



Activity 2.3

GRADES

K-6 (Care partners for K-2)

TYPE OF ACTIVITY

Flipbook

MATERIALS

- letter sized paper (cardstock would be ideal)
- pencil crayons, crayons, or markers
- copies of page 45-46 for each student
- scissors
- heavy duty stapler
- copies of the poem, "Pilobolus, the Fung in the Dung" from Tom Volk's website (see "Extensions")

VOCABULARY

adaptation
coprophilic
spores

Scientific Classification

Kingdom: Fungi
Phylum: Zygomycota
Class: Zygomycetes
Order: Mucorales
Family: Pilobolaceae
Genus: Pilobolus

The Fung from the Dung Flipbook

OBJECTIVE

- To illustrate how one fungus disperses its spores

BACKGROUND INFORMATION

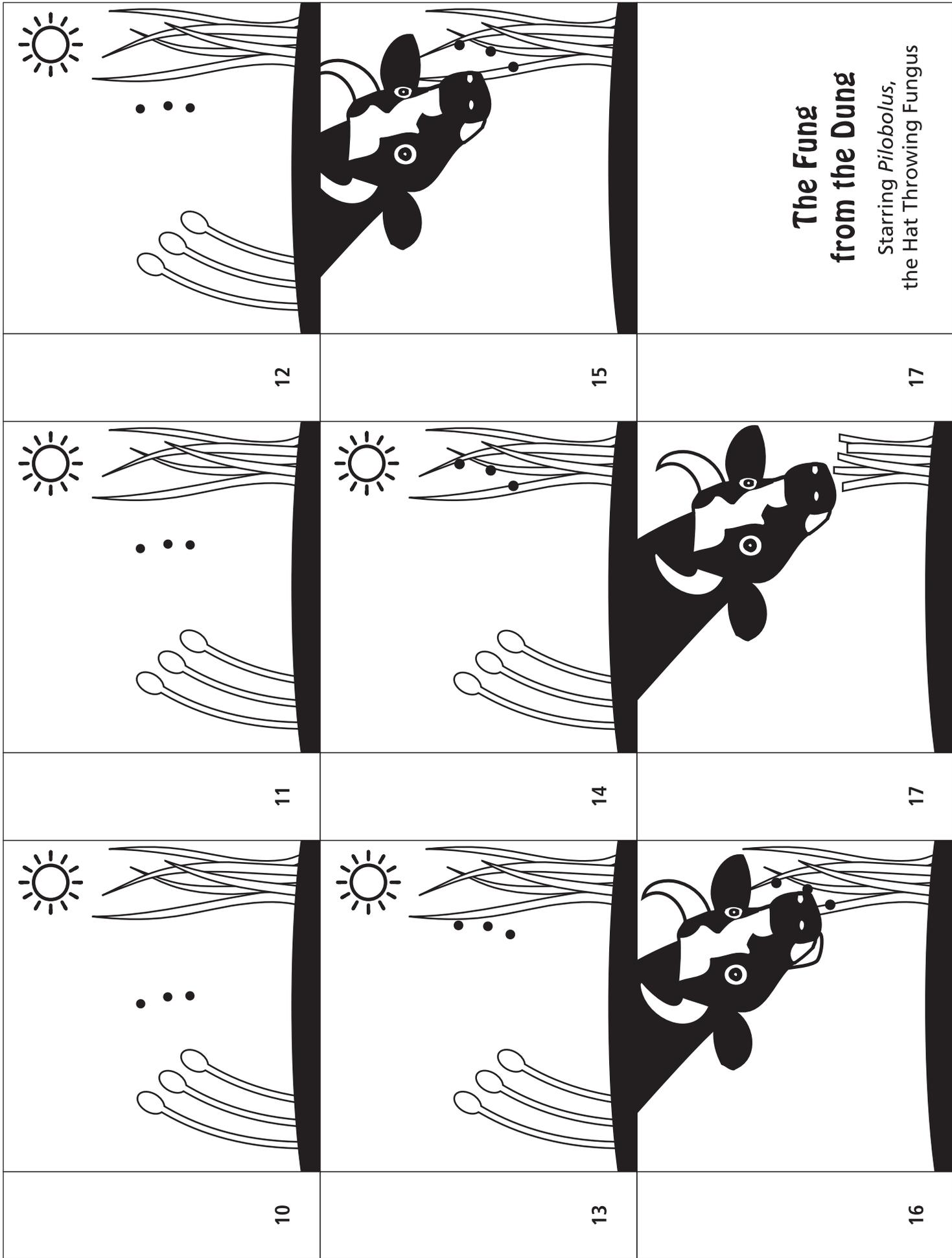
Fungi have developed many bizarre and interesting **adaptations** to disperse their spores. The hat thrower fungus, *Pilobolus*, is especially intriguing. This mushroom is **coprophilic** which means it likes to live in dung. *Pilobolus* has evolved a way to shoot its **spores** onto the grass where it is eaten by cattle. Its "shotgun" is a stalk swollen with cell sap, with a black mass of spores on the top. Below, the swollen tip is a light-sensitive area. The light sensing region affects the growth of *Pilobolus* by causing it to orient toward the sun. As the fungus matures, water pressure builds in the stalk until the tip explodes, launching the spores into the daylight at speeds up to 50km/hr and for distances up to 2.5m! Shooting the spores into the daylight gives them a better chance of landing in a sunny place where grass is growing. When the grass is eaten by the cattle, the tough spores pass through their digestive system and begin to grow in a pile of dung where the cycle begins again.

TEACHER INSTRUCTIONS

1. Make copies of pages 45-46 and handout to each student. The flipbook works best if it is photocopied onto thicker paper.
2. Open a discussion with your students about spore dispersal. Remind them that, unlike seeds, spores need to land on a direct food source in order to germinate and grow.
3. Hand out copies of pages 45-46 to each student and have them cut out the squares and stack them in numerical order.
4. Once the squares are assembled, staple the flipbook on the left margin and flip away to see a mini-movie of *Pilobolus* throwing its hat!

EXTENSIONS

1. There is a really cute poem about *Pilobolus* on Tom Volk's website at http://botit.botany.wisc.edu/toms_fungi/mar2006.html Encourage students read the poem after making their flipbooks. Another idea would be to turn the poem into a skit!



**The Fung
from the Dung**
Starring *Pilobolus*,
the Hat Throwing Fungus

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