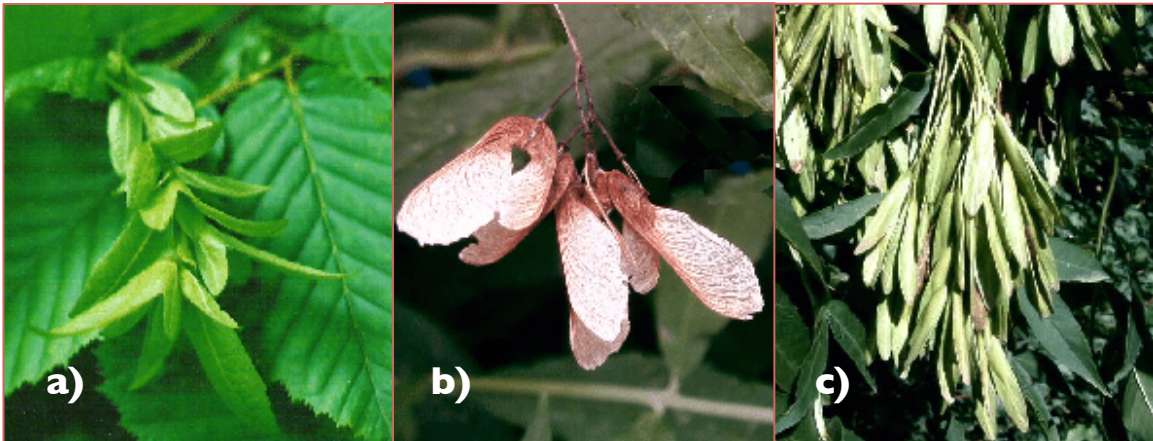


Name:

Adaptive Aviators (Teacher Version)

Flying Seeds

Some trees produce seeds with stiff wings that allow them to glide long distances. The wings are slightly twisted or balanced so that the seed spins as it glides to the ground. The following images depict either a Sycamore, Ash, or Hornbeam tree seed. Label each one, and describe 2 characteristics you notice about them.



a) Tree Name: Hornbeam; Characteristics: Long tails, single seeds.

b) Tree Name: Sycamore; Characteristics: Feathery tails, double seeds.

c) Tree Name: Ash; Characteristics: Long tails, single seeds.

Twisting & Turning

Materials:

- Scissors
- Paper clips
- Crayons
- Spinner Pattern



Instructions:

1. Cut, colour and fold the spinners.

3. Drop the spinners from a height, either inside or outside on a play structure (if possible).

2. Place a paperclip at the end of your spinners to keep the folds in place.

Describe the motion of the spinners, using proper vocabulary for movement:

Name: _____

Follow-Up:

1. Why do the spinners fall in the first place, since they are so light?
The force of gravity pulled the spinner to the ground.
2. Did the spinners move to the side? Why would they? *The moving air could have pushed the spinners as well.*
3. What other things are pulled to the ground in a similar way? *Maple keys are a common example.*
4. Why is it important for maple keys and other “twisting and turning” seeds to catch the wind? *So the seeds can be transported far enough from the parent tree to grow healthy and have its own space and resources.*



Windy Wanderers

There are other ways that plants have adapted in terms of dispersing their seeds: some have seeds that drift in the wind (rather than flying/gliding), and some whose seeds are simply released from their pods by the wind bending their stalks.

Can you match the pictures to the type of plant, and determined whether or not it is a **drifting** or **pod** seed? The possible names are: Willow Herb, Bulrush, Columbine, Dandelion, Poppy, and Evening Primrose.



Name:
Bulrush

Name:
Columbine

Name:
Willow Herb

Name:
Evening Primrose

Name:
Dandelion

Name:
Poppy

Type:
Drifting / Pod

Type:
Drifting / Pod

Type:
Drifting / Pod

Type:
Drifting / Pod

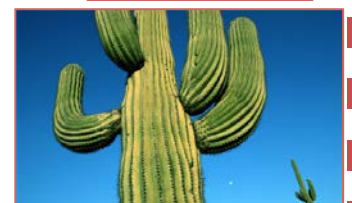
Type:
Drifting / Pod

Type:
Drifting / Pod

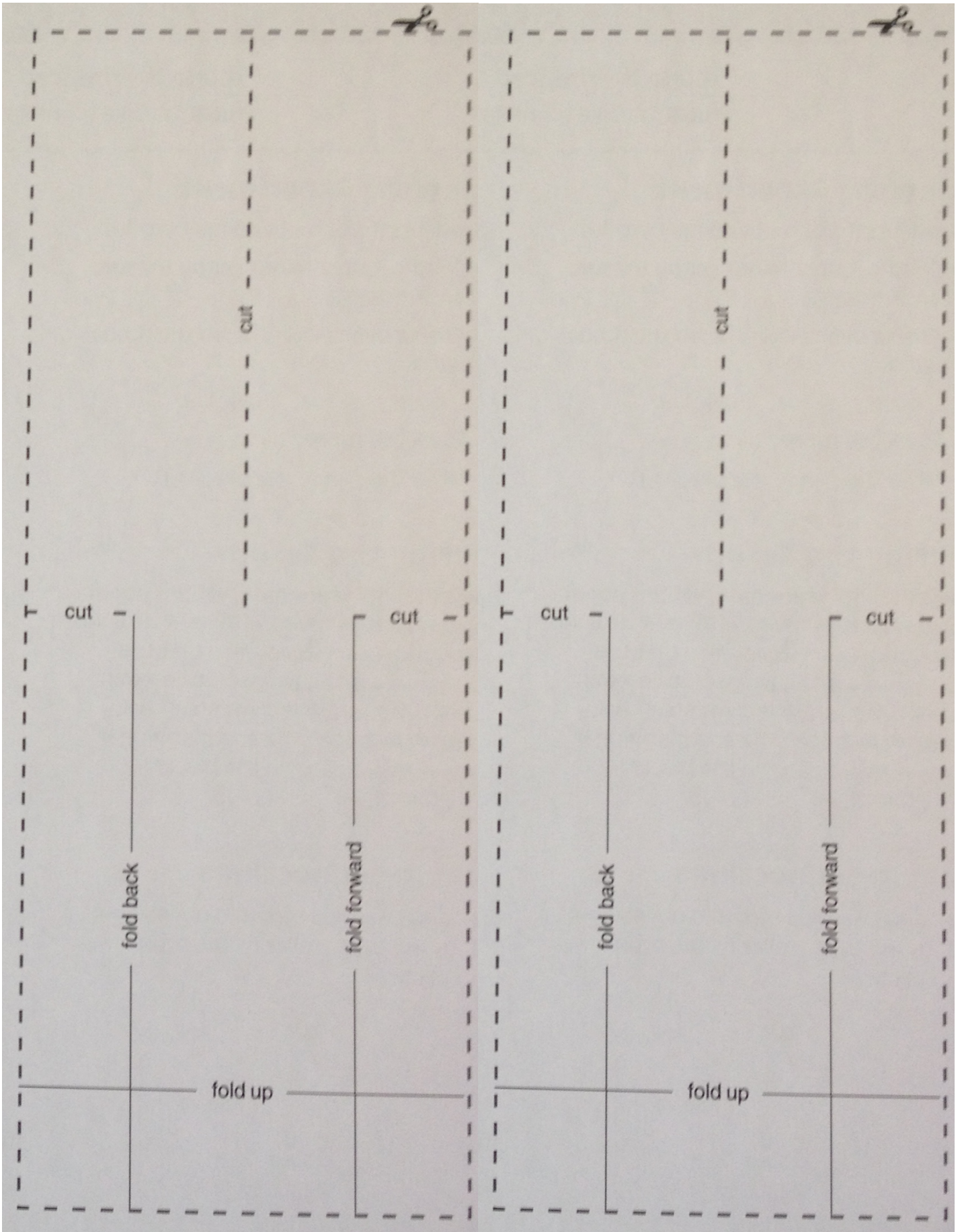
Practical Plants

Plants have developed different adaptations to help them survive. Can you determine how the plants in the photos have adapted to their environment?

Water plants have flexible stems to accommodate current, and their roots are designed to anchor instead of absorb nutrients. The cacti have adapted to absorb and retain water for long periods of time so that they might survive in the desert.



Name: _____



Name:

Image Sources:

Flying Seeds:

1. The Seed Site: <http://theseedsite.co.uk/sdwind.html>

Twisting and Turning:

1. Fiskars: <http://www2.fiskars.com/Sewing-Quilting/Products/Scissors-and-Sharpener/Micro-Tip-Scissors-No.-5#.U4uqrxazuf8>
2. University of Hawaii: https://epay.hawaii.edu:8443/C24372test_ustores/web/product_detail.jsp?PRODUCTID=191
3. Crayons Roleplay: <http://crayons-roleplay.weebly.com>

Follow-Up:

1. Wedding Bee: <http://boards.weddingbee.com/topic/whirlybirds-aka-maple-seed-pods/>

Windy Wanderers:

1. The Seed Site: <http://theseedsite.co.uk/sdwind.html>

Practical Plants:

1. Biology of Plants: <http://www.mbgnet.net/bioplants/adapt.html>
2. The Guardian: <http://www.theguardian.com/world/2011/oct/25/germans-detained-cacti-mexico-airport>