Microplastics Activities for Community Settings

Facilitator Prep Instructions

Activities Summary:

- **ACTIVITY 1: Are Microplastics found in the human body?**
  Analyze simulated brain tissue to discover if microplastics can be found in the human body.
- **ACTIVITY 2: How do microplastics get into the brain?**
  Use a diagram of the human body to explain how microplastics enter the brain.
- **ACTIVITY 3: Microplastics Messaging**
  Explore the variety of research and messaging about possible health risks of microplastics.

Core Concepts:

- Microplastics are small (<5mm) pieces of plastic.
- Microplastics can form when larger plastic items like water bottles, clothing and food containers break down.
- Microplastics are found in every ecosystem on Earth.
- Microplastics have entered the food chain and are found in the tissues of humans.
- Extensive research is required to determine the possible health effects of microplastics.

Time required: Approximately 15-20 minutes for each activity

Preparation Instructions:

ACTIVITY 1: Are microplastics found in the human body?

- **ACTIVITY 1** instructions
- **Sampling Protocol** handout
- 50 ml of **Tissue Dissolving Solution** (see recipe on the following page)
- A beaker or cup containing a grape-sized piece of **Brain Tissue Sample EC09-02** (see recipe on the following page)
- Spoon or stirrer
- 1 piece of "select a size" white Bounty paper towel cut in half to make a filter paper square
- Beaker or cup to support the filter paper
- Hand lens (optional)

ACTIVITY 2: How do microplastics get into the brain?

- **ACTIVITY 2** instructions
- **Human Body Model** handout (print in color)
- 1 plastic bingo chip ("microplastic chip"). Purchase online from Amazon: https://www.amazon.com/MR-CHIPS-Plastic-Transparent-Counting/dp/B08WPRPBCM/ref=ast_sto_dp_puis?th=1

ACTIVITY 3: Microplastics Messaging

- **ACTIVITY 3** instructions

Tissue Dissolving Solution – Recipe:

Ingredients

- 150 g Kosher salt (approximately 1 cup)
- 1,000 ml water

Mix the salt and water until the salt is dissolved. Each participant will need 50 ml of Tissue Dissolving Solution.

Brain Tissue Sample EC09-02 – Recipe:

Ingredients

- 1/4 cup Instant Snow Polymer. Purchase online from Educational Innovations: https://www.teachersource.com/product/instant-snow-polymer
- 2 cups water
- 1/2 cup Elmers School Glue
- 1/2 teaspoon each of 4 different colors and different sizes of Hemway biodegradable glitter (0.2 mm, 0.4 mm, 1 mm, and 3 mm size glitter). Purchase online from Amazon: https://www.amazon.com/Hemway-Friendly-Biodegradable-Cosmetic-Eyeshadow/dp/B07YNTPNMD?ref_=ast_sto_dp&th=1
    - 0.2 mm Red glitter
    - 0.4 mm Blue glitter
    - 1 mm White glitter
    - 3 mm Mother of Pearl glitter

Mix 1/4 cup of Instant Snow with 2 cups of water until the Instant Snow is fluffy. Add 1/2 cup of Elmers School Glue and mix well with a sturdy spoon or with your hands (wear disposable gloves for this). Add 1/2 teaspoon of each of the 4 different colors/sizes of glitter and mix well so the glitter is distributed throughout the "Brain Tissue". Each participant will need a grape-sized piece of the "Brain Tissue". Store the extra "Brain Tissue" in a sealed container or a plastic bag.