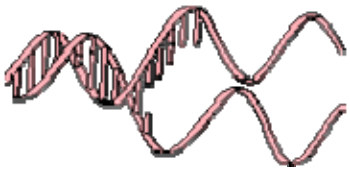
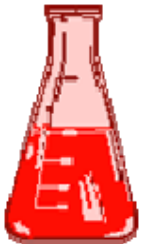
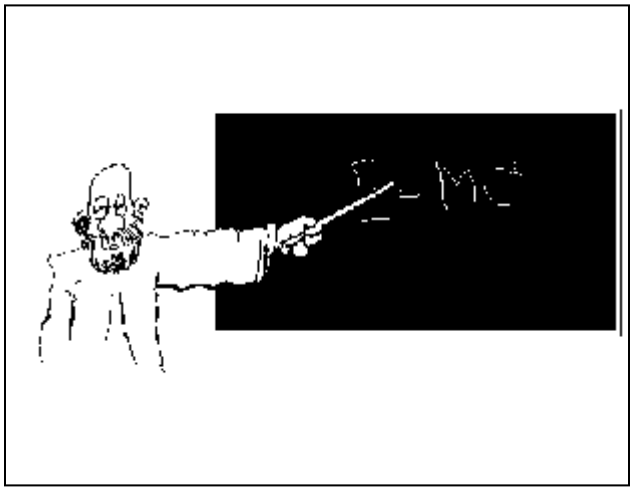
WASHINGTON PRIMARY SCIENCE FAIR

3rd

Student Information Packet







HELPING YOUR CHILD DEVELOP A SCIENCE FAIR PROJECT USING THE SCIENTIFIC METHOD

I. State the problem: One sentence in the form of a question.
Choose a subject in which you are interested.

II. Form a hypothesis: A one sentence statement.
The hypothesis is an educated guess (based on your preliminary research) which answers the problem. "I think…because…"

III. Experimentation

A. Materials: Plan and collect the materials you will need for your experiment. It is best to borrow, make, or use inexpensive materials.

B. Procedure: Plan the steps of your experiment carefully. Conduct your experiment multiple times.

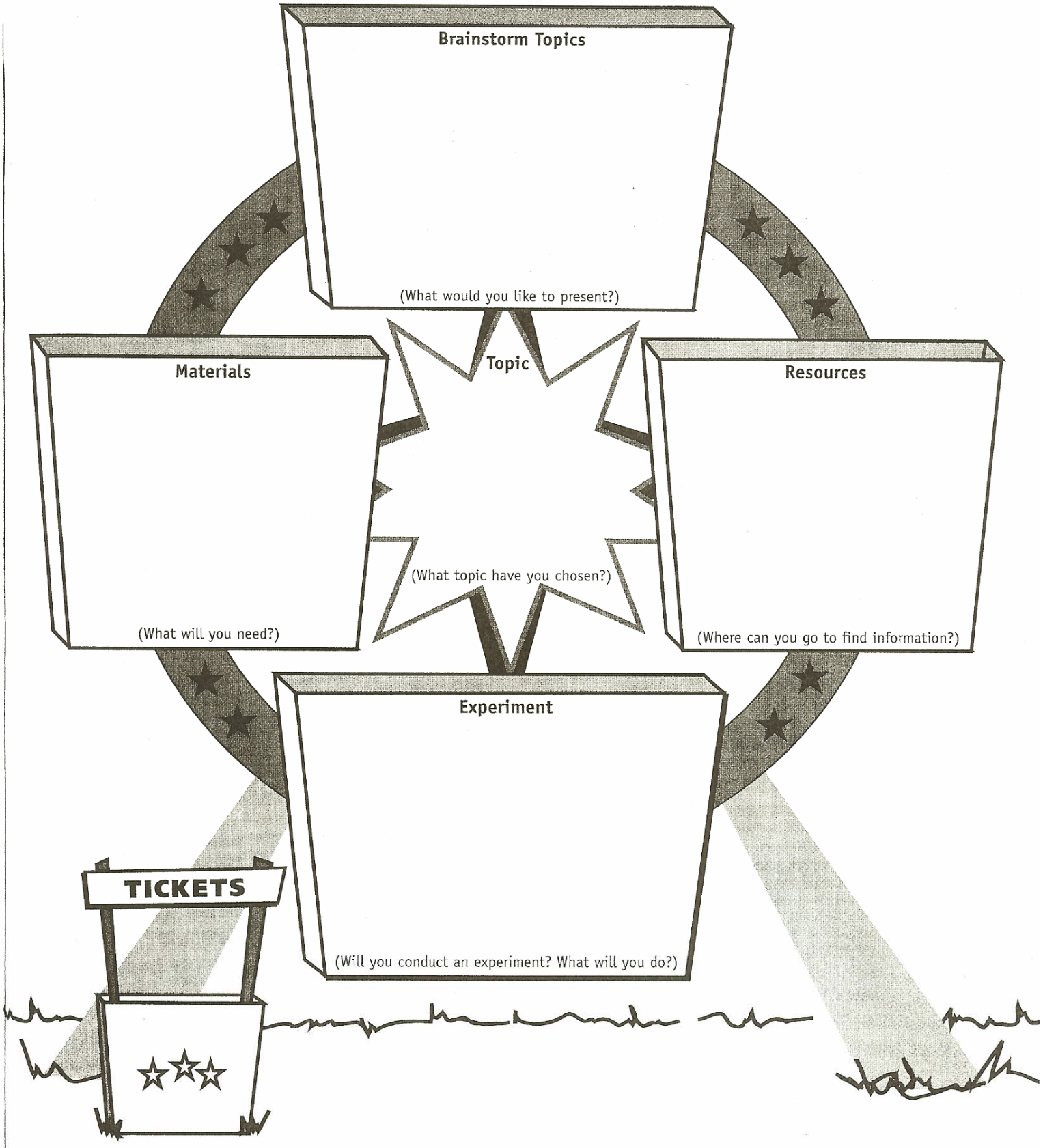
C. Observe and record data: Plan how you will record your data. Record what happens during your experiment.

D. Results: Summarize findings in the form of data tables, graphs, and drawings. Write an explanation from your data.

IV. Conclusion
Write one to three sentences that support or reject your hypothesis.

Name: _____ Date: _____

PLAN YOUR SCIENCE FAIR PROJECT



Sample Page

Model Experiment
Topic Question and Hypothesis

Topic Question (Problem): (State the problem in the form of a question. The problem is one sentence long and specific.

Does baking soda lower the temperature of water?

Hypothesis: The hypothesis is an educated guess which answers the question. The hypothesis is a statement which is one sentence long and uses, "I think," at the beginning and "…because," at the end. What do you think will be the answer to your problem?

Baking soda will lower the temperature of tap water by one degree Celsius.

Sample Page

Model Experiment
Materials and Procedures

Materials: List all of the materials you used.

1. 4 cups for water.
2. 1 Thermometer
3. 2 Beakers
4. 20 grams of baking soda
5. 1 Hot Plates
6. 1 Pencil

Procedure: List the steps of the experiment. Do not use "I" or "You" in this procedure. Number your steps.

1. Fill 1 beaker with 2 cups of water. Repeat this procedure for the other beaker as well.
2. Label one cup water and the other water with baking soda.
3. Place 10 grams of baking soda in each beaker
4. Heat the hot plate. Place one of the beakers on the hot plate.
5. Place a thermometer in the beaker on the hot plate.
6. Watch the temperature on the thermometer and record the temperature when the water first begins to boil.
7. Repeat steps 1 to 6 for the second beaker.
8. Record each of the temperatures in your data table.

Sample Page

Model Experiment
Observe/Record and Conclusions

Data: This is the information collected during your experiment. Your observations may be recorded in a table, a labeled diagram, a blueprint, or a graph.

Results: The results are a summary of your data. This should be a written description of your data.

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Sample Page

Model Experiment

Conclusion: The conclusion is one or two sentences long and should either confirm or reject your hypothesis.

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SCIENCE PROJECT IDEAS – Grade 3

1. What type of line carries sound waves best?
2. Can the sun's energy be used to clean water?
3. Does a green plant add oxygen to its environment?
4. Which metal conducts heat best?
5. What percentage of corn seeds in a package will germinate?
6. Does an earthworm react to light and darkness?
7. Does the human tongue have definite areas for certain tastes?
8. Can same-type balloons withstand the same amount of pressure?
9. Does the viscosity of a liquid affect its boiling point?
10. Does surrounding color affect an insect's eating habits?
11. Do children's heart rates increase as they get older?
12. Can you use a strand of human hair to measure air moisture?
13. What materials provide the best insulation?
14. Is using two eyes to judge distance more accurate than using one eye?
15. Do different kinds of caterpillars eat different amounts of food?
16. What plant foods contain starch?
17. What keeps things colder – plastic wrap or aluminum foil?
18. Does heart rate increase with increased sound volume?
19. Do boys or girls have a higher resting heart rate?
20. Do liquids cool as they evaporate?
21. Which way does the wind blow most frequently?
22. Does the size of a light bulb affect its energy use?
23. For how long a distance can speech be transmitted through a tube?
24. Which grow mold faster – moist bread or dry bread?
25. What type of soil filters water best?
26. Does the color of a material affect is absorption of heat?

27. Does sound travel best through solids, liquids, or gases?

28. Do sugar crystals grow faster in tap water or distilled water?

29. Can you see better if you limit the light that gets to your eye?

30. How much of an apple is water?

31. What common liquids are acid, base, or neutral?

32. Do taller people run faster than shorter people?

33. Does the length of a vibrating object affect sound?

34. Does a plant need some darkness to grow?

35. Who can balance better on the balls of their feet – boys or girls?

36. Does exercise affect heart rate?

37. Which dish soap makes the longest lasting suds?

38. What are the effects of chlorine on plant growth?

39. Which type of oil has the greatest density?

40. How accurately do people judge temperature?

Topic Question and Hypothesis

Topic Question: State the problem in the form of a question. The problem is one sentence long and specific.

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Hypothesis: The hypothesis is an educated guess which answers the question. The hypothesis is a statement which is one sentence long and uses, "I think," at the beginning and "…because," at the end. What do you think will be the answer to your problem?

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Materials and Procedures

Materials: List all of the materials you used.

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Procedure: List the steps of the experiment. Do not use "I" or "You" in this procedure. Number your steps.

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Observe/Record and Conclusions

Data: This is the information collected during your experiment. Your observations may be placed in a table, a labeled diagram, a blueprint, or a graph.

Results: The results are a summary of your data. This should be a written description of your data.

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Conclusion: The conclusion is one or two sentences long and should either confirm or reject your hypothesis.

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Kids' Inquiry Conference Grading Rubric

Outstanding (5 pts. each category)	Good Job (3 pts. each category)	Attempted (1 pt. each category)
States the problem as a question and all of the information is accurate and organized. Original research.	States the problem as a question and most of the information is accurate and organized. Unique perspective on a traditional project or embellishes an existing idea.	States the problem as a question that is vague and some of the information is accurate but the organization was lacking. No originality.
Hypothesis is complete, testable, and thoroughly developed with, "I think…because…"	The hypothesis is complete, testable, and is sufficiently developed.	The hypothesis is either not testable or does not connect to the stated problem.
Experimental design is a well-constructed test of the hypothesis. Easy to follow sequence of the Scientific Method. All relevant materials are listed.	The experimental design is adequate to test the hypothesis, but there are lapses in the sequence of the Scientific Method. Procedures are outlined step-by-step and major materials are listed.	The experimental design is not relevant to the hypothesis or there is no sequence of the Scientific Method. The materials list is missing or incomplete.
Experiment was conducted more than 2 times and/or sample size was exceptional. Data and results are summarized in a way that thoroughly describes what was discovered using tables, graphs, illustrations or other approved methods and directly relates to the hypothesis/question.	The experiment was conducted one time or with a poor sample size. The data and results are reasonably summarized in a way that attempts to describe what was discovered using tables, graphs, illustrations, or other approved methods and shows some relationship to the hypothesis/question.	The experiment was performed incompletely. The data and results are not summarized clearly. No tables, graphs, illustrations, or other approved methods are used to represent the data and shows no relationship to the hypothesis/question.
A logical conclusion has been drawn from the data collected, states if the hypothesis was supported or rejected and provides evidence of such. Has real world application.	A fairly reasonable conclusion has been drawn from the data collected, states if the hypothesis was supported or rejected, and attempts to explain why.	The conclusion does not answer the problem, or does not refer to the hypothesis, or contradicts the results.
Project is appealing and neat. The project is readable, well-organized and clear, and uses language and spelling flawlessly.	The project is appealing and readable. It is organized and clear, uses understandable visuals and/or models, and contains few language and spelling errors.	The project has limited eye appeal. The project has limited organization, or contains confusing visuals, or contains major language or spelling errors.
The student is able to speak fluidly about their project and with clarity. The student is able to answer all questions correctly about their project when asked.	The student is able to speak with some clarity about their project and needs some assistance. The student answers most questions asked correctly.	The student cannot speak about their project. They really don't understand what the project is about. The student cannot answer questions correctly when asked.

DISPLAY BOARD CHECKLIST

The purpose of this sheet is to provide a checklist of procedures that are to be followed when turning in and taking home your science project. If you have any questions, please ask your teacher.

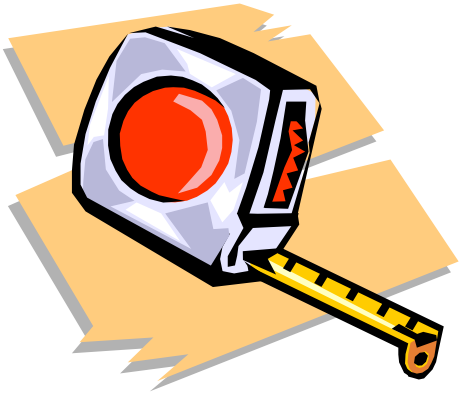
Before bringing the science project to school, the student must check to see that:

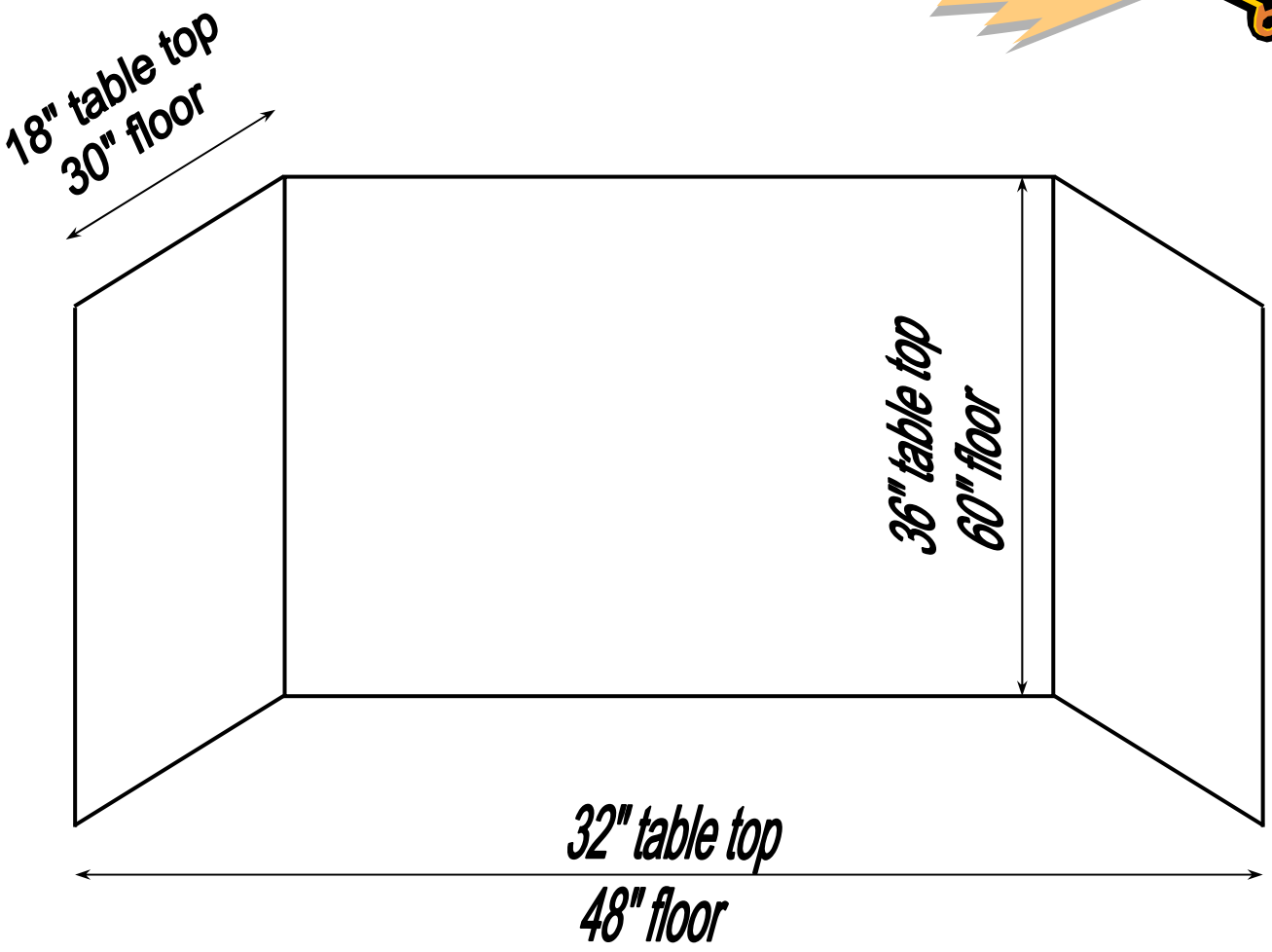
- ☐ The project display and models are sturdy. The display "wings" are prepared as discussed in class. The display does not lean or bend.
- ☐ Paper, labels, and letters on the display are flat and firmly in place. There are no tacks, pins, tape, or staples on the display – only strong glue
- ☐ The student's number, grade level, and room number are on the back of the display in the upper right hand corner.
- ☐ The student's name and room number are in the upper right hand corner on the outside of the folder.
- ☐ Any models or items other than the display board are in a paper bag with the student's name, grade level and room number on the bag.
- ☐ Models with many pieces (i.e., crystals) are not loose. They must be in a display case or other "holder".
- ☐ No harmful materials or substances are part of the model.
- ☐ The project is completed before bringing it to school.

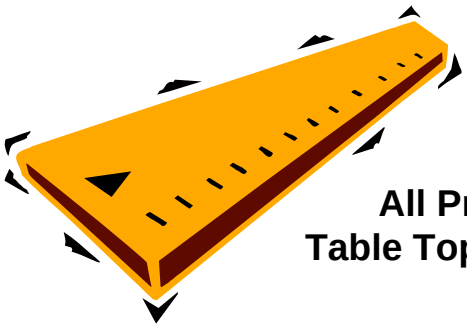
The project must be brought to school on the morning it is due. Unless other arrangements have been made, the project must be in class before school begins. Students not coming to school that day must arrange for the project to be delivered. Students with expensive or very fragile models may make arrangements with the teacher to bring them later.

Your child's project is due the morning of March 22, 2010.

DISPLAY SIZES FOR School Sites and SCIENCE FAIRS







All Projects Must Be Free Standing.
Table Top or Floor Displays are Acceptable.

- DISPLAY LABELS -

PROBLEM

HYPOTHESIS

RESULTS

PROCEDURE

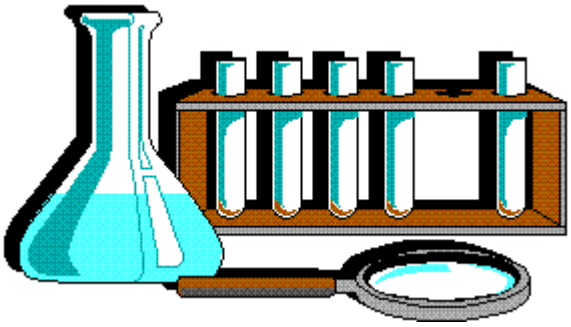
MATERIALS

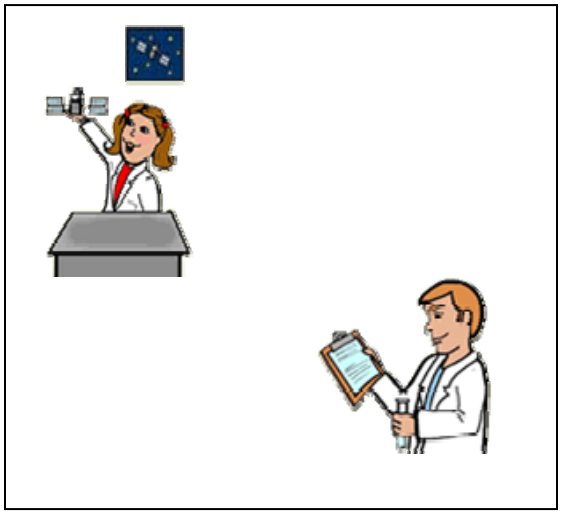
CONCLUSION

WASHINGTON PRIMARY SCIENCE FAIR

2nd

Student Information Packet





HELPING YOUR CHILD DEVELOP A SCIENCE FAIR PROJECT USING THE SCIENTIFIC METHOD

I. State the question: One sentence

Ex: Does blue ink dry faster than red ink.

Choose a subject in which you are interested.

II. Form a hypothesis: A one sentence statement.

Ex: I think blue ink dries faster than red ink because it is darker.

The hypothesis is an educated guess (based on your preliminary research) which answers the problem.

III. Experimentation

A. Materials: Plan and collect the materials you will need for your experiment.

B. Procedure: Plan the steps of your experiment.
Conduct your experiment many times.

C. Observe and record data: Plan how you will record your data.
Record what happens during your experiment.

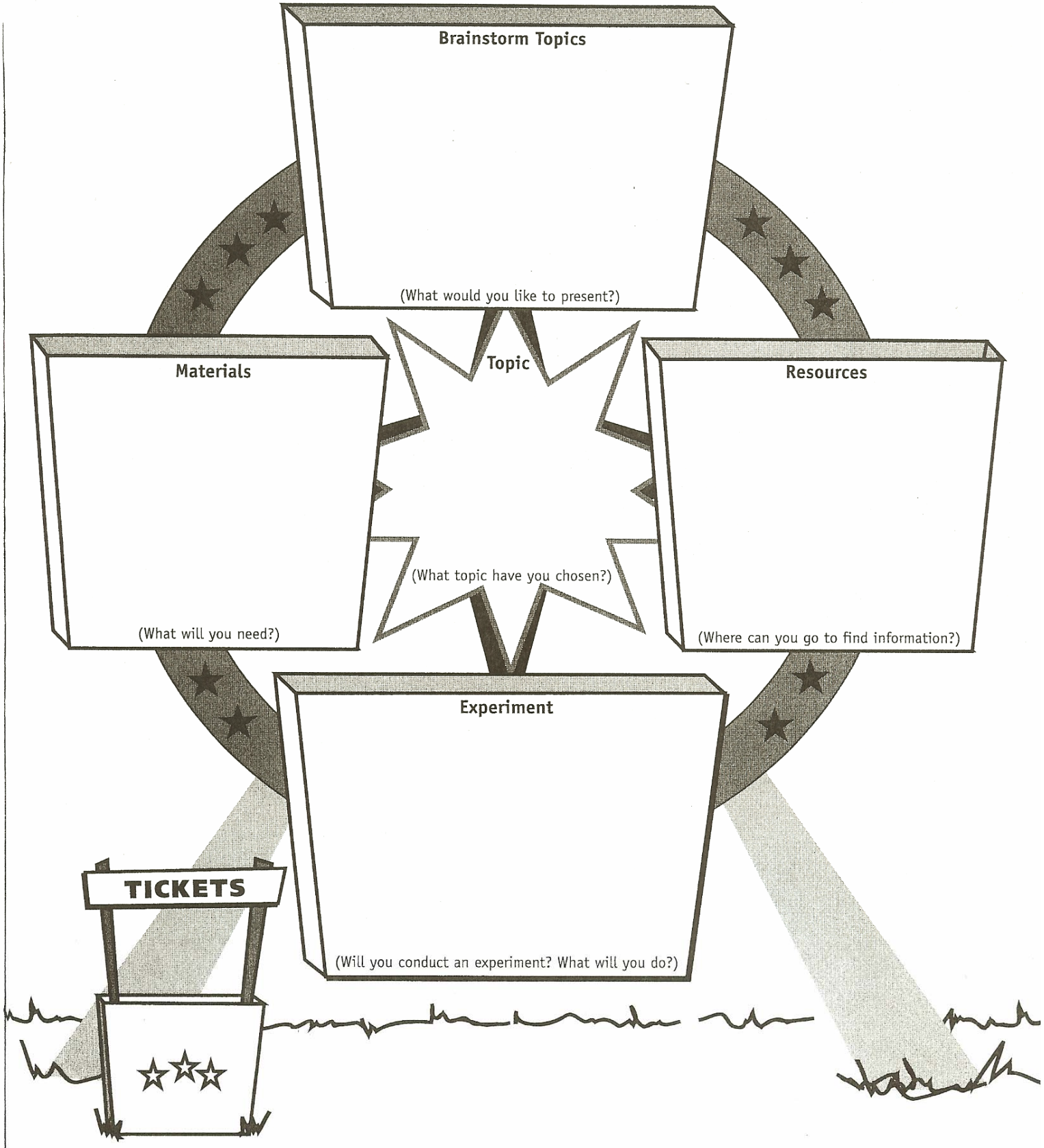
D. Results: Summarize findings in the form of data tables, graphs, and drawings. Write an explanation of your findings.

IV. Conclusion

Write one to three sentences to support your hypothesis was correct or prove your hypothesis was wrong based on your experiment.

Name: _____ Date: _____

PLAN YOUR SCIENCE FAIR PROJECT



Sample Page

Model Experiment
Topic Question and Hypothesis

Topic Question: State the problem in the form of a question. The problem is one sentence long and specific.

Which paper towel is the most absorbent?

Hypothesis: The hypothesis is an educated guess which answers the question. The hypothesis is a statement which is one sentence long and uses, "I think," at the beginning and "…because," at the end. What do you think will be the answer to your problem?

Bounty will absorb the most liquid out of the four paper towels tested.

Sample Page

Model Experiment
Materials and Procedures

Materials: List all of the materials you used.

1. 4 cups for water.
2. 1 Sheet of Brawny Paper Towel
3. 1 Sheet of Scott Paper Towel
4. 1 Sheet of Bounty Paper Towel
5. 1 Sheet of School Paper Towel
6. 1 Graduated Cylinder

Procedure: List the steps of the experiment. Do not use "I" or "You" in this procedure. Number your steps.

1. Measure 30ml. of water in a graduated cylinder and pour the water into cup 1. Repeat this procedure for each of the three remaining cups.
2. Label each cup with one of the names of the paper towel that will be used in that cup. Each cup will have a different paper towel name.
3. Place the paper towel brand that matches the name on the cup into the cup for 15 seconds.
4. Remove the paper towel from the cup (do not ring it out).
5. Pour the remaining water from cup one into the graduated cylinder and record your answer. Repeat this step for the three remaining cups as well.

Model Experiment
Observe/Record and Conclusions

Data: This is the information collected during your experiment. Your observations may be recorded in a table, a labeled diagram, a blueprint, or a graph.

Results: The results are a summary of your data. This should be a written description of your data.

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Conclusion: The conclusion is one or two sentences long and should either confirm or reject your hypothesis.

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SCIENCE FARE IDEAS – GRADE 2

(THESE ARE ONLY SUGGESTIONS. ORIGINAL IDEAS ARE ENCOURAGED.)

1. How far does a snail travel in one minute?
2. Do different types of soil hold different amounts of water?
3. Will adding bleach to the water of a plant reduce fungus growth?
4. Does water with salt boil faster than plain water?
5. How far can a person lean without falling?
6. Can you tell time without a watch or clock?
7. How far can a water balloon be tossed to someone before it breaks?
8. Does the shape of a kite affect its flight?
9. Does an ice cube melt faster in air or water?
10. Does sugar prolong the life of cut flowers?
11. How much of an orange is water?
12. Which liquid has the highest viscosity?
13. Will more air inside a basketball make it bounce higher?
14. Does the color of light affect plant growth?
15. Does baking soda lower the temperature of water?
16. Which brand of popcorn pops the most kernels?
17. How much can a caterpillar eat in one day?
18. Do plants grow bigger in soil or water?
19. Does the color of water affect its evaporation?
20. Can you separate salt from water by freezing?
21. How does omitting an ingredient affect the taste of a cookie?
22. Do suction cups stick equally well to different surfaces?
23. How much weight can a growing plant lift?
24. Will water with salt evaporate faster than water without salt?

25. Does it matter in which direction seeds are planted?

26. Which cheese grows mold the fastest?

27. Do all colors fade at the same rate?

28. Which brand of diaper holds the most water?

29. Which kind of cleaner removes ink stains best?

30. Does a plant grow bigger if watered by milk or water?

31. Which brand of soap makes the most suds?

32. Does a baseball go farther when hit by a wood or metal bat?

33. Do living plants give off moisture?

34. Using a lever, can one student lift another student who is bigger?

35. What gets warmer-sand or dirt?

36. Which kind of glue holds two boards together better?

Topic Question and Hypothesis

Topic Question: State the problem in the form of a question. The problem is one sentence long and specific.

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Materials and Procedures

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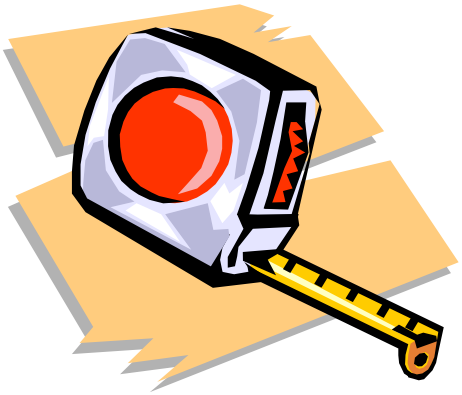
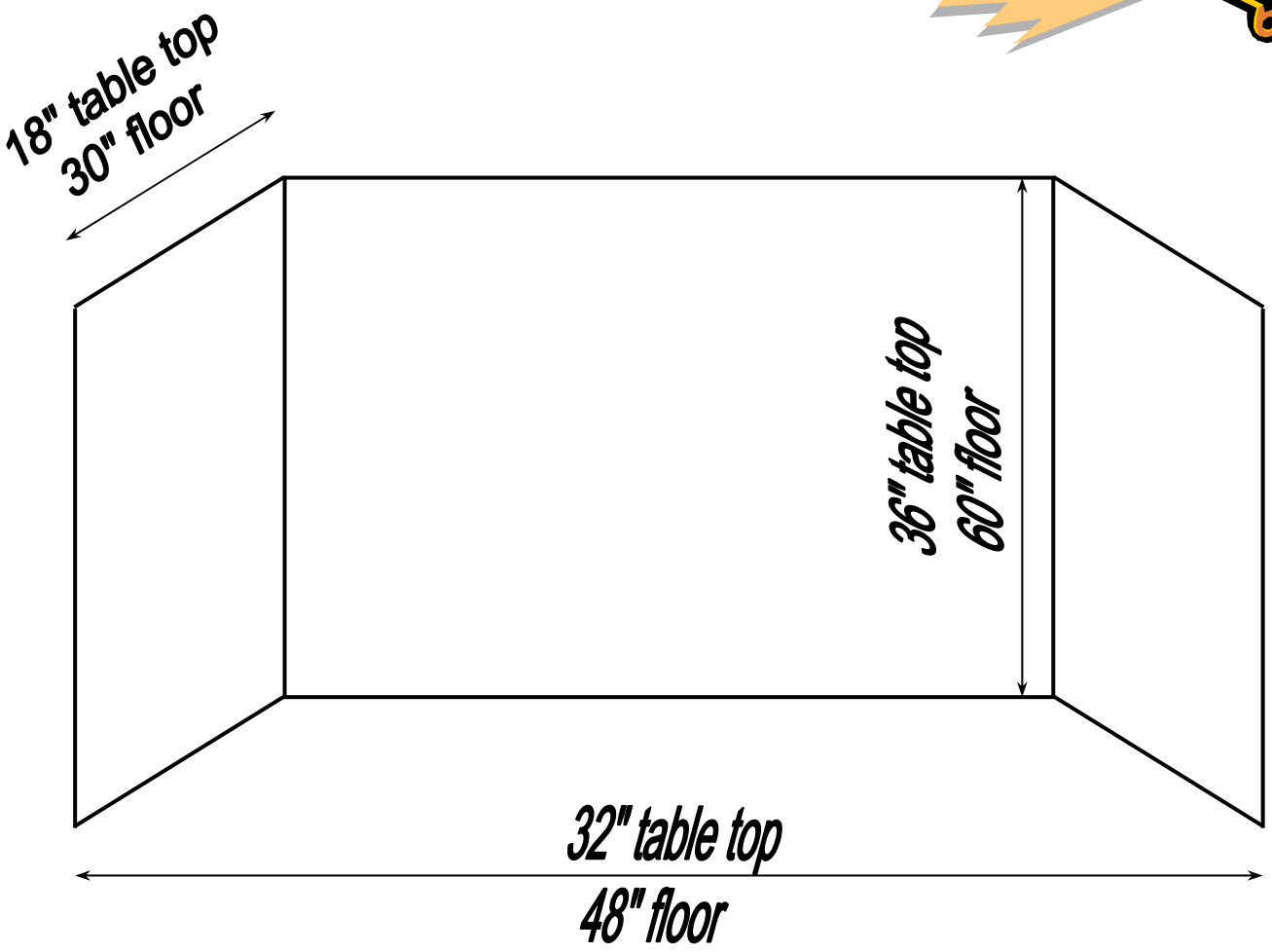
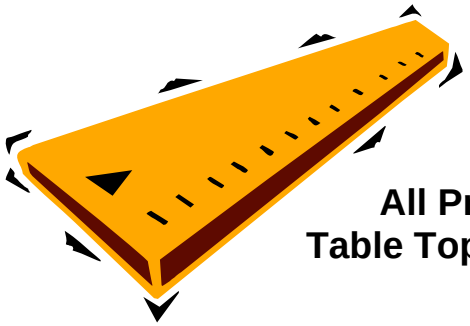
Your child's project is due the morning of March 22, 2010.

DISPLAY SIZES FOR School Sites and SCIENCE FAIRS







All Projects Must Be Free Standing.
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- DISPLAY LABELS -

PROBLEM

HYPOTHESIS

RESULTS

PROCEDURE

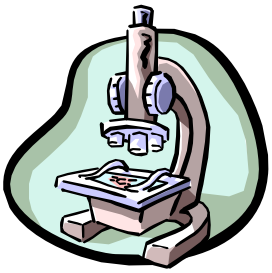
MATERIALS

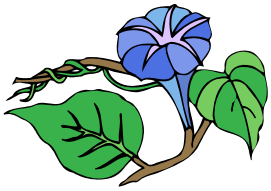
CONCLUSION

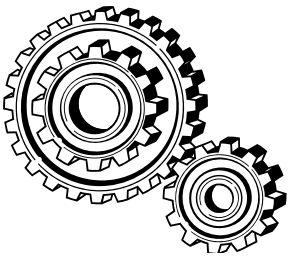
Washington Primary Science Fair

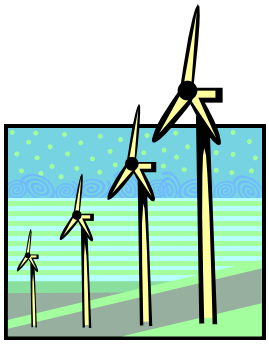
1st

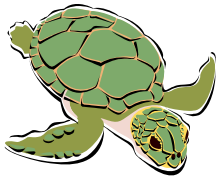
Student Information Packet











DEVELOPING A SCIENCE FAIR PROJECT USING THE SCIENTIFIC METHOD

I. State the problem: One sentence in the form of a question.
Choose a subject in which you are interested.

II. Form a hypothesis: A one sentence statement.
What do you think will happen?

III. Observation

A. Materials: Plan and collect the materials you will need for your experiment. It is best to borrow, make, or use inexpensive materials.

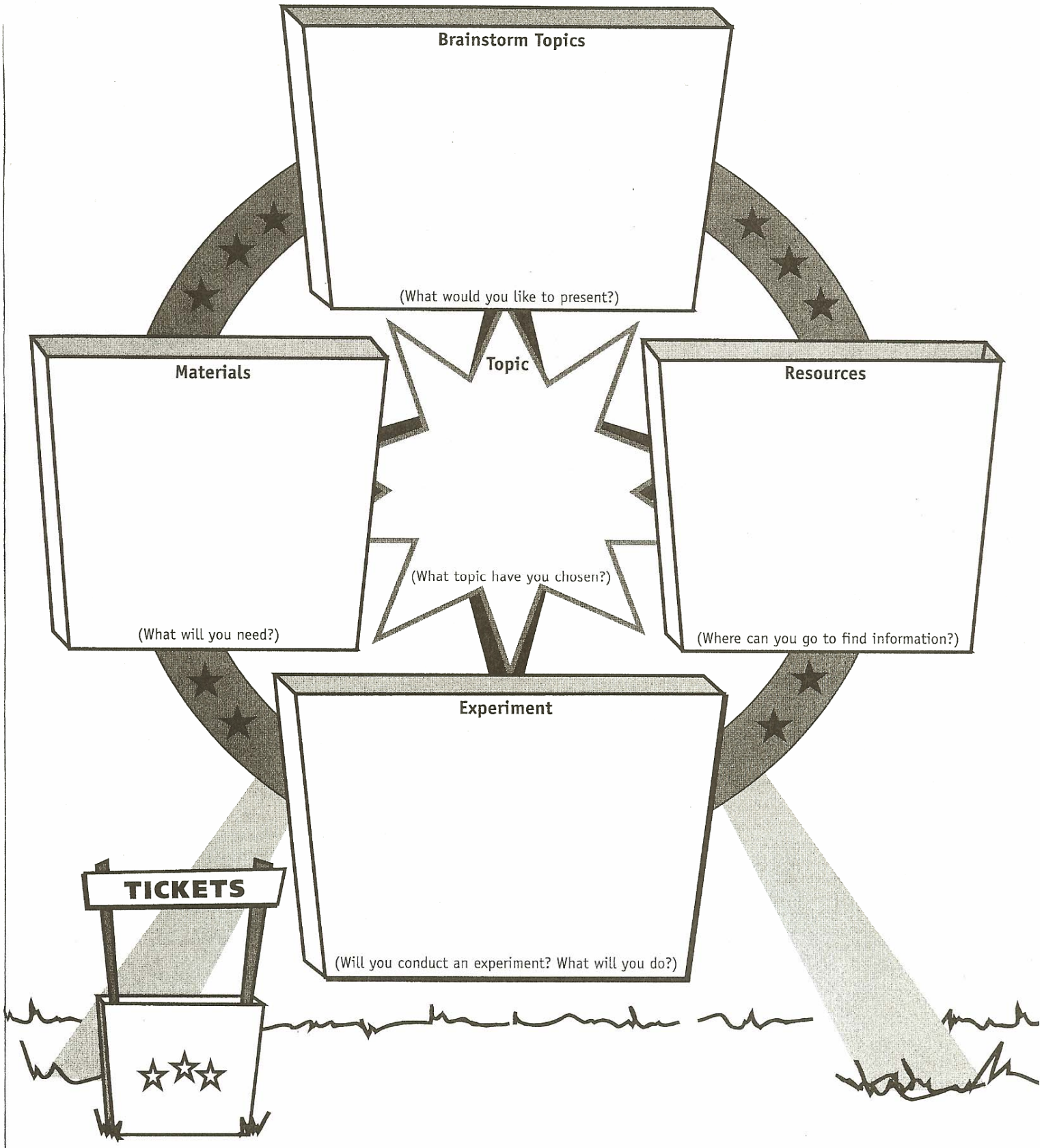
B. Procedure: Plan the steps of your experiment carefully. Conduct your experiment.

C. Observe and record data: Summarize your findings in the form of charts, graphs, or drawings.

IV. Conclusion/Summary
Write one to three sentences to explain your findings. Was your hypothesis correct?

Name: _____ Date: _____

PLAN YOUR SCIENCE FAIR PROJECT



SCIENCE FAIR IDEAS – GRADE 1

(THESE ARE ONLY SUGGESTIONS. ORIGINAL IDEAS ARE ENCOURAGED.)

1. How much salt does it take to float an egg?
2. What kind of juice cleans pennies best?
3. Do different watches keep the same time?
4. On which surface can a snail move faster? Dirt or cement?
5. What brand of cereal has the most raisins?
6. Do ants like cheese or sugar better?
7. Which design of paper airplane makes it fly farther?
8. Do roots of a plant always grow downward?
9. What foods do mealworms prefer?
10. Does a bath take less water than a shower?
11. Can you tell where sound comes from when you are blindfolded?
12. Can plants grow without soil?
13. Do different types of apples have the same number of seeds?
14. Do bigger seeds produce bigger plants?
15. Which materials absorb the most water?
16. What is the soil in my backyard made of?
17. Does holding a mirror in front of a fish change what the fish does?
18. What color of birdseed do birds like best?
19. What holds two boards together better? A nail or a screw?
20. Will bananas brown faster on the counter or in the refrigerator
21. Does temperature affect plant growth?
22. Does a ball roll farther on grass or dirt?
23. Do all objects fall to the ground at the same speed?

24. Does anyone in my class have the same fingerprint?

25. Which travels faster? A snail or a worm?

26. Which paper towel is the strongest?

27. Can plants grow from leaves?

28. Can things be identified by just their smell?

Kids' Inquiry Conference Grading Rubric

	3 Excellent	**2 Good**	**1 Limited**
Student Presentation and Knowledge of Project	• Clearly explained and understood project content	• Able to explain some understanding of the project.	• Not able to clearly explain the knowledge gained
Visual Display of Project	• Complete display board • Meets all requirements	• Display board • Missing some criteria	• No display board • Lacking information

Topic Question and Hypothesis

Topic Question: State the problem in the form of a question. The problem is one sentence long and specific. Example: Which brand of raisin bran contains the most raisins?

_____
_____
_____
_____
_____

Hypothesis: The hypothesis is an educated guess which answers the question. The hypothesis is a statement which is one sentence long. What do you think will be the answer to your question?

_____
_____
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_____

Materials and Procedures

Materials: List all of the materials you used

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Procedure: List the steps of the experiment. Do not use "I" or "You" in this procedure. Number your steps.

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Observe/Record and Conclusions

Observations: This is the information collected during your experiment. What you observed must be placed in a chart or graph.

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Conclusion/Summary: Look over your charts and graphs and then write what you learned from your experiment. Was your hypothesis correct?

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DISPLAY BOARD CHECKLIST

The purpose of this letter is to provide a checklist of procedures that need to be followed by your child when turning in and taking home his/her science project. If any questions remain after reading this, call your child's teacher at school.

Before bringing the science project to school, the student must check to see that:

- ☐ The project display and models are sturdy. The display "wings" are prepared as discussed in class. The display does not lean or bend.
- ☐ Paper, labels, and letters on the display are flat and firmly in place. There are no tacks, pins, tape, or staples on the display – only strong glue
- ☐ The student's number, grade level, and room number are on the back of the display in the upper right hand corner.
- ☐ The student's name and room number are in the upper right hand corner on the outside of the folder.
- ☐ Any models or items other than the display board are in a paper bag with the student's name, grade level and room number on the bag.
- ☐ Models with many pieces (i.e., crystals) are not loose. They must be in a display case or other "holder".
- ☐ No harmful materials or substances are part of the model.
- ☐ The project is completed before bringing it to school.

Your child's project is due the morning of March 22, 2010.

- DISPLAY LABELS -

QUESTION

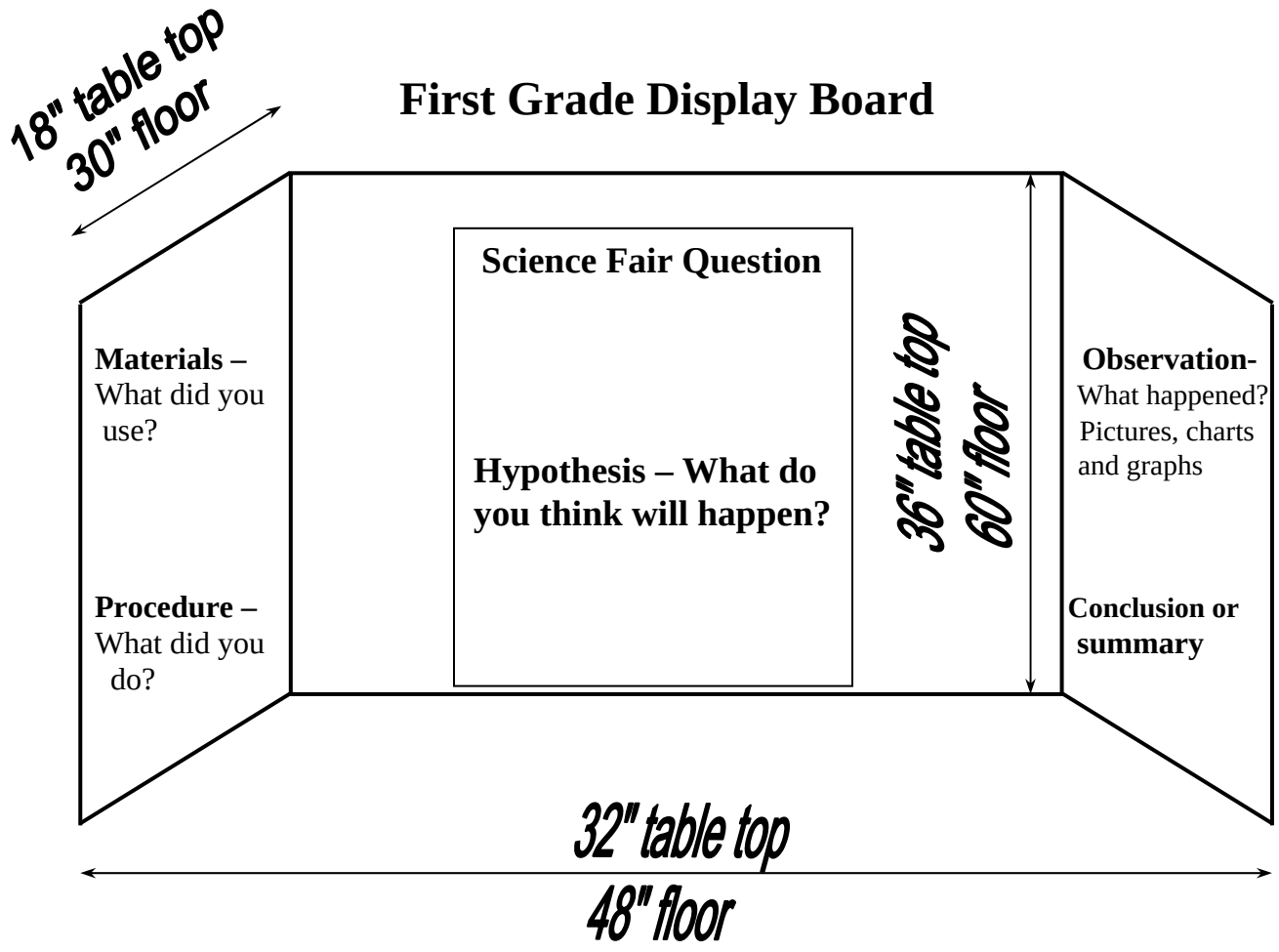
HYPOTHESIS

PROCEDURE

MATERIALS

CONCLUSION

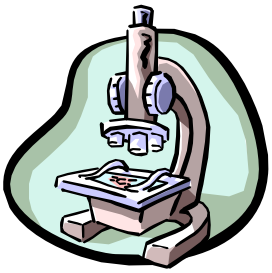
First Grade Display Board

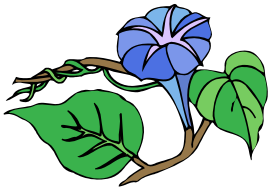


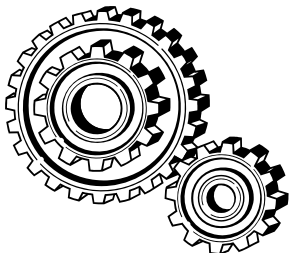
WASHINGTON PRIMARY SCIENCE FAIR

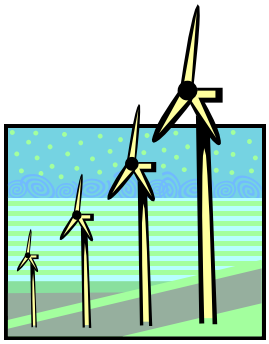
K

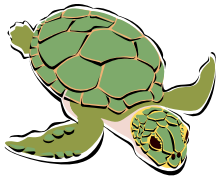
Student Information Packet











DEVELOPING A SCIENCE FAIR PROJECT USING THE SCIENTIFIC METHOD

I. State the problem: One sentence in the form of a question.
Choose a subject in which you are interested.

II. Form a hypothesis: A one sentence statement.
What do you think will happen?

III. Experiment

A. Materials: Plan and collect the materials you will need for your experiment. It is best to borrow, make, or use inexpensive materials.

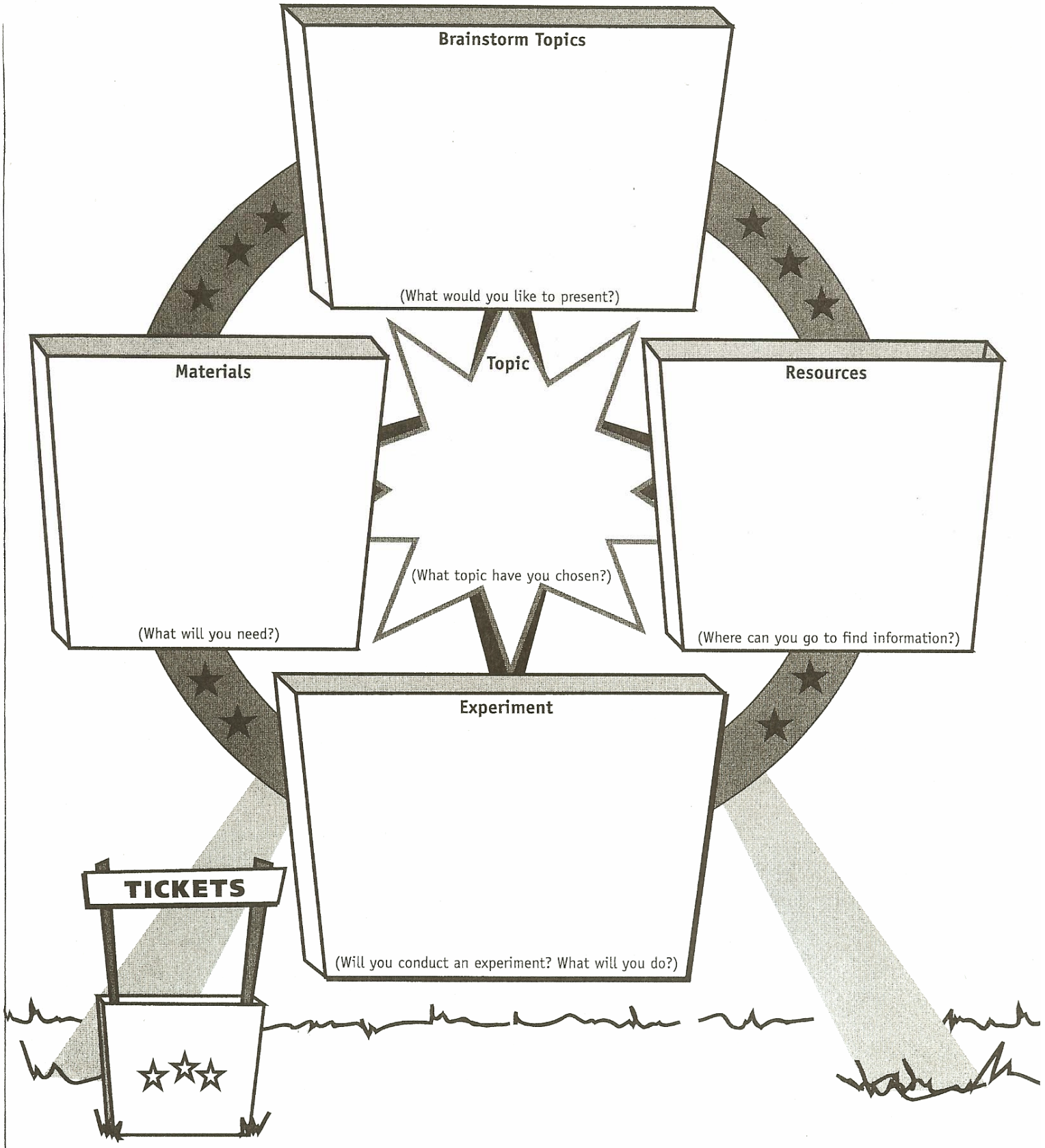
B. Procedure: Plan the steps of your experiment carefully. Conduct your experiment.

C. Observe and record:
Record what happens during your experiment. Summarize findings in the form of lists, pictures, charts, or graphs.

IV. What did I think?
Tell if you had fun doing this project.

Name: _____ Date: _____

PLAN YOUR SCIENCE FAIR PROJECT



SCIENCE FAIR IDEAS – LEVEL K

(THESE ARE ONLY SUGGESTIONS. ORIGINAL IDEAS ARE ENCOURAGED.)

1. Will an apple in vinegar rot faster than an apple in water?
2. Which dish soap makes more bubbles?
3. Which diaper brand holds the most liquid?
4. Will a plant grow better with just water or just soil?
5. What materials will dissolve in water?
6. In which temperature water will a Ritz cracker dissolve the quickest?
7. Are there more seeds in a larger orange than a smaller orange?
8. Will a cut flower last longer if its stem is cut every day?
9. Do dogs/cats like table food more than packaged dog/cat food?
10. Do larger magnets attract more or less paper clips than a smaller magnet?
11. Which brand of battery lasts longest?
12. What ice melt product makes ice melt best?
13. Which loses their moisture faster, fruits or vegetables?
14. Which temperature water causes aspirin to dissolve the fastest?
15. Can people taste the difference between Coke and Pepsi?
16. Which liquid will cause a nail to rust the fastest?
17. Can you tell what something is just by touching it?
18. What kinds of materials do magnets attract?
19. How long will it take a drop of food dye to color a glass of still water?
20. Does warm water freeze faster than cool water?
21. In my class, who is taller-boys or girls?
22. Do mint leaves repel ants?

Question and Hypothesis

Question: The question is one sentence long. Examples: What brand of diaper holds the most liquid or what brand of raisin brand has the most raisins.

_____
_____
_____
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_____

Hypothesis: The hypothesis is an educated guess which answers the question. The hypothesis is a statement which is one sentence long. What do you think will be the answer to your question?

_____
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_____

Materials and Procedures

Materials: List all of the materials you used

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Procedure: List the steps of the experiment. Number your steps.

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Observe/Record and Conclusions

Experiment: What did you see/hear/smell? Did you count or measure anything? Show what you learned in a list, picture, chart, or graph.

What did I think: Did you have fun doing this project?

DISPLAY BOARD CHECKLIST

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- ☐ No harmful materials or substances are part of the model.
- ☐ The project is completed before bringing it to school.

The project must be brought to school on the morning it is due. Unless other arrangements have been made, the project must be in class before school begins. Students not coming to school that day must arrange for the project to be delivered. Students with expensive or very fragile models may make arrangements with me to bring them later.

Your child's project is due the morning of March 22, 2010.

Kindergarten Display Board