

Example Problem Scenario*1) Sally plans her exhibit on black holes.*

Background on Sally, her motivations, . . .

Sally is a bit worried about the space and materials that are provided to everyone—a standard 4'×6' posterboard, with a two-foot shelf underneath for supporting physical materials or models. This year she has explored some new methods, for example, an Authorware simulation that illustrates her theory of black hole formation. But she knows from past years that there are few electrical outlets in the gym, and she doesn't have a laptop to use in the exhibit anyway. She checks with the organizer, Rachel Berris, just in case, but Rachel confirms that the school district has no money for special resources such as laptops, and that she will be able to use only battery-powered equipment.

As she studies her simulation, Sally thinks of a way to turn the lack of computer support into a "feature": She will create a sequence of visualizations that can be flipped like a deck of cards to show the animation. In fact, as she works, she gets into it and decides to create several variations, so that visitors can guess which one matches her project data and conclusions. She will then chart people's guesses as a dynamic element in her exhibit. She knows from experience that this is just the sort of thing judges will notice and award points for. Now she just has to figure out how to fit everything into the space she will have.

**Transformed into Activity Design Scenario***1) Sally plans her exhibit on black holes.*

Background on Sally, her motivations, . . .

Sally is curious about how creating a virtual exhibit will be different from the ones she has created in the past. She hopes that she will have more flexibility in presenting her ideas, and thinks she might be able to come up with some interactive elements that she knows the judges will like. In fact, she has already developed an Authorware simulation that illustrates her theory of black hole formation, and she wants to include this in her virtual exhibit.

When Sally goes to the exhibit construction area, she finds a template with a suggested layout—title page, abstract, slide show, detailed results, project report, and bibliography. At first she is worried that this will not fit the materials she has already created. But when she starts adding material, she can see that there is also still a lot of flexibility—for example, she can add a new component to hold her simulation. But she is not yet sure how she can share her physical star models.

Sally knows that judges and visitors really like interactive components, so instead of just presenting her simulation in "demo" mode, she decides to build in some interactive parameters, so that people can see her conclusions but also experiment with their own ideas. This makes her realize she will need some way to collect and share these experiments.

Figure 3.4 A problem scenario is transformed into an activity scenario.