February 15, 2020
How to Lick Cat Allergies

Student Discussion Worksheet

Directions:

Define the problem, allergen and treatment
Read the article "How to lick cat allergies," and review the chart "Allergy treatments" to answer the following questions.

1. What is the overarching problem that the treatments discussed are trying to solve?

2. What is the allergen, and how is it produced? How does the allergen reach humans?

3. For each treatment mentioned in the article, answer the following questions:

Does the treatment target the human or cat?

How does the treatment attempt to solve the problem? (For example, does it treat a symptom, stop the production of the allergen, interfere with the allergic response or work through some other mechanism?)

What background information do you think scientists need or needed to develop the treatment?

Antihistamines:

Nasal steroids:

Traditional allergy shots:

Lab-made antibodies:

Pet food with antibodies:

Vaccine for cats:

Genetic engineering:

Group and categorize
Compare your answers with a partner. Discuss which treatments are similar and why. Group them into categories based on their similarities. Once the treatments are grouped, give each group a "category name" that describes the set of approaches. Then answer the questions that follow.

1. Category Name:
Treatments within category:

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Treatments within category:

Category Name:
Treatments within category:

2. Which categories require a greater background understanding of human and cat biology? What fields of science are shared across the categories? Which fields are unique to one or more categories?

3. Are some categories of approach more invasive than others? Are some riskier? How does the risk relate to the benefits of the treatment type?

4. Are there any categories of approach that weren't considered or covered in the article?

5. Which treatment would you choose if you had a cat allergy and why?

Apply your thinking to a new allergen

With your partner, choose a different allergy such as pollen, bee stings, particular foods or other animals. Use the questions below to devise possible treatments for the chosen allergy, and select what you think would be the most viable treatment option.

1. What's your chosen allergy? What is the allergen responsible and how is it produced? How does it spread to humans?

2. Describe a possible treatment approach that fits within each category defined above. Can you think of a treatment approach that fits into a different category? If so, explain it.

3. What are the advantages and drawbacks to each treatment?

4. What scientific background information would you need to create each treatment?

5. If you were to further explore and develop one of the treatment, which would you choose? Why? How would you begin to collect the background information needed?