Adaptive advantages - the adaptive advantages always refer back to surviving or reproducing.

There are many advantages in moving towards or away from a stimulus. They include:

- avoiding desiccation (avoiding drying out)
- avoiding predation (avoiding being eaten)
- finding food
- finding a suitable habitat (finding a suitable home)
- avoiding poisons
- finding suitable photosynthetic conditions (not plants though, just single cells like algae that photosynthesize).

Example: snails moving up a vertical surface.
Adaptive advantage: Snails prefer to eat nutritious shoots or leaf tips, which can be found higher up growing plants, or to find a suitable habitat without too much water.
Environmental cue: Gravity
Orientation: negative _Gravity___taxis (negative because it's away from the downward pull of gravity).

Example: earthworms move away from light.
Adaptive advantage: This is because they need their internal environment to be moist, and staying in the light causes them to dry out. So they move away from it / down the light concentration gradient.
Environmental cue: Sunlight Photo_____

Orientation: Negative sunlight taxis

Example: many bivalve shellfish burrow into the ground when they are disturbed.
Adaptive advantage: This helps to avoid predation.
Environmental cue: Gravity
Orientation: positive gravitaxis and negative thigmo taxis

Example: some parasites such as fleas, lice and mosquitos are able to sense the heat coming from a potential host.
Adaptive advantage:Are able to find host.
Environmental cue: Thermo heat
Orientation: This is positive thermotaxis.

Example: flatworms can locate and move towards a raw piece of meat. Many flatworms have auricles. Auricles consist of angled projections from the sides of the head, which gives some flatworms' heads an arrow-shaped appearance. Auricles contain concentrations of nerve cells. These nerves are sensitive to both touch, moisture and certain chemicals.
Adaptive advantage: Find food
Environmental cue: Chemicals in a food source.
Orientation: Positive chemotaxis.

Example: a maggot will move away from a light source.
Adaptive advantage: They won't dry out
Environmental cue: Photo
Orientation: Negative phototaxis

Example: female silk moths release a pheromone (sex chemical) called bombykol. Males can pick up just one molecule of this chemical, and fly up the gradient (using sensory organs called antennae on either side of his head).
Adaptive advantage: Reproducing advantage
Environmental cue: Chemicals
Orientation: Positive Chemo taxis