**RISK ASSESSMENT SCHOOL:**

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| **experiment 2.2: What if the habitat of bean prey was changed?** |

*Risks should be managed by use of PPE and/or specified control measures.*

Description of procedure (attach a copy of the experiment)

**Oxford Science 10:** pages 44–45 and 189

**Equipment required**

|  |
| --- |
| Each group requires:  Paper cups  Tools: knives, forks, spoons, sticky tape, plastic gloves  Bean prey:  red butted beans (kidney beans)  long-toothed yellow beans  panther-toothed black beans  wicked white beans  Timer |

**Hazardous chemicals required/produced**

| **Reactant or product name and concentration** | **GHS classification** | **GHS hazard statement** | **Control measures** |
| --- | --- | --- | --- |
|  |  |  |  | |

NON-HAZARDOUS substances

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Other hazards and possible risks

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| Knives have a sharp cutting edge so could cut skin.  Forks have sharp points so could pierce skin.  Use the tools for the purpose set out in the experiment. |

Protective measures

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Lab coat | Safety glasses | Gloves | Fume cupboard | Other |
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Student clean up and disposal of wastes

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| All beans should be collected and sorted at the end of the practical and put in individual bags or containers. Collect all equipment to one place for the lab technician.  4 different beans are required. Does not really matter what type of beans provided they look different to each other.  The supermarket or gardening stores have bean seeds.  Paper cups can be substituted with plastic cups or any other container. |

Assessor’s signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\*\*\*\*\***This assessment is not valid until it has been completed and signed by an assessor approved by the school.**

***All teachers are to sign the following statement before conducting this experiment.***

I have read this risk assessment and I understand the safety procedures and risks involved.

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| **Teacher’s name** | **Teacher’s signature** | **Date** |
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**RISK ASSESSMENT SCHOOL:**

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| **experiment 2.3: Divergent and convergent evolution of big beaks and small beaks** |

*Risks should be managed by use of PPE and/or specified control measures.*

Description of procedure (attach a copy of the experiment)

**Oxford Science 10:** pages 46–47 and 190

**Equipment required**

|  |
| --- |
| The class requires:  6 previously prepared bags of food:  North Trayland/Season 1 = 4 handfuls popcorn , 20 kidney beans, 50 marbles  North Trayland/Season 2 = 1 handful popcorn , 10 kidney beans, 50 marbles  North Trayland/Season 3 = 100 marbles  South Trayland/Season 1 = 4 handfuls popcorn , 20 kidney beans, 50 marbles  South Trayland/Season 2 = 6 handfuls popcorn , 10 kidney beans, 5 marbles  South Trayland/Season 3 = 8 handfuls popcorn  20 large bull dog clips  20 medium bull dog clips  20 small bull dog clips  30 plastic cups  2 large trays  6 plastic bags  Timer |

**Hazardous chemicals required/produced**

| **Reactant or product name and concentration** | **GHS classification** | **GHS hazard statement** | **Control measures** |
| --- | --- | --- | --- |
|  |  |  |  | |

NON-HAZARDOUS substances

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| --- | --- | --- | --- |
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Other hazards and possible risks

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| --- |
| Marbles – may break if dropped. Could cause injury or damage if thrown.  Bull dog clips – could pinch skin when closing. |

Protective measures

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Lab coat | Safety glasses | Gloves | Fume cupboard | Other |
| Yes |  |  |  |  |
|  | | | | |

Student clean up and disposal of wastes

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| --- |
| Separate the beans, marbles and popcorn into separate bags. Bin any damaged beans or popcorn.  Collect all equipment to one place for the lab technician. |

Assessor’s signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**RISK ASSESSMENT SCHOOL:**

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| **experiment 2.4: Popcorn dating** |

*Risks should be managed by use of PPE and/or specified control measures.*

Description of procedure (attach a copy of the experiment)

**Oxford Science 10:** pages 48–51 and 191

**Equipment required**

|  |
| --- |
| Each group requires:  Previously prepared bags of microwave popcorn (unbuttered)  Bag A : stop microwave 10 seconds after the first pop (record actual time)  Bag B: stop microwave 30 seconds after the first pop (record actual time)  Bag C: stop microwave 10 seconds after the last pop (record actual time)  Bag D: mystery fossil bag ( your teacher will have microwaved this bag for a time between bag A and C)  Microwave oven  4 large trays |

**Hazardous chemicals required/produced**

| **Reactant or product name and concentration** | **GHS classification** | **GHS hazard statement** | **Control measures** |
| --- | --- | --- | --- |
|  |  |  |  | |

NON-HAZARDOUS substances

|  |  |  |  |
| --- | --- | --- | --- |
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Other hazards and possible risks

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| --- |
| The lab technician may have used the microwave to prepare the popcorn bags for the class, including the mystery bag, so you may not have to use the microwave, however see below if you do.  Microwave oven:  The popping corn when heated in the microwave oven can become very hot. Allow to cool a little before handling. Wear heat proof gloves when removing from the microwave.    Ensure microwave oven has been tested and tagged prior to use and follow manufacturer’s instructions for safe use |

Protective measures

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Lab coat | Safety glasses | Gloves | Fume cupboard | Other |
| Yes |  |  |  | Heat proof gloves if popcorn is fresh from being heated in the microwave. It will be hot. |
|  | | | | |

Student clean up and disposal of wastes

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| All popcorn can be disposed of to the bin.  Collect all equipment to one place for the lab technician. |

Assessor’s signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**SAMPLE RISK ASSESSMENT SCHOOL:**

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| **CHALLENGE 2.7: Selective breeding of dogs** |

*Risks should be managed by use of PPE and/or specified control measures.*

Description of procedure (attach a copy of the experiment)

**Oxford Science 10:** pages 58–59 and 193

**Equipment required**

|  |
| --- |
| Each group requires:  Counter  Permanent marker |

**Hazardous chemicals required/produced**

| **Reactant or product name and concentration** | **GHS classification** | **GHS hazard statement** | **Control measures** |
| --- | --- | --- | --- |
|  |  |  |  | |

NON-HAZARDOUS substances

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |

Other hazards and possible risks

|  |
| --- |
| Permanent markers may contain solvents, avoid breathing vapour. Replace lid after using. Difficult to remove off clothing and benches.  Counters could be a choking hazard or be thrown. |

Protective measures

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Lab coat | Safety glasses | Gloves | Fume cupboard | Other |
| Yes |  |  |  |  |
|  | | | | |

Student clean up and disposal of wastes

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| --- |
| Collect all counters and permanent markers to one place for the lab technician. |

Assessor’s signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**RISK ASSESSMENT SCHOOL:**

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| **experiment 2.8: Selecting for sickle cell anaemia** |

*Risks should be managed by use of PPE and/or specified control measures.*

Description of procedure (attach a copy of the experiment)

**Oxford Science 10:** pages 60–61 and 194

**Equipment required**

|  |
| --- |
| Each group requires:  75 dried red kidney beans (These are the sex cells carrying ‘H’ the unaffected normal haemoglobin allele)  25 white beans (These are the sex cells carrying ‘h’ the affected sickle cell allele)  5 containers  Coin or counter (for flipping heads or tails)  Permanent marker |

**Hazardous chemicals required/produced**

| **Reactant or product name and concentration** | **GHS classification** | **GHS hazard statement** | **Control measures** |
| --- | --- | --- | --- |
|  |  |  |  | |

NON-HAZARDOUS substances

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |

Other hazards and possible risks

|  |
| --- |
| Permanent markers may contain solvents, avoid breathing vapour. Replace lid after using. Difficult to remove off clothing and benches.  Counters or coins could be a choking hazard or be thrown. |

Protective measures

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Lab coat | Safety glasses | Gloves | Fume cupboard | Other |
| Yes |  |  |  |  |
|  | | | | |

Student clean up and disposal of wastes

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| Plastic cups or glass beakers could be used as containers.  Return the beans to their original zip lock bags to be reused for future classes.  Collect all equipment to one place for the lab technician. |

Assessor’s signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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