Spider Silk: Nature's Blueprint for Innovation

Name: ANSWER KEY Date: _____

Vocabulary Words: Match the definition to each word.

1. Spider silk is so ___thin___ that 10,000 strands could fit across a single human hair.
2. Scientists used spider silk to help create ___glass___ nanotubes.
3. The glass nanotubes are now used in ___optical___ cables and to separate single molecules.
4. In dry places, people use spider web-shaped structures to collect ___water___ from the air.
5. By studying ___nature___, people have invented many helpful products.

Word bank: water, nature, optical, thin, glass

Multiple Choice: Choose the correct answer from the choices for each question.

1. How did scientists make a hollow glass tube using spider silk?
   a) They drilled a hole in glass.
   b) They coated spider silk with glass
   c) They froze the spider silk.
   d) They glued spider silk together.

2. What do spider web-shaped structures in Israel help collect?
   a) Sand
   b) Food
   c) Water
   d) Sunlight

3. Why are glass nanotubes special?
   a) They are very large.
   b) hey are used for building houses.
   c) They are made of plastic.
   d) They can separate single molecules.

4. What is the main lesson from the video about spider webs?
   a) Spider webs are dangerous.
   b) We can learn ideas from God's creation to solve problems.
   c) Spider webs are always sticky.
   d) Only spiders can use webs.

Discussion & Reflection: Answer the following questions in complete sentences

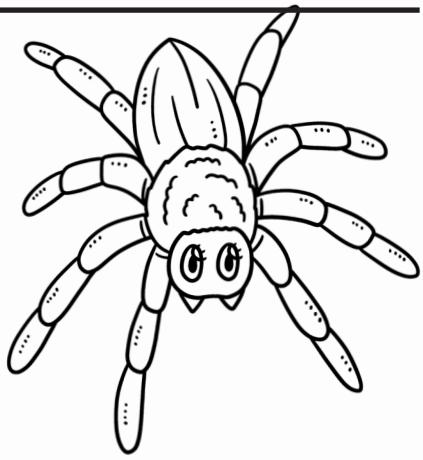
1. Explain how spider web designs help people in dry areas collect water.

The spider web-shaped structures are made in a cone shape to catch dew, which drips down into a container so people can collect water.

2. Why do you think it is important for humans to learn from nature when inventing new things?

Learning from nature is important because it gives us ideas for new inventions and solutions to real-world problems. God has already solved many challenges in creative ways.

3. This shows me that God is (Circle the word):

Wise Powerful Caring Creative All of the above

Explain your choice: