Local Animal Shelter
Grade Level: Secondary
Learning Standards: Operations with Fractions & Measurement Conversions

Act 1
<u>Teacher Notes</u>
1) Slide 2: Show students the first <u>video</u> and ask:
    - What grabs your attention?
    - What do you feel?
    The responses can be shared out as a class using Think-Pair-Share
2) Slide 3: Show students the second <u>video</u> and ask:
    - What do you notice?
    - What do you wonder?
3) <u>Suggestion:</u> Students use T-P-S or you could use a digital platform to collect responses. Students may require guidance on what the focus problem and question will be. <u>Worksheet</u> can be provided to students.
    - **Focus Problem:** Local animal shelters are given the task of providing for the welfare of many animals and the cost of this can be significant at times.
    - **Focus Question:** What does it cost to feed a dog once it finds itself in need of care at a local animal shelter?
4) Ask students the following. They could use T-P-S to answer:
    a) What information do you need to solve the problem?
    b) Why do you need this information?
5) Slide 4: Have students estimate how much to feed each dog using only prior knowledge.
    - Encourage them to create an estimate that is too low, as well as too high.
    - Share out as a class, collecting responses on slide 5.

Act 2
Provide students with the requested information once they have asked for them.
Required information includes:
    o Weight of each of the dogs (slide 7)
    o How many meals each dog eats per day (slide 8) – *students could share their own experiences of how often they feed their own dogs*
    o Daily feeding guidelines (slide 9)

<u>Teacher Notes & Suggestions</u>
1) Have students work through figuring out the serving size per meal. When doing the calculations, students may arrive at solutions that may not be realistic in terms of the units of measurement that you would typically use to feed an animal (such as whole cups as well as ¼, 1/3, ½ cup). Have them consider their solutions and make proper adjustments.
2) *Emphasize to students that there is no one exact, right answer since the feeding guidelines vary with a range of weights.* Justifications for their answers should be given.
3) Students can compare their solutions with the class (final agreed upon values can be shared on slide 11).

Act 3
[Video](#) **synopsis:** the medium size dog is fed an accurately measured amount of food

Possible Solutions:
- Large Dog= 1 2/3 per serving
- Medium Dog = 1 and ¼ cup per serving
- Small Dog= ¾ cups

Extensions
Extension #1: What is the serving size (in cups) for a dog that weighs 200lbs and eats twice a day?

- Extra information needed is already given on the slide; students will need to do some addition/multiplication of fractions in this question
- **Possible Solution:** 3 1/6 cup but a more realistic solution would be 3 cups per serving

Extension #2: How many bags of dog food do you need to feed each dog for a year?
- Students will need the conversion kilograms to grams (1 kg = 1,000 grams)
- Suggestion: Estimate kg based on weight range of dog

Possible Solutions:
- Large Dog= ~8.5 bags of food (based on 400g of food/day)
- Medium Dog = ~6 bags of food (based on 275g of food/day)
- Small Dog= ~2.5 bags of food (based on 115g of food/day)

Extension #3: What is the cost of the dog food per dog per year?

Possible Solutions:
- Large Dog= ~$725.00 (based on 9 bags of food)
- Medium Dog = ~$485.00
- Small Dog= ~$240.00 (based on 3 bags of food)

Extension #4: Fundraising/Costs of Shelters/Ethical Questions

- What other costs do these shelters require to support the adequate care of the animals?
- In what ways can we as an individual or local community support our local animal shelter(s)?
- As a dog owner, there is the ethical question of 'do I spend more money for high quality food'? What quality of food should the shelter purchase? Would it lead to healthier dogs? What is the cost/benefit analysis?

Teacher Notes:

- Discuss as a class all the other aspects and costs related to shelters including food, bedding, health costs, other animals, care, etc.
- Have students reflect on how this task impacted their emotions towards supporting shelters.
- As a class, come up with ways students may already be supporting local animal shelters such as dog walking, volunteering, fundraising efforts and donating.

- <u>Suggestions/ Questions to consider:</u> What quality of food should the shelter purchase? Would it lead to healthier dogs? Should the shelter buy more bags of lower quality food so we can feed more dogs, or should they buy higher quality food? What is the cost/benefit analysis?