DOLPHIN RESEARCH CENTER
Do you know your trash?

Grade Level: 3rd-5th

Objectives: Students will understand how our habits can effect the problem of marine debris, and how proper waste disposal methods and recycling can not only help prevent the problem, but also help solve it!

Florida Sunshine State Standards:
Science
SC.D. 2.2.1: The student knows that reusing, recycling, and reducing the use of natural resources improve and protect the quality of life.
Social Studies
SS.B.2.2.3: The student understands how human activity affects the physical environment.

National Science Education Standards
Content Standard F (K-4) - Changes in Environments: Changes in environments can be natural or influenced by humans. Some changes are good, some are bad, and some are neither good nor bad. Pollution is a change in the environment that can influence the health, survival, or activities of organisms, including humans.
Content Standard F (5-8) - Natural Hazards: Human activities also can induce hazards through resource acquisition, urban growth, land-use decisions, and waste disposal. Such activities can accelerate many natural changes.

Background: As humans we are one of the most advanced life forms on Earth -- at least in terms of the impact we have on our planet and its inhabitants.. We have a responsibility to consider our actions and to modify them when necessary. The average American family produces **100 pounds of trash every week** and an estimated **14 billion pounds of trash** are dumped into the sea every year. Americans alone use 2.5 million plastic bottles every hour and the world's shipping industry dumps **over 450,000 plastic containers out to sea daily**. For more information see ***Threats to Dolphins*** information file.

Materials:
- Copy of the inventory log (included)
- Scale
- Trash!

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Teacher Prep Notes: For one week students will keep a log of the types of trash they generate and how much they dispose of that trash. Students will also learn what items can be recycled or have been recycled and why/how some items could become marine debris.

Procedures:

Day 1:

Introduce the log on Day One.

- Before they can discuss or predict how much their trash will weigh, they will need to discuss what factors effect the weight of our trash. For example, what IS their trash? How do their decisions on portion size effect trash? Why should you think about how much you put on your plate in terms of what you might throw away? Why does it matter how much trash we have? Where does it go from here?

Days 2-6:

- The logging will begin Day One, but it won't actually be filled out until the next day (DayTwo). Discuss the log together as a group and have a volunteer fill it out. Explain that over the course of the week, they will write down everything they throw away in the inventory log. In the item column they will write down what they discard. In the number column they will put a mark every time they throw away that type of item.

- Have daily discussions as to their predictions of how much trash they accumulate and what their trash consists of. Have students predict the total amount of debris at the end of the week.

- **Keep a scale underneath the trash** so that students can actually see the difference one or two pieces of trash make as they are thrown away. To reinforce the concept and act of recycling, ensure that recyclables are properly disposed of.

- **Wrap Up:** On the last day, as a group, calculate the total amount of trash accumulated throughout the week. Compare with estimates predicted at the beginning of the week. Discuss the types of items that were discarded that could become marine debris. Ask students the following questions:
  1. What types of items can become marine debris?
  2. How could they become marine debris?
  3. How could you prevent these items from becoming marine debris?

Taking it Further:

- Have students carry around their trash with them. Ask students to bring in a medium sized trash bag from home. Have the students use their bags to dispose of their trash. NOTE: Make sure they do not put glass, food waste, or sharp objects in their bags. Have the students carry their bags around with them everywhere they go. Continue this

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experiment for up to a week. At the end of the experiment, compare and discuss the quantities of trash each student has generated.

- Have students research recycling programs in their community. Conduct a survey to determine what kinds of materials are recycled, how much material is recycled, who participates in the program, and what the material is used for after it is recycled. Also have the students think of ways to increase community involvement in recycling.

- Have students set up a classroom or community-recycling program. First, determine which types of items will be collected for recycling, making sure that there is a market for those items in your area. NOTE: Contact the recycler you have chosen to handle your materials to confirm what types of materials can be collected, how the materials should be separated, and any other requirements that should be followed. Second, designate a collection center, and be sure to obtain appropriate containers and other facilities. Third, arrange to have the items picked up and delivered to the recycler. If there is a great enough demand in your area for the types of recyclables that you are collecting, you may receive payments for the materials you deliver to the recycler. This money can be used to fund the recycling project or other educational initiatives in your school.

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Waste Inventory Log

MONDAY		TUESDAY		WEDNESDAY		THURSDAY		FRIDAY	
Item	Number	Item	Number	Item	Number	Item	Number	Item	Number
Total =		Total =		Total =		Total =		Total =	