Name: _____

Finding Fibonacci Numbers in Nature

Below are examples from nature in which Fibonacci numbers can be found. Using the illustrations or samples your teacher provides, work with your group to answer the questions. Make sure that you complete your own sheet.

1. Flower petals: Count the number of petals on each of these flowers. What numbers do you get? Are these Fibonacci numbers?

2. Seed heads: Each circle on the enlarged illustration represents a seed head. Look closely at the illustration. Do you see how the circles form spirals? Start from the center, which is marked in black. Find a spiral going toward the right. How many seed heads can you count in that spiral? Now find a spiral going toward the left. How many seed heads can you count there? Are they Fibonacci numbers?

3. Cauliflower florets: Locate the center of the head of cauliflower. Count the number of florets that make up a spiral going toward the right. Then count the number of florets that make up a spiral going toward the left. Are the numbers of florets that make up each spiral Fibonacci numbers?
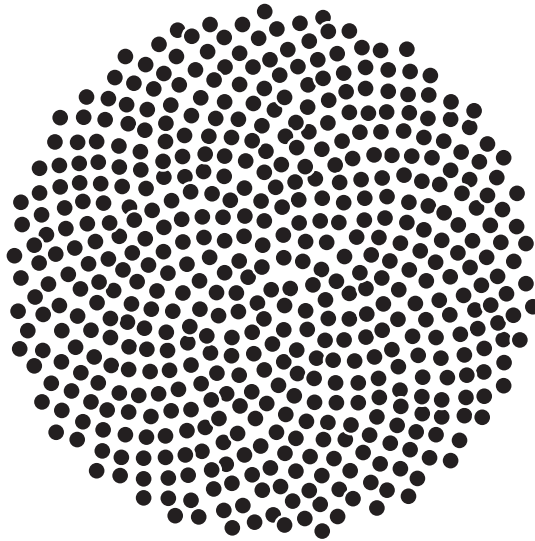
4. Pinecone: Look carefully at the picture of a pinecone. Do you see how the seed cases make spiral shapes? Find as many spirals as you can going in each direction. How many seed cases make up each spiral? Are they all Fibonacci numbers?

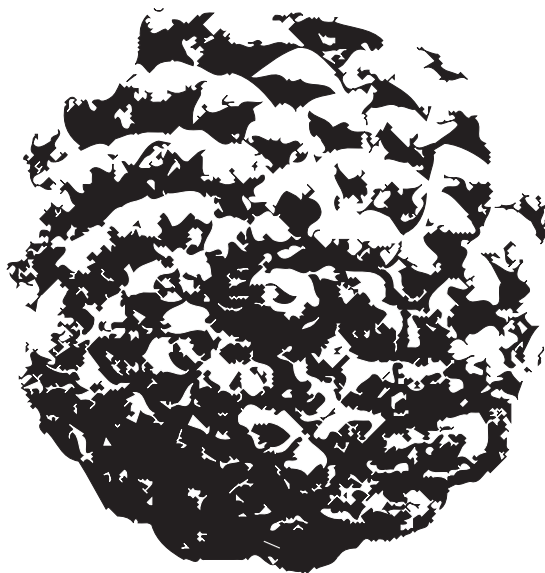**5. Apple:** How many points do you see on the "star"? Is this a Fibonacci number?

What shape emerges most often from the Fibonacci numbers? What function do you think this shape serves?
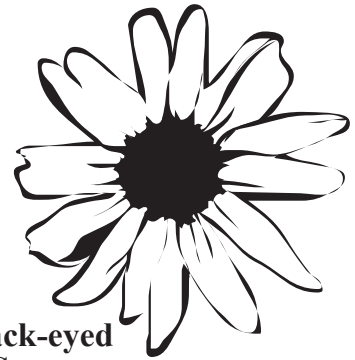
Finding Fibonacci Numbers in Nature

Seed head

Pinecone

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Buttercup

Black-eyed Susan

Lily

Iris

Aster

Cauliflower florets

Apple