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|  | **Experiment 1: Room Temperature**  **Materials Needed**  \* 16 feeder goldfish  \* 8 mason jars (8 oz)  \* 8 mason jars (16 oz)  \* water  \* AmQuel Instant Water Detoxifier  \* Tetra Fin flake food for goldfish  \* NutraFin Max flake food for tropical fish  \* labels  \* water thermometer  **Procedure**  1. Purchase all the materials needed from the pet store or grocery store.  2. Wash the mason jars in a dishwasher to thoroughly sterilize them.  3. While the jars are being washed, prepare the labels for different environments that the fish will be placed in. Name the fish if desired.  Jar 1- Lionel, room temperature, feed once a day, one type of food, 16oz, dechlorinated water  Jar 2- Reggie, room temperature, feed once a day, one type of food, 16oz, tap water  Jar 3- Otto, room temperature, feed once a day, one type of food, 8oz, dechlorinated water  Jar 4- Clem, room temperature, feed once a day, one type of food, 8oz, tap water  Jar 5- Lloyd, room temperature, feed once a day, combination of food, 16oz, dechlorinated water  Jar 6- Arty, room temperature, feed once a day, combination of food, 16oz, tap water  Jar 7- Jean, room temperature, feed once a day, combination of food, 8oz, dechlorinated water  Jar 8- Freddy, room temperature, feed once a day, combination of food, 8oz, tap water  Jar 9- Hubert, room temperature, feed twice a day, one type of food, 16oz, dechlorinated water  Jar 10- Lyle, room temperature, feed twice a day, one type of food, 16oz, tap water  Jar 11- Ida, room temperature, feed twice a day, one type of food, 8oz, dechlorinated water  Jar 12- Ferris, room temperature, feed twice a day, one type of food, 8oz, tap water  Jar 13- Frye, room temperature, feed twice a day, combination of food, 16oz, dechlorinated water  Jar 14- Bender, room temperature, feed twice a day, combination of food, 16oz, tap water  Jar 15- Eddy, room temperature, feed twice a day, combination of food, 8oz, dechlorinated water  Jar 16- Rooney, room temperature, feed twice a day, combination of food, 8oz, tap water  4. Once the jars are ready, affix the labels to the outer surface of the appropriate jar.  5. Fill each 8oz jar with 200mL of tap water and each 16oz jar with 350mL of tap water.  6. To the eight jars that are labeled for dechlorinated water, add two drops of the detoxifier to the water..  7. Now that the jars are ready, place one fish into each jar and set the jars in an area where the temperature is fairly stable. I set mine on my dining room table and out of direct sunlight.  8. Feed the fish according to its label on the jar. For fish fed once a day, feed them only in the afternoon. For fish fed twice a day, feed them in the morning and afternoon. Give fish fed only one type of food one flake of TetraFin food and fish fed a combination of food one-half flake each of TetraFin and NutraFin Max food.  9. Take the temperature of one of the jars. It should range from 16\*C to 20\*C for the room temperature experiment.  10. Continue feeding the fish according to their labels. Every other day, change the water in the jars. If the water is not changed regularly, the fish feces might throw off the data. It is also a good idea to check the pH every week. It should be about 7.2.  11. Record the casualties and water temperature daily until the end of the 21 day testing period.  **Experiment 2: Cold Temperature**  **Materials Needed**  same as above except for the addition of aquarium gravel  **Procedure**  1. & 2. Same as Experiment 1.  3. While the jars are being washed, prepare the labels for different environments that the fish will be placed in. Name fish if desired.  Jar 1- Wedge, cold temperature, feed once a day, 1 type of food, 16oz, purified water, gravel  Jar 2- Alexander, cold temperature, feed once a day, 1 type of food, 16oz, purified water, no gravel  Jar 3- Jimmy, cold temperature, feed once a day, 1 type of food, 8oz, purified water, gravel  Jar 4- Nicky, cold temperature, feed once a day, 1 type of food, 8oz, purified water, no gravel  Jar 5- Penny, cold temperature, feed once a day, combination of food, 16oz, purified water, gravel  Jar 6- Goldie, cold temperature, feed once a day, combination of food, 16oz, purified water, no gravel  Jar 7- June, cold temperature, feed once a day, combination of food, 8oz, purified water, gravel  Jar 8- Hannah, cold temperature, feed once a day, combination of food, 8oz, purified water, no gravel  Jar 9- Mona, cold temperature, feed twice a day, 1 type of food, 16oz, purified water, gravel  Jar 10- Millie, cold temperature, feed twice a day, 1 type of food, 16oz, purified water, no gravel  Jar 11- Charlie, cold temperature, feed twice a day, 1 type of food, 8oz, purified water, gravel  Jar 12- Alan, cold temperature, feed twice a day, 1 type of food, 8oz, purified water, no gravel  Jar 13- Duckie, cold temperature, feed twice a day, combination of food, 16oz, purified water, gravel  Jar 14- Stu, cold temperature, feed twice a day, combination of food, 16oz, purified water, no gravel  Jar 15- Lance, cold temperature, feed twice a day, combination of food, 8oz, purified water, gravel  Jar 16- Gustov, cold temperature, feed twice a day, combination of food, 8oz, purified water, no gravel  4. Same as Experiment 1.  5. Rinse the gravel in cool water and add 125g of gravel to the four 16oz jars that are labeled for it and 75g to the four 8oz ones. Add 175mL of water to all the 8oz jars and 350mL to all 16oz jars.  6. Put two drops of detoxifier into each jar.  7. Place one fish into each jar and set the jars in a place where the temperature remains steadily cold. I set mine on the floor of my garage.  8. Same as Experiment 1.  9. Take the temperature of 1 of the jars. It should range from 10\*C to 14\*C for the cold water temperature experiment.  10. & 11. Same as Experiment 1. |

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