

# Balancing Acts

## Objectives:

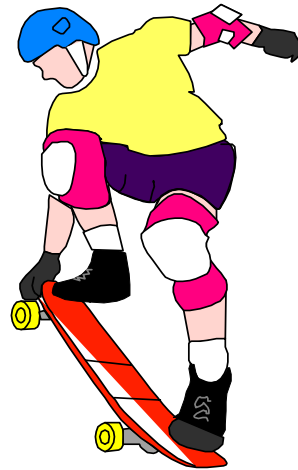
Students will devise a model of an ecosystem.

Students will use equipment safely.

The student will find the center of mass of a set of objects.

## Materials:

1 inch diameter dowel rod cut about 1 inch thick with a 16 penny nail driven into the center of it; 2 16-penny nails; 16 8-penny nails



## Procedure:

1. Each pair of students gets a set of nails and a dowel rod.
2. Balance all of the nails on the head of the nail in the dowel rod.

## Results:

1. Make a sketch of the arrangement of the nails when they are balanced.
2. Slowly remove one nail at a time. How many nails could you remove before the system collapsed?
3. Which nails were necessary for your system to survive? How do you know?
4. How does your system relate to an ecosystem?
5. Why are some parts of an ecosystem more important than others?
6. How does a balanced ecosystem compare to the center of mass of your balanced nails?

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## Teacher's Instructions

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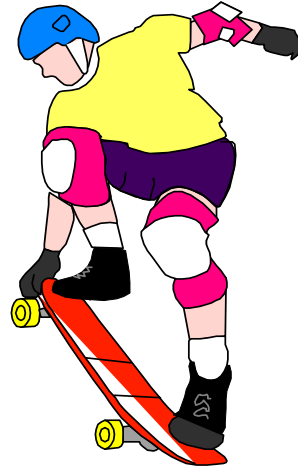
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### Possible Solution:

