**Pre-Activities Grade 3: The Bee Movie**

In the weeks leading up to the movie…

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| **Grade** | **Curriculum Expectations** | **Activities** |
| 3 | **Science: Unit: Understanding Life Systems: *Growth and changes in plants***  **1.1** assess ways in which plants are important to humans and other living things, taking different points of view into consideration (e.g., the point of view of home builders, gardeners, nursery owners, vegetarians), and suggest ways in which humans can protect plants  **1.2** assess the impact of different human activities on plants, and list personal actions they can engage in to minimize harmful effects and enhance good effect  **3.6** describe ways in which plants and animals depend oneach other (e.g., plants provide food for energy; animals help disperse pollen and seeds, and provide manure that fertilizes the soil in which plants grow; plants need the carbon dioxide that animals breathe out, and animals need the oxygen that plants release into the air  **Language Unit: *Writing***  **1.2** generate ideas about a potential topic, using a variety of strategies and resources  **1.4** sort ideas and information for their writing in a variety of ways (e.g., by usinggraphs, charts, webs, outlines, or lists)  **1.5** identify and order main ideas and supporting details into units that could beused to develop a short, simple para-  graph, using graphic organizers (e.g., a story grammar, a T-chart, a paragraph frame)and organizational patterns  **1.6** determine whether the ideas and information they have gathered are relevant and adequate for the purpose, and gather new material if necessary  **Health**  **C1.4** identify factors (e.g., sleep, food, physical activity, heredity, environment, support from a caring adult, sense of belonging, peer influence)that affect physical development  (e.g., of hair, skin, teeth, body size and shape) and/or emotional development (e.g., of self-awareness, adaptive skills, social skills) | **Activity 1: Thinking about Plants**  \*This activity will give teachers good pre-assessment information on students’ prior knowledge of plants  **Discussion**  \*Explain to students what a KWL chart is, the **K** stands for what they **Know**, the **W** stands for what they **Wonder** and the **L** stands for what they have **Learned**  **\***Use the **KWL Chart for Plants** handout  \*Both the K and W get filled out at first and then the L is left until after the movie to see what new information they have learned  \*Students write down any information at all they already **Know** about plants, it could be how they make their food, what they need to survive, animals which eat them, different kinds of plants, any previous knowledge at all  \*Students then write down what they **Wonder** about plants, things they may not know but would find interesting to have answered, for example: how does a plant grow? What kinds of plants can you eat? What does a plant use for food? How does the movie we are seeing relate to plants?  \*Ask them to leave the **Learn** column blank  \*Students could do this activity individually to assess for previous knowledge or as a group  \*Discuss ideas as a class once students have filled out their sheets—a large classroom sized KWL chart could be made to write down ideas  **Activity 2: Comparing our Stages of Development to the life cycle of a Plant** (adapted from: Curriculum Castle)  **Humans**  \*ask students to brainstorm in their health books what stages of development humans go through, how do they start, what do they become  \*talk about their ideas as a class  \*on the smartboard or as a printed copy on the board review the **Human Growth Display Posters** and see if they were missing any stages or thought of a stage that was not in the posters  \*get them to draw and label their own corrected version of the stages of development or use the **Stages of Development** handout to get them to correctly label each stage and draw their picture in each box  \*ask them what needs to happen to make sure they get to each stage in a healthy way (eating healthy, exercise, having good friends and a family)  **Plants**  \*Students have already brainstormed general ideas they had about Plants, ask them to now brainstorm the life cycle of a plant, how does a plant start? What does it become? What are the stages in between?  \*Discuss their ideas as a class and then look at the **Life Cycle of a Plant** handout, this could be done as a whole class activity, small groups or as individuals  \*Get students to answer what plants need to ensure they grow properly—how is this similar to what humans need to grow up?  Discuss the following topics:  1. Some plants produce flowers and others do not  2. What animals are attracted to the flowers of plants? Why?  3. What purpose do Honey Bees serve for flowers and plants? Do the plants help the Honey Bee or does the Honey Bee help the plant? Or could it be both?  4. Discuss that flowering plants and Honey Bees depend on each other for survival, what would happen if there were no more plants? What would happen if there were no more Bees?  **Flowering Plants**  If possible try to find or bring in a flower to show students (a lily is a great one because all the parts of the flower can be easily seen or found)  \*Discuss there are different parts of the flower and have students do the **Flower Parts worksheet** or fill it out as a class  A discussion of **How Honey Bees Use the Flowers** could follow:  1. Show them the **“Characteristics of Bees”** handout on a smartboard or projector, read out the labels and try asking what certain parts of the bee are and see if students can label some of them (obvious ones like wings and antenna they may get) and others may need to be answered as a class  2. After they have labelled some explain how some of the parts of the bee function and how they use the flower to make honey, use these as a guideline, some words may be too detailed for younger students:  3. Explain that worker bees have a long tube (called a proboscis) that they use to gather their food (called nectar), the sweet fluid produced by flowers. Worker bees store it in a part of their body called the honey sac.  4. Tell students that in addition to nectar, bees collect pollen. Pollen is the yellow-green powder-like substance that comes from flowers. Bees returning to the hive often carry balls of pollen which stick to the stiff hairs on their legs (a bee body part called pollen baskets). Honey bees mix pollen with nectar to form beebread, a protein used to feed larvae (immature bees).  5. Explain to students that after they collect nectar, honey bees store their food: The house bees mix the nectar with enzymes and deposit it into the honeycomb. Then they evaporate moisture from the nectar enzyme mixture by fanning the honeycomb cells with their wings. You now have honey! The bees then cap the honey cells with beeswax  6. Explain to students that bees and flowers have a relationship where both animal and plant benefit. In nature, this is called a symbiotic relationship. Ask students: Bees get nectar from flowers, but the flower gets something in return. Do you know what the flower gets? Explain that flowers trade sweet nectar and protein-rich pollen in return for pollination and reproduction of the plant species. Bees track pollen from flower to flower, which allows flowers to reproduce and grow**.**  **Pre-Movie Discussion**  \*discuss with students that they will be going to see a movie which deals with the topics they have been investigating in science—in the movie “Bee Movie” the life of a honey bee, Barry, is followed and we see how honey bees live and why they are important to the whole environment.  \*The following questions could be done as a whole class with ideas written down, or filled out in their KWL charts  **1)** What does a honey bee do?  **2)** Why are plants necessary for the bee to make its honey? (Think of: flowers, pollen, nectar)  **3)** Why is the Honey Bee necessary for many plants to survive?  **4)** Why do you think plants are important for humans?  **5)** Why do you think honey bees would be important to the environment? Important to us?  A few KWL questions:  **6)** If all the honey bees were gone do you think it would matter? Why? What might or might not happen?  **7)** If all the plants were gone do you think it would matter? Why? What might or might not happen?  **5)** What do you wonder about the movie? (What will happen, what we will learn about why plants are important, who the bee is, why bees are important, what do honey bees do?) |