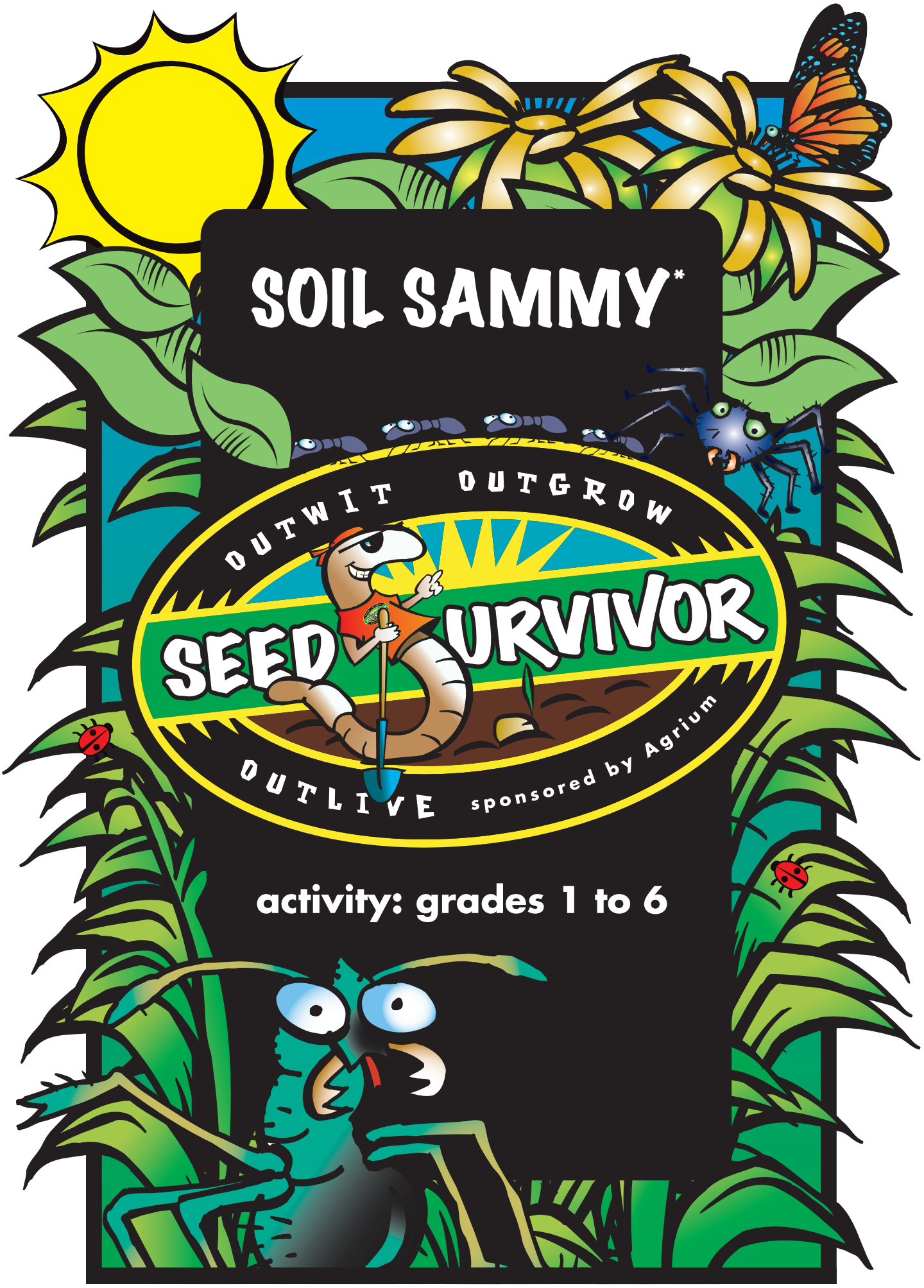

SOIL SAMMY*
OUTWIT
OUTGROW
SEED SURVIVOR
OUTLIVE
sponsored by Agrium
activity: grades 1 to 6

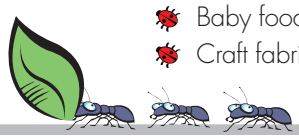
SOIL SAMMY*

Time Approximately 30 to 40 minutes
Plus time to observe plant growth over next few days/weeks.

Concept
- Soil profiles or layers
- Function of living and non-living things in the soil

Objective Learn about the needs of plants and animals, small crawling and flying insects, and rocks and minerals.

Materials
- Knee high stocking (one for each student)
- Grass seeds
- Potting soil
- Water
- Baby food jar (one for each student)
- Craft fabric, jiggle eyes, buttons, etc.



Activity 1

1. Stretch a knee high hose (or light coloured stocking) over the rim of a baby food jar. Place some grass seeds in the toe (the toe of the hose is the head of Soil Sammy and the grass looks like hair when it grows).

2. Pack a handful of soil in the end of the hose on top of the seeds.

3. Tie a knot or wrap a rubber band in the hose under the ball of soil.

4. Invert the soil ball so that the 'head' is above the jar rim and pour water into the jar.

5. Place the tail of the hose in the baby food jar filled with water. The end of the hose will absorb the water to feed the grass seeds, which will germinate through the hose. You may have to poke a few small holes in the hose to help.

6. Decorate Sammy! Add the jiggle eyes for a face, fabric for clothes, buttons for the shirt, and felt for a mouth. Encourage your students to be creative.

7. Water as needed, keep the head moist and be sure to cut and style the grass 'hair'.

8. Chart the growth rates of the grass in class.

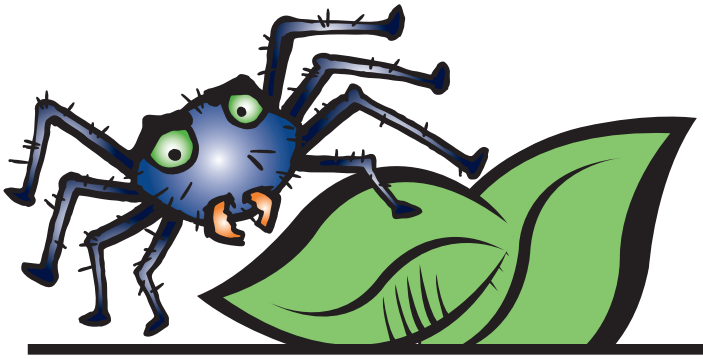
Activity 2 Appropriate for higher grades.

Add different types and different amounts of fertilizers to the soil and water to see which Sammy grows best. Will the grass hair grow better or faster with fertilizers? What items will cause the grass to grow faster or slower. Students can mix and match from the following lists, or try their own experiments. Try it and find out.

1. Add to the water:
- Store-bought Liquid Fertilizer
- Soda Pop (it has phosphorus)
- Apple Juice (it has citric acid)
- Ammonia (it has nitrogen)

2. Add to the soil:
- Store-Bought Fertilizer Stick
- Coffee Grounds (the caffeine has nitrogen)
- Baking Soda (it has nitrogen)
- Cream of Tartar (it has potassium)
- Epsom Salt (it has magnesium sulfate)

3. Chart growth changes and discuss theories on what influenced growth. This may also be a good opportunity to talk about balance. Plants that get too much, or too little water or nutrients may lose their health. Plants need a proper balance of water and nutrients to grow a healthy rates and resist disease.



Agrium has a game on its website **www.agrium.com** in the education centre called the Survival Soak. This game helps students understand the balance of water required for corn plants. The A-Maze-ing Underground is a similar game in concept but uses nutrients. This PacMan™ like game requires students to travel through the soil layers and collect the right balance of nutrients for the corn plants above. Students are able to take pictures of the living and non-living things they see on their journey.

*Soil Sammy was adopted and modified from the Illinois Farm Bureau, Agriculture In the Classroom 'Soil Ag Mag'.