

BEASTLY ARMOR

MILITARY DEFENSES INSPIRED BY ANIMALS



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Words in **bold** are in the glossary.

Advancing Defenses

Looking to the Sky

By 1900 battlefields became even more deadly. To protect troops, military defenses had to change once again. New defenses would soon be found in the sky.

Humans had long dreamed about flying. Then Orville and Wilbur Wright invented the first successful airplane in 1903. They shaped the plane's wings like a bird's wings. The shape allowed the plane to lift off the ground. Airplanes would soon change battlefields forever.



Flying above enemies gives armies a big advantage in battle. Early in World War I, airplanes were used only for defense. Pilots flew high to find enemies. They sent information back to their ground troops. Leaders could then form a useful battle plan.

Hiding in Plain Sight

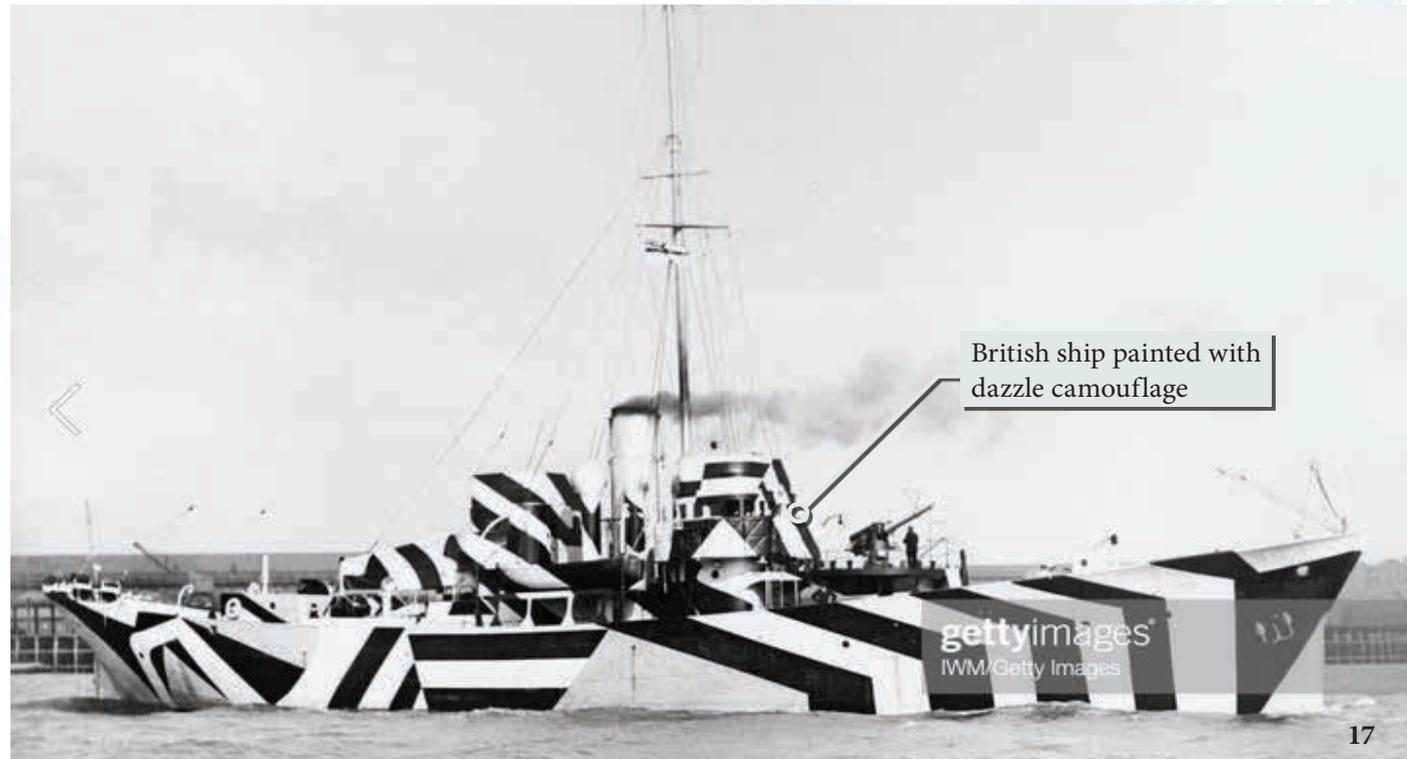
The ocean was another dangerous battlefield in World War I. German U-boats destroyed many British ships. These **submarines** often attacked without warning.

The British Navy found an amazing solution. They studied how a zebra's stripes can confuse **predators**, such as a lion. This gives zebras extra time to escape.

The navy followed nature's example. It began painting ships in black and white stripes. They called it dazzle camouflage. Almost 3,000 British ships were painted this way. The plan worked. The number of U-boat attacks soon dropped. The bold patterns confused U-boat crews. This gave British ships time to get away.



A group of zebras



British ship painted with dazzle camouflage

Beneath the Waves

Both bats and dolphins have a sense called **echolocation**. They make squeak and click sounds. The sounds bounce off insects or fish back to the animals. Hearing the sounds helps them locate food in dark places.

Sonar works in the same way. Sound waves are sent out that bounce off objects. The speed of the returning waves is then measured. This information helps find hidden rocks, bombs, or other objects in the water.



FACT

The U.S. Navy began training dolphins about 50 years ago. They often use their sonar to help find underwater bombs.



Ships first used sonar more than 100 years ago. It helped find hidden icebergs. Armed forces soon learned to use it too. During World War I, sonar helped find submarines.