

Small animals 3-5: Hamster

Christine Williams - 4th grade



Our story: I read “The World According to Humphrey” by Betty Birney at the beginning of the year to my 4th graders. This is a great book with a hamster as the speaker and a good start for lessons about points of view, acceptance and differences.

“You can learn a lot about yourself by getting to know another species. Even humans.”
– **Betty G. Birney, The World According to Humphrey**

There are many possibilities of Language Arts lessons (facts vs fiction, points of view in a story, writing in the first person in fictional narratives, etc.). In Science and technology, students liked researching more about hamsters and creating Power Point or Google slides to present. Having a hamster as a class pet also let

students have a special connection and learn from being responsible for feeding and cleaning.

I wanted to share a Math/ Science lesson:

Standards:

CCSS.MATH.PRACTICE.MP1 Make sense of problems and persevere in solving them.

CCSS.MATH.PRACTICE.MP3 Construct viable arguments and critique the reasoning of others.

CCSS.MATH.CONTENT.4.MD.A.1

Know relative sizes of measurement units within one system of units

-Day 1: How much does the hamster weigh?

- Encourage the students to make estimated guesses. Keep track of all guesses. Students might compare the weight of the hamster with gram plastic cubes, as well as different weights that usually come with a regular scale.
- Group students in groups of 3 or 4 (I prefer heterogeneous grouping) and ask them to write down ideas (possible problems and solutions) to weigh the hamster. What instruments do we need? The major problem will be that the hamster might walk away or fall off the balance plate.
- Share with the whole class.

-Day 2: Pros and cons of different ideas.

This part takes time and patience. Students are encouraged to use “formulas” to agree or disagree. For example, if a group suggests to put the hamster in a close container, one might say: “Using a container is a good idea. However, how will you assure the hamster will be able to breathe?”

Each group will present a drawing of their solution (see attached document).

Do not help students too much with ideas. Rather encourage discussions by asking questions such as “Is it safe for the pet?”, “Why would you chose this unit

rather than this one?” or “How would you know that the measurement is 100% correct?”

Possible solutions:

Solution	pros	cons
Nothing	Hamster has more space. It is not confined.	Might fall off or move too much for the measurement to be exact.
Put the pet in a box	Safer for the hamster	Calculations required: weight of the hamster = (weight of hamster + box) – weight of the box.
Hold the hamster and use the bigger balance in the nurse’s office	The hamster does not mind to be held. It won’t run around.	Calculations required: weight of the hamster = (weight of the child holding the hamster) – weight of the child. There is such a big difference of weight, it might lack precision.
Weigh the whole cage	The hamster won’t even notice.	Same calculations. Might have the same problem as above.

In all cases, as in every science experiment, the experiment needs to be repeated several times to assure a correct answer. Advanced students can be introduced to calculating an average.

-Day 3: weighing the hamster

Each group can weigh the hamster choosing their favorite solution. Results should be recorded again and compared to the first estimation.

Advanced learners could work on averaging and/ or converting ounces to grams.

Our hamster (dwarf Russian) weighed 27g, which is within the numbers (1oz – 1.5oz (25g – 40g) we found on line.



Name: _____ Date: _____

How much does _____

1. Type of pet:

2. Write 3 facts about the animal:

3. Estimated weight:

4. What unit did you choose and why?

5. Explain how you made that estimation: