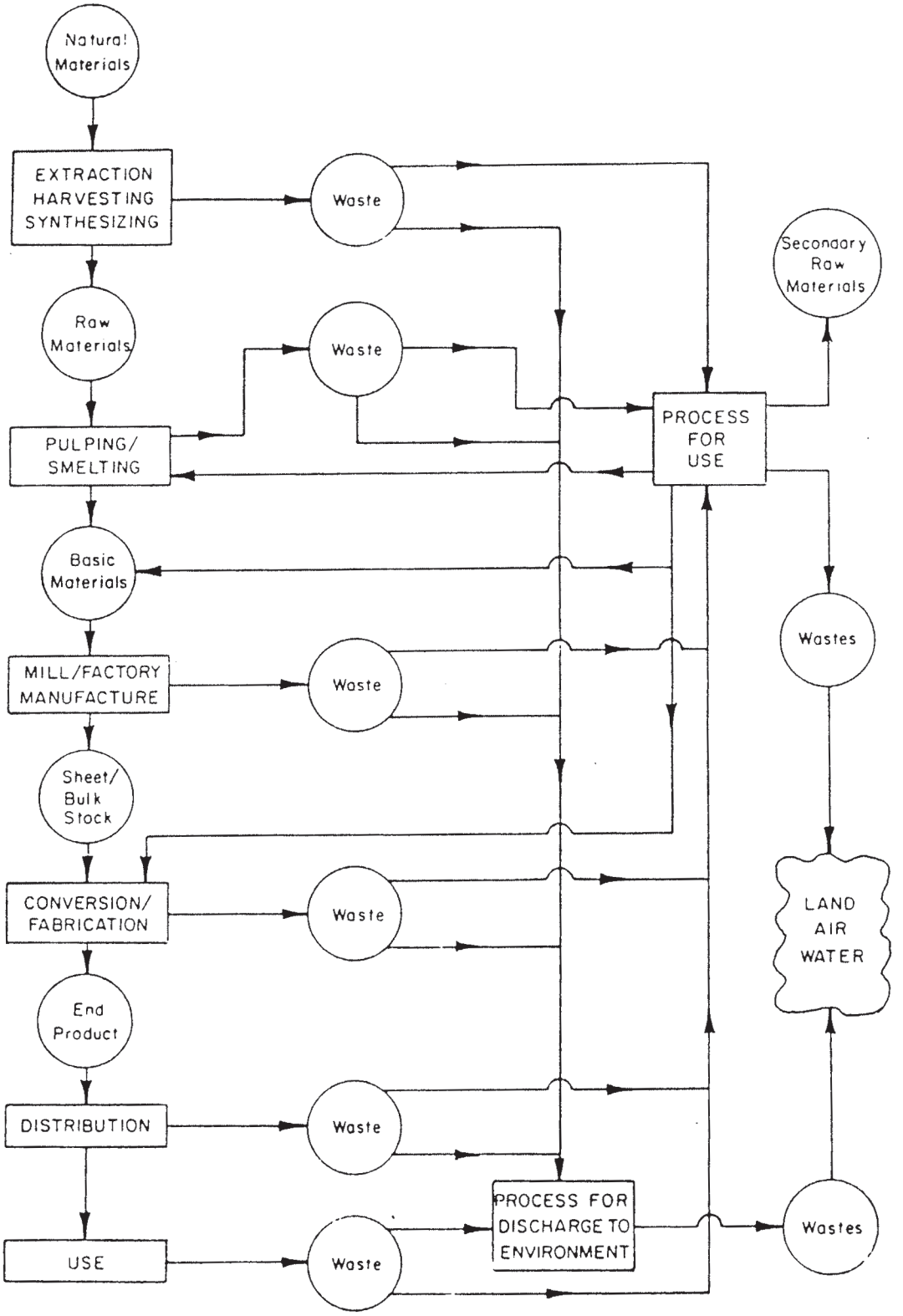
Classroom Activities

A. Design a waste reduction and/or recycling strategy for a local business or industry.

B. Design a new product out of the waste from a local business.

C. Have student record types and amounts of home waste on a daily basis for an extended period of time. Organize and display data using bar graphs, charts or tables. Analyze and interpret data to formulate conclusions about waste. Make estimates of yearly totals. Have students report their findings in class and discuss ways in which to reduce waste.

Sources of Waste in a Society



Source: State of Vermont Solid Wast Plan

DIY Easy Smartphone Stand

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This is a really simple smartphone project. As some of you know, I'm always working in the kitchen. I love to cook and bake and create recipes. This means I always have my smartphone in the kitchen.

Until recently, my phone used to be slung on the counter where ever there was space. This means it usually ends up getting covered in flour or some sort of sticky sauce — not anymore!

This DIY smartphone stand changed that – and the project only takes about 5 minutes from start to finish!

Time: 5 Minutes

Difficulty: Easy

What you'll need:

- Cassette tape case (w/paper insert)
- Wrapping paper (or other decorative paper)
- Glue stick

Like I said, this project is so simple and easy and it will help keep your phone clean in the kitchen – what's not to love about it?!

The first step is to grab an old cassette tape case – make sure it has the paper insert. If you don't have one that you're willing to sacrifice, hit the thrift shop, I grabbed a stack of old cassettes for like 10 cents each at our thrift store.
What color do you want your smartphone stand? It's the holiday season and I'm doing a lot of holiday baking so I used holiday wrapping paper for mine!

For all of the instructions, click HERE.

We found this through our Friends at Pinterest

Recycled toilet paper rolls Easy DIY Phone Holder

For all the details, click HERE