Project FOCUS
Best Lessons
FIFTH GRADE

Title of Lesson: Making a Vertebrate Backbone
Theme: Life Science
Unit Number: 1 **Unit Title: Cells and Microorganisms**
Performance Standard(s) Covered (enter codes):

> **S5P1**
> **S5L3**
> **S5L4**

Enduring Standards (objectives of activity):
> **Habits of Mind**
> ☒ **Asks questions**
> ☐ **Uses numbers to quantify**
> ☒ **Works in a group**
> ☐ **Uses tools to measure and view**
> ☒ **Looks at how parts of things are needed**
> ☒ **Describes and compares using physical attributes**
> ☒ **Observes using senses**
> ☐ **Draws and describes observations**

Content (key terms and topics covered):
Students will understand and observe how a vertebrate backbone is built, and it's basic movement and function.

Learning Activity (Description in Steps)
Abstract (limit 100 characters): **To see how the backbone works use pasta and gummy wheels.**

Details: 1. **Talk about the differences of vertebrates and invertebrates, with examples, by using a short power point lecture**

2. **Hand the materials for creating the back bone out. Students should get about 10 "wheel" past, 10 gummy lifesavers, and one drinking straw. Small groups can be used if necessary**

3. **Students will create the backbone by putting a "wheel" pasta, a gummy, a "wheel" pasta, a gummy, and so on. It would be best to build one with them so they can learn by your example. When complete show how the backbone moves and what the parts represent. Pasta is the bone and the gummies are the discs. Show that the discs create a flexibility in the bone.**

4. **Have the students create a hypothesis of what would happen if you take out the gummy life savers**

5.   **After the activity is over, students can eat the gummy part ONLY.**

Materials Needed (Type and Quantity):

1.   **"Wheel" Pasta**
2.   **Gummy Life Savers**
3.   **Drinking Straws**

Time Required: Approx. 45 Minutes

Preparation:
Approx. 5 Packets of Gummy Lifesavers and 2 boxes of pasta for a class of about 25 students. One box of regular drinking straws will also be needed. If you want you can pre-make the backbones if you are short on time.

Notes and Tips (suggested changes, alternative methods, cautions):
Background Information: Tell the kids that they are not allowed to eat the "Wheel" Pasta. The "wheel" pasta is the best kind of pasta to use for this kind of activity.

This activity is a great pairing with a lecture about vertebrates and invertebrates, stressing that vertebrates contain a backbone much like the one they are making. During this activity quizzing students on different examples of vertebrates and invertebrates would help instill the lesson.

Questions:
1.   **Name 8 different examples of invertebrates and vertebrates**
2.   **How are invertebrates and vertebrates different ?**
3.   **Explain the importance of the backbone, its parts, and how it works.**

Evaluation:
Quizzing students with candy reward for correct answers is a great way to have students actively involved.

Sources/References:
1)
2)
3)